

# MAJESTIC



BOOK NINE OF THE LEGACY FLEET SERIES

USA TODAY BESTSELLING AUTHOR  
NICK WEBB

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MAJESTIC

Book 9

Of

The Legacy Fleet SERIES

For ever-patient readers.



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of the Legacy Fleet Series:**

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[Warrior](#)

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## Wizard's War

# Summary

## Summary of the Legacy Fleet Series

### **Constitution**

Captain Timothy Granger, longtime captain of the ancient *ISS Constitution* and stricken with stage 4 cancer, leads the Old Bird on its final mission: to a decommissioning ceremony at Lunar Base, where it will be converted into an orbiting museum. During the ceremony, United Earth's old enemy, The Swarm, reappears after 75 years with an unprovoked attack on Lunar Base and the ships assembled there. Granger, along with his new XO Commander Shelby Proctor, lead the *Constitution* in the defense of the base, and then of Earth.

They discover the Swarm has a cycle of activity and conquest, followed by 150 years of inactivity, where they disappear to a system harboring a giant black hole. But they've mysteriously reappeared early this time, and have come with devastating new weapons: artificial singularity devices that swallow whole chunks of a planet's crust.

Granger manages to safely escort a group of school children off the *Constitution* in an escape pod, including a precocious Cornelius Dexter Ahazarius III, and then tries to sacrifice himself by piloting the *Constitution* in a radiation-

flooded engineering bay right into one of the artificial singularities the Swarm is about to fire at Earth. The ship disappeared, the Swarm is destroyed by the massive feedback effect, and, ten seconds later, it reappears out of nowhere, plunging through Earth's atmosphere. Proctor boards the ship and saves Granger and the *Constitution* with a guided crash landing. They discover later that Granger's cancer has vanished, and the ship was actually gone for three days from its perspective, not ten seconds.

## **Warrior**

Granger, aboard another old Legacy Fleet ship, the *ISS Warrior*, leads the defense of the many worlds of United Earth, including New Dublin, where an unknown fleet of ships is attacking. Living up to his new nickname as The Bricklayer, Granger arranges for fighters to launch high-speed heavy bricks of osmium at the ships, and, when they ran out of ammunition, launch themselves at the ships. The new fleet turns out to be another race, The Dolmasi, who had been conquered and "made friends" by the liquid Swarm, being utterly dominated and controlled by them.

President Barbara Avery, United Earth's headstrong president, has put the entire republic of 55 worlds on a war footing to survive the Swarm onslaught, secretly manufacturing huge numbers of anti-matter bombs, but is stymied at times by the enigmatic Russian Confederation president Malakov, whose secretive operations hint at other sinister intentions. Granger learns that the Swarm are able to control individual humans—possibly including himself during his three days missing—and orders Proctor to figure out how to detect it, drawing upon her background in science.

When what's believed to be the Swarm's homeworld is found, matching Granger's dreams from when he was gone for

three days, an operation to end the Swarm is put into effect—razing the surface with thousands of anti-matter bombs. The battle commences, the anti-matter bombs are all duds—a result of clandestine Swarm sabotage, and the situation looks dire. Avery extracts a confession from Vice President Isaacson that the Russians supplied the Swarm with the singularity devices, and the Russians join the battle on the side of the Swarm.

When all hope seems lost, the Dolmasi arrive, and join Granger in defeating the Swarm and Russian fleets. He reveals the planet below is not the Swarm homeworld, but the Dolmasi's, and that Granger, during his missing three days, was sent two months back in time to a Russian singularity production center where he was injected with Swarm matter, which healed him from cancer, and put him under Swarm control.

## **Victory**

At a critical battle over Indira, a massive dreadnought ship of alien design appears and begins to wreak havoc on Granger's task force when they suddenly stop, and reveal themselves as the Skiohra, one of the races controlled by the Swarm. They've thrown off Swarm control, and swear to fight alongside the humans. Granger, suspicious of them, accepts the help, while the leadership of the military, suspecting that Granger might still be under Swarm control, begins planning an assault on the Skiohra ship. During the battle, both the *Constitution* and the *Warrior* are destroyed and the Skiohra ship heavily damaged. Russian President Malakov reveals his plans to destroy what he thinks is the Swarm homeworld of Penumbra Three using all the mass collected by the artificial singularities, but Vice President Isaacson attempts to kill him, and the mass of debris is transported lightyears away from Penumbra to collide with Earth. Granger and Proctor form their final plan to save Earth and destroy the Swarm by using

the artificial singularities to knock the debris ball off course, then lure all the Swarm ships into the Penumbra black hole. The plan is successful, as Granger, aboard the *Victory*, lures the Swarm fleet into the black hole, and they are all ensnared by the event horizon.

President Avery and a not-dead President Malakov meet in secret after all the events, and discuss their plans for thirty years in the future, a time they know the Swarm will reappear.

## **Independence**

Thirty years after the events of *Victory*, a strange ship has appeared at the edge of United Earth space, causing madness to all who approach and wrecking havoc on many worlds. It destroys the *ISS Chesapeake*, the last remaining heavy cruiser of the Legacy Fleet. Fleet Admiral Oppenheimer enlists a retired Admiral Shelby Proctor to leave her teaching duties and command the newest ship in the fleet, the powerful *ISS Independence*, and go stop the mysterious ship.

Admiral Proctor's nephew Danny finally gets a cargo ship of his own from an inter-planetary defense conglomerate, Shovik-Orion, but it is soon hijacked and sent plummeting to the surface of Sangre de Cristo, killing millions, while Danny falls through the atmosphere, presumed dead.

After political intrigue, assassinations, and the mysterious ship firing a powerful energy weapon at a handful of moons throughout UE space, Proctor and the *Independence* confront the mystery ship at Saturn, where it drills into its moon, Titan. The *Independence* and a coalition of UE and Galactic People's Congress ships manage to destroy the mystery ship, but not before it ejects a significant portion of its hull into the hole it made in Titan. Titan's mass begins to grow, along with every other moon the ship had drilled into.

Lieutenant Qwerty discovers a message encoded in the drilling beam that says simply, *Shelby, they're coming*, which Proctor interprets as somehow being from Granger warning them about the Swarm, because they also learn that the mysterious ship has a nameplate buried deep inside, reading only *ISS VIC*, which they recognize as being from the old *ISS Victory*, the ship Granger flew into the Penumbra black hole.

## **Defiance**

Some force is causing the Dolmasi to enter a mindless state of rage and violence, and they attack several worlds. Proctor learns from the Skiohra leader Polrum Krull that the meta-space shunt explosions they've been using to defend against the Dolmasi are, in fact, the culprit, and that someone in United Earth leadership is trying to provoke a war with them.

Proctor also starts having vivid dreams about her dead sister, reliving certain events from childhood. Her sister Carla is diagnosed with terminal cancer, but then makes a miraculous recovery, only to be killed by a careless driver. As she lies dying, she whispers a cryptic message to Proctor, and it isn't until now, some 50 years later, that the message makes sense: that she needs to trust former President Avery's plan for using her stockpiled anti-matter bombs in Earth's defense.

At the showdown over Earth, Proctor uses metaspace pulses to counter the ones from President Quimby and Shovik-Orion CEO Admiral Mullins as they try to provoke a Dolmasi war. Lieutenant Qwerty cracks the code to communicating with the Dolmasi, and gains their trust, just as United Earth President Quimby's ship is destroyed, Proctor is blamed for it, and in the chaos, the largest Swarm ship they've ever seen shows up, bearing down on Earth. Proctor uses the anti-matter bombs against it, then, remembering the dreams, calls to



Granger, who she now realizes has converted Saturn's moon Titan into a giant planet-sized defense cannon, which has also shown up to fight the giant Swarm ship. She asks him to sacrifice himself and collide with the Swarm ship, and he does. Titan emerges damaged, half its surface now molten rock, but q-jumps away. Proctor goes into hiding, under suspicion for having killed President Quimby.

## **Liberty**

Giant Swarm ships have arrived at Britannia, the most populated planet of United Earth, and a giant battle commences. A handful of the Granger moons have arrived, and offer a robust defense, but soon the debris of the ships and of one of the destroyed moons is caught in Britannia's gravity and will destroy the planet if not stopped. Proctor asks Granger, at the center of Titan, for help, and in answer, Titan moves close enough to the debris to attract it with its own gravity and saves Britannia.

After an assassination attempt on her is thwarted by Fiona Liu, the former IDF intel officer responsible for the deaths of President Quimby and Shovik-Orion CEO Mullins, Proctor sends her to San Martin to rescue her nephew Danny, who is miraculously alive but in critical condition after falling through the atmosphere of Sangre de Cristo. Liu rescues him, and discovers he has been healed by the injection of some old Swarm matter, which is now just Valarisi matter, creating a new Valarisi individual in the process. He transfers some to Liu through touch, which creates yet another Valarisi individual.

Proctor goes to the core of Titan to find Granger. He tells her that all that's left of him is a small memory core, which she takes with her as Titan begins to collapse from Swarm bombardment and further attacks directed by Patriarch

Huntsman, the leader of a cultish group that worships Granger. She escapes, but soon after Titan collides with Britannia, completely destroying it.

Proctor, on Granger's request, takes his memory core to the Skiohra ship *Benevolence*, where he is reincarnated in a chamber that he himself designed thousands of years ago, having now lived for billions of years. But his memories are scrambled, and he can't remember his ultimate plan for destroying the Swarm.

At a final showdown with the Swarm, Proctor, Tyler "Ballsy" Volz, and his son Ethan Zivic devise a plan. Everyone in the fleet has some Valarisi matter transferred into them from Danny Proctor and Fiona Liu, creating new Valarisi companions within them, linking them all together mentally through meta-space, and enabling them all to fight as one. The battle occurs as they all fall into the event horizon of the Penumbra black hole, and Granger summons his remaining moons to appear right below the Swarm ships, tipping them over the edge into the event horizon, crushing them, as it is no longer a wormhole.

## **Legend**

Granger, newly-reincarnated but missing his long-term memory, tries to remember his plan for destroying the Swarm for good, and sets out to retrace some of his steps in the past few thousand years. He finds a planet showing signs of a destroyed civilization, finds human graves there including one of his memory cores and an ancient manuscript from Earth, and is soon attacked by sentinel robots on the surface and in orbit.

Meanwhile, the Findiri, a race Granger created in the far distant past to hunt down and destroy the Swarm, has found Earth and is on its way, destroying all in their path. They are

led by Talus, who for unknown reasons has a vendetta against Granger and all humans.

In the wake of discovering two new alien races, the Eru and the Itharans, Admiral Shelby Proctor attempts to learn to communicate with them in order to secure help for Earth from the feared Findiri invasion.

The brunt of the invasion falls at the Planet Paradiso, and its capital city is crushed by Findiri technology transferring all the momentum of the human fleet into a shield covering the city, pulverizing it. The Findiri pursue Proctor and the fleet to Earth, where a final showdown takes place in the skies over Bern, where Granger had been in a graveyard, attempting to recover more memories. Talus reveals himself as Abraham Haws, Granger's old XO aboard the *Constitution*, and is about to destroy the city, but task force of humans, Eru, and Itharans swoop in at the last moment to save Granger, Proctor, and the rest of the fleet.

But Earth falls to the Findiri.

Rayna Scott discovers that a Swarm fleet traveled back to Britannia moments before its destruction, lured by former president Avery, and a single ship escaped the destruction.

## **Leviathan**

Jasper, a member of Vestige—the organization that Granger started a thousand years prior to prepare Earth for his return, reveals himself to be Granger's son by Reah Goldmeyer, a woman he had a brief affair with in his thirties. They attempt to track down more clues about Granger's plans to defeat the Swarm, and liberate Earth from the Findiri.

Commander Shin-Wentworth, having lost his family in the Findiri attack on Paradiso, convinces a scientist to help him use technology given to them by the Itharans to reach back

several days in time to save his family, transporting them to the present. He fails, but resolves to try again.

An IDF officer, Matthew Decker, who had been instrumental in understanding the Eru's language due to him still having a Valarisi companion, is stripped of his companion on the orders of Fleet Admiral Oppenheimer, who is suspicious of the Valarisi. Decker, lost without his companion, travels to where all the Valarisi are being kept in a swimming pool at a secret research lab, and gives himself to them. They absorb his body and his consciousness, and reconstruct him as their living embodiment.

The Findiri are searching desperately for Granger, and want him at all costs, even executing people hourly on Earth until he turns himself in.

Decker, with the entire Valarisi race inside him, travels to the robot world Granger discovered earlier, and manages to fuse himself into their fleet, establishing Valarisi control over every ship. Proctor, sensing the betrayal of the Valarisi, extracts her companion and falls into a coma, having become reliant on it.

Jasper is kidnapped, and taken to the leader of the Findiri, Talus, who turns out to be one of the ten Quiassi—shapeshifting beings Granger had made to guide the efforts of the Findiri.

At the showdown over Earth, Shin-Wentworth's new experiment on Paradiso has gone very wrong, and instead of transporting his family from several days before their deaths, he transports the entire world of Paradiso, except it's from a universe made of anti-matter, and it is now bearing down on Earth.

Jasper is killed by Talus, absorbed in a chamber that was intended for Granger, to extract his DNA and repair the genome of the Findiri. Granger had planned on this, and arranged for his own DNA to destroy the Findiri, but with Jasper's DNA instead, it transforms them into a benevolent

race of modified humans, dedicated to humanity's well-being. Talus is killed by his Findiri lieutenant, Varus.

With the help of the newly pacified Findiri, Granger and the fleet use Findiri technology to shield the Earth from Paradiso, causing the anti-matter planet to pass right through it.

President Sepulveda falls under the sway of Vice President Cooper—who reveals herself as former Russian President Malakov, an ancient Quiassi—by means of *The Juice*, a technology Malakov developed based on Swarm matter. Cooper/Malakov orders Sepulveda to kill Fleet Admiral Oppenheimer, which he does.

## Prologue

*31 years ago, several days after Granger fell into the  
Penumbra black hole*

*Sol Sector*

*Earth, High Orbit*

*Galactic One (AKA Interstellar Two)*

*President Barbara Avery's Stateroom*

“After all our plans, Avery, it unnerves me to think it all rested on chance. If he hadn't pulled off what he did, if he hadn't been susceptible to the clues we sent his way, sent Proctor's way ... I shudder to think. I mean, what if Granger had denied her science team to board?”

“He wouldn't have done that. There was no time for him to pore over personnel backgrounds. He trusted Proctor. And *she* had no time to pore over personnel backgrounds. Believe me, Mr. Malakov, no matter who was there, I'm confident we would have pulled it off.”

The Russian shook his head and slammed back another shot. “Whatever. I'm done. My end is clean, and, if I'm not mistaken, I'm dead. No thanks to you.” He winked at her with his new eye—the surgery scars were healing fast.

“Yes, terribly sorry about that.”

“Did you really have to send Isaacson after me like that? Sloppy.”

“Honestly, I didn’t know he’d actually try to kill you. But either way, we both know the Swarm had to be absolutely convinced we were at each other’s throats. They had to be completely and utterly distracted by our little civil war. I think we accomplished that, wouldn’t you say?”

He poured himself another glass. “Yes, well ... next time tell your puppets not to aim for my eye. That hurt.”

“What are your plans?” Avery puffed another ring of smoke into the air.

“Vacation. One, long, thirty-year vacation. I’ve been president for, what, sixteen years now?”

“Come now, Mr. Malakov, something tells me you could pull some strings in the Duma, and you’d be president for life.”

“I’m *dead*, remember? Went through a great deal of hassle to get to this point. If I were to suddenly come back to life, that would be a fearsome amount of wasted effort.” He poured himself another shot from the whiskey bottle. “No, Madam President, I’ll be quite content to disappear into the countryside of the Caucasus. Or maybe a little island on New Petersburg.”

They smoked their cigars and drank in silence awhile longer before Malakov finally stood up to leave. “Well, Madam President, it’s been a pleasure. A fruitful and profitable *thirteen-year* relationship. The fact that humanity is still here—well, I think that says a lot about what we’ve accomplished.”

She tapped her shot glass with a finger. “There’s one last thing I’m still not understanding.”

“Yes?” He stopped at the door.

“The antimatter. All my clandestine programs developing that shit. The manpower, the expense—all of it. We loaded it up on all those ships at your insistence, waiting for our chance to shove it down the cumrats’ throats. And then at the end, of course, it worked. We shut down the Link. But my question is—well, two questions, actually.”

“Shoot.”

“Why didn’t you just give us the damn antimatter technology to begin with? I never understood that.”

“Appearances, Madam President, as you know all too well. It would have raised suspicions.”

She rolled her eyes. “Yes, yes. Whatever. I’m sure we could have arranged something. But no matter. The bigger question is this. And I have the feeling you don’t have an answer for me.”

“Try me.”

“The antimatter pods. From the torpedoes Granger launched. They’re still on their way to the target. He hasn’t even finished crossing the event horizon yet, from our perspective, and won’t for another hundred thousand years at least. From his perspective, my scientists tell me that he’ll witness the end of our galaxy before the tidal forces get strong enough to finally rip him to shreds. How can the Link be truly destroyed if we can sit outside that infernal thing, point a sensitive scope at the event horizon, and still *see* the damn antimatter falling in? Nothing’s been destroyed. No antimatter has reacted with a single molecule of that black hole yet.”

He paused with the door halfway open, nodding. “You’re right. Makes no sense. All I knew was that in my interrogations with the Swarm subjects, that point came across loud and clear, though they never said a word. They tried to hide it from me. They were terrified of the idea of antimatter falling into that thing. It’s why they never gave us the antimatter beam technology. Just think what we could have done with *that*. Fly a hundred ships out to the little bugger and



beam a few tons of antimatter straight into the hole itself. No fuss, no muss.”

She shrugged. “Anyway. It’s over.” She puffed another ring. “What do you make of the reports from the Octarous cluster about possible ship movements in Findiri and Quiassi space?”

He walked out the door. Before it closed, he called back, “Not my problem anymore, Barb. And if you’ll take my advice, you’d get out before it becomes your problem too.”

She reached out and caught the door before it closed. “Anhara.”

He stopped, and his eyes narrowed. It was several seconds before he spoke, taking a deep breath. “It’s ... been a long time since you called me that. Irithil.”

“Like you said. *A fruitful and profitable thirteen-year relationship,*” she repeated back to him, using their old joke of referring to a billion years as simply one. “A year ago, even just a hundred thousand years ago, who would have thought we’d actually be here. Now. At the end.”

Malakov—Anhara—shrugged. “End?”

“Of the Swarm.”

He side-eyed her. “You think this is it?” He clucked his tongue and turned back to continue down the hall to the shuttle bay. “Thirteen billion years working against them, and you really think this is it?” he called back.

“I do,” she said. “At least,” she added, “the beginning of the end. Considering all the eons we’ve been working, what’s thirty more years?”

“Single years or billions of years?” he called back, not turning.

“Honestly?” She shrugged. “Either one.” She watched him open the door to the shuttle bay and disappear. “But maybe this time it will stick. And they’ll stay dead.”

The words went out into the empty hallway.

But in her mind, his voice rang out loud and clear. *Don't bet on it. See you in thirty.*

# Chapter 1

*Present Day*

*Sol Sector*

*Paradiso*

*Saavedra City*

*Prime Minister's Council Chambers*

“Nineteen months.”

Colonel Rayburn clasped his hands behind his back. His thumbs restlessly twiddled around each other, out of sight of the VIPs grilling him. They all sat at a long table in the front of the spare, utilitarian room, and he stood at a podium in the center.

Press from all over Paradiso lined the walls, several photographers knelt or laid in front of him, catching his face at what he supposed was his least flattering angle as he delivered the news that no-one in Paradiso's government wanted to hear.

“*Nineteen months?*” said Prime Minister Subramanian, shaking her head. “We have just over a year and a half to figure out how to stop Paradiso from slamming into Earth?”

“According to the modelers in the physics department at Saavedra Tech, yes, Madam Prime Minister.”

“*If* that’s even possible,” said Secretary Adams, the Minister of Defense. “It worked once, miraculously, using that Findiri singularity shield tech. *Two* miracles in a row? Good bloody luck.”

“Madam Prime Minister, it’s worse than that,” said Colonel Rayburn, drawing a deep breath. “At least for Paradiso. As you’re all aware, we’ve been brought to a ... different universe—I’m sorry, I still can’t believe I’m using those words—through a novel type of two-dimensional quantum singularity. But as you know, the universe that we’ve been brought to seems to be made out of anti-matter. We are simply not compatible with even existing here.”

The science minister raised a hand to interrupt. “Minor point, but would the inhabitants of *this* universe not also consider that *we* are the ones consisting of anti-matter? Is there any *one true matter*?”

Rayburn struggled not to roll his eyes. Secretary Hamish was something of a pedant, and was legendary for wasting everyone’s time.

“True, Mr. Secretary.”

“And isn’t it also true that—”

“Oh, save it, Phil,” said the prime minister. “Go on, Colonel. Please explain *how* this can be any worse.”

“Well, you see, we have two competing processes that, for now, are serendipitously somewhat balanced. On the one hand, tons of anti-matter is raining down on our planet every day. It’s responsible for the constant twenty-four hour meteor shower ... er, storm. But the display comes at a steep cost, and that cost is heat. Fifty tons of anti-matter falling on our planet, reacting with fifty tons of our atmosphere, produces enough heat to warm our atmosphere by nearly one degree every single day.”

He heard nearly everyone in the room gasp.

“But we haven’t noticed this since Paradiso is currently on a trajectory that takes it out past the orbit of Mars, nearly to Jupiter, such that every day we receive less and less solar radiation, nearly canceling out the effect.”

The prime minister immediately hit on the key question. “And how long until we turn around and start approaching the sun?”

“Less than a month. After that happens, we can expect not just a one-degree warming effect per day, but three degrees.” Murmurs went up among the audience of spectators behind him and the table of ministers in front of him. “That would render the surface of Paradiso uninhabitable *long* before the nineteen months. We’re talking weeks.”

“Give me a number. Starting from now, how long do we have?” she said, leaning forward on her clasped hands.

“Forty days? Of course, in the intervening time we could be evacuating people in the tropics and middle latitudes toward the poles, but that only buys us another week or so. By day fifty? The entire surface becomes uninhabitable, as defined by being at an average temperature of over fifty Celsius.”

“What about underground?” said Secretary Hamish.

“I ... I beg your pardon?”

“Underground. Dig out a series of tunnels, deep underground, and get as many of us down there as possible.”

“I—” Colonel Rayburn trailed off, unsure of how to respond to such an outlandish suggestion. “I suppose we could get a few tens of thousands of people underground by then, but, with all due respect Minister, *why?*”

“*Why* not save tens of thousands of lives?” Minister Hamish had raised his voice and swept his arms out for dramatic emphasis. Rayburn also caught the man sending a quick glance toward one of the cameras. *Ah. He’s in campaign mode. Of course. Whole planet’s about to die but that can’t stop a politician from campaigning, I suppose.*

“What I mean is—”

Hamish interrupted. “*Why* not protect the innocent? Preserve our society and culture? *Why*—”

“*Minister* Hamish,” said Prime Minister Subramanian, “I think what the colonel is suggesting is that there is no point to putting all our resources into digging if it’s only going to save a fraction of us for a few extra days.”

“I—” Hamish began, flustered.

“*Enough!*” she yelled. The room fell completely silent. Prime Minister Subramanian had never been known by anyone in that room to yell, mainly because it was likely she had never needed to yell before, as they were all terrified of her, Rayburn thought. “I want options. Not outlandish bullshit like digging holes for us all to hide in for a few days until our planet slams into Earth. Real. Options. Every minister here, that is your new assignment. I don’t care what your title is. Huddle with your staffs. Send out polls and questionnaires to your constituents. Go get high and brainstorm up some wild shit. I don’t care. We’ll reconvene tomorrow, and I want options by then.” She looked around the table at her cabinet, all shocked that a cabinet meeting—usually a dog and pony show for the cameras, actually came with real homework this time. “Dismissed.”

Colonel Rayburn started to gather his papers and notes and stuff them into his briefcase, when he startled and nearly jumped. Prime Minister Subramanian was there, less than a foot from his side. “Oh! Ma’am.” He gave a nodded salute.

“Walk with me, Colonel.” She indicated a door off to the side of the busy chambers. She glanced back at her security detail. “Beat it.” They looked confused and nervous, but silently stepped back.

They made it through the door and into a relatively empty corridor beyond. One that, if he remembered right, led to the executive wing of the congressional building.

“You ... wanted to speak with me, ma’am?”

It took Subramanian several more moments to find her words. Another rare thing for the usually chatty prime minister. “You know what irks me the most? I mean, almost as much as all of us probably dying in the next few weeks?”

“What’s that ma’am?”

They entered the executive rotunda and angled off to the prime minister’s offices.

“It’s the whole ... I don’t know ... bit player aspect it feels like we have in all this.”

“Bit player?”

“We’re not the main character. Paradiso—our Paradiso—is the interloper here. This is *their* universe. And we’re the odd man out. We’re the anomaly.”

“I’m ... not sure I follow, ma’am.”

“It means that whatever we decide here, whatever we come up with for a plan to save ourselves, it almost doesn’t matter. Earth matters. What Granger and Proctor and Sepulveda come up with matters. Us? Nope. We’re an afterthought here.” She paused another long while. “But we *should* be the main characters. They brought *us* here. It’s not our fault we’re here, and I’ll be damned if we allow our world to be just a pawn or an afterthought to the powers that be in this universe.”

“You have something in mind?”

They finally entered her office, and she shut the door closed behind them. Leaning against the door, she examined one of her fingernails—it seemed to have chipped. “I do.”

Colonel Rayburn indicated a chair and raised an eyebrow to ask for permission to sit. She nodded. “I’m all ears. But, if I may ask, ma’am, isn’t this something for the minister of defense, or the head of the planetary defense fleet?”

“They’re busy thinking up options, remember?” She smirked. “Busywork, most likely. No, I need someone else for this job, and that falls to you. I read all about what you did at

the battle of Penumbra. Got a medal from the top IDF brass for heroism. You've made a name for yourself as someone who can think on their feet. It's why I pulled strings to get you your current position. Deputy chief of staff to the minister of defense was a spot I felt I could use a set of eyes and ears, and you've done well."

He started to get a pit in his stomach when she said *think on their feet*. Given the current dangerous situation, that could only mean an uncommonly dangerous mission. "And? What have you got for me?"

"You're going to make us the main character in this little drama we find ourselves in. We're not going to be a pawn. We're going to be the driver."

"How?"

"By literally being in a driver's seat. Go find a ship. An old passenger star-liner or some big shit like that. Fastest one you can find, with the biggest cargo and passenger holds."

The enormity, the sheer danger of what she was about to ask hit him. "Uh, ma'am, are you asking me to take a ship out? In this ... anti-matter universe? That's a suicide mission. One speck of dust hits the hull and you've got yourself a prime fireworks show."

"Don't be dramatic." She looked down, almost as if ashamed.

Almost. This prime minister was almost beyond shame, in his experience.

"Your EM deflector fields will block any dust that might hit you."

"Dust, sure. Maybe. One stray PDC round though if I happen to get into a skirmish—"

"Then don't get into a skirmish, Colonel. That's not your job."

"What *is* my job, ma'am?"



“If you’d stop interrupting I’d tell you. Find a ship. Fill it with as much mass as you can find on short notice. Rocks. Bricks. Water. I don’t care what. Then get to orbit. The IDF blockade will try to stop you, obviously—just q-jump out anywhere. Make several stops in inhabited systems as you make your way out to the Irigoyen sector.”

“What’s in the Irigoyen sector?”

“It has the benefit of being the farthest UE sector from Earth. But you’re not going there, you’re just going to be *seen* going there. After letting yourself be seen in half a dozen systems heading out there, come back, this time using only q-jumps that land you in interstellar space—yes, I know the risks—and get to Earth. Q-jump in about two lightyears away, then wait. If you hear from me and things have gone tits up with UE leadership, you’re going to jump the rest of the way in, and accelerate directly toward lower Manhattan.”

His eyes narrowed as he studied her face. Q-jumps landing in interstellar space were dangerous—if something simultaneously went wrong with your engines and your meta-space transmitter, you were stuck, lightyears from civilization, and therefore years away from rescue. But the danger, in her eyes, seemed to be worth it: she meant to use him, his real-matter ship in a universe of antimatter, as a bargaining chip. If UE decided to sacrifice Paradiso for whatever reason, he’d let his ten million tons of matter land in Manhattan and combine with ten million tons of regular old Manhattan antimatter. And vaporize half the eastern seaboard in the process. “So it is a suicide mission.”

She shrugged. “Like I said, only if everything goes tits up, in which case this whole damn plan is a suicide mission, for all of us.”

“And what exactly is that plan? I assume you already had one and your assignment to the ministers was just busy work.”

She smirked. “A plan? I don’t know if I’d go as far as calling it a plan. Gambit, maybe. And that’s a stretch. But if

I'm right, we save Paradiso, save this universe's Earth, and kill the Swarm all in one go."

"And if you're wrong?"

She smirked. "Tits up."

## Chapter 2

*Sector: Unknown*

*System: Unknown*

*ISS Independence*

*Sickbay*

Shelby Proctor woke up.

Except even as she awoke, she knew she was still asleep—looking down at one's own body laying in a bed in sickbay can do that.

“I'm dead. Great.”

Even as she said it, she knew it wasn't true. It just didn't ... feel like it was her time yet.

But it would be. She could feel *that*, at least.

She was feeling a lot of things, actually. Things she never imagined she'd be able to feel. Premonitions of death. Feeling what her physical body down below her was going through. The awful feeling of physical, chemical, hormonal shock her body was in because of the separation from her Valarisi companion. The conflicts of people, families, tribes, cities, nations, planets, and worlds-spanning governments rushed into her own emotions, and she could feel it *all*. Not each

individually, but each as part of an agglomeration of a whole, and the whole thing was ... one big feeling.

It would have been overwhelming if she wasn't also focused on something else. Something new. Different.

But the same.

She turned—she didn't know how she turned, one moment she was floating and facing one direction, the next moment she was facing the opposite—and gasped.

“Carla?”

The little girl smiled. “Yep!”

“But ... you're dead.”

“Sheesh, ain't that the truth,” she said, looking down at her arms and hands and all over her body. “But it looks like I've got something going on here so I must not be completely dead.”

Proctor was speechless. Her jaw hung open.

“Come on, Shell, don't tell me you haven't seen a ghost before.”

“I ... I ... can't say that I have.”

Little Carla stopped smiling, and shook her head no. “Yes you have. A few months ago. You saw me. Over and over again, in your head. At night.”

Proctor let out a small gasp. “The dreams?” It was true, she'd never dreamed so vividly in her life, dreaming about the months right before her sister's death, her cancer diagnosis, her miraculous cure, and the strange words Carla had told her as she lie dying after being struck by a ground-car, words that gave her clues about how to proceed against the massive world-sized Swarm ships they'd defeated months earlier—the ones that were responsible for the death of Britannia.

“The dreams. They weren't just dreams, Shell. I thought you'd figured it out by now.”

“I ... well to be honest I haven't thought too much about them since then. Been rather occupied with, well, *you* know. Don't you?”

Carla nodded solemnly. “I do.”

Proctor paused in thought. “Is that why you're here? To help again?”

Again, Carla nodded.

“And ... now that I've got my wits about me again,” she took a deep breath, “you're not Carla. Are you.”

It was a statement, not a question.

Carla shrugged. “I can be whoever you want, Shell. I've got access to just about all your memories. At the time, a few months ago, Carla seemed like the best way to get through to you. Now though?” The little girl transformed before her eyes, growing into a strapping young man. “I can be him.”

“Oh my god. Don't.”

It was Simon. Her ex-fiancé. Ancient history. Painful history.

The young man morphed back into Carla. “Thought so.”

“Don't ever do that again. Please.” She closed her eyes for a long moment. “Why are you here?”

Carla swept her arms up, as if to indicate one of the walls of sickbay. “First, let's review what got you into this situation in the first place.” The wall disappeared and in its place a viewscreen, almost as if the ghost was going to give a video presentation complete with slides.

It did give a video presentation. “What the hell kinda drugs are they giving me down there....” She glanced down at her body still laying in bed, and back up at the viewscreen which now displayed an array of Swarm ships chasing down an IDF starship.

“First, Granger defeats the Swarm. Thirty-one years ago. Lures them into the Penumbra black hole with the *ISS Victory*,

and traps them there. But here's the kicker. Instead of being crushed, he is transported to one of their universes. And something very interesting happens. The act of traversing the Einstein-Rosen-Rao bridge, in the absence of the influx of matter from the orbiting binary stars, alters the bridge in such a way that it rips away Swarm influence from the liquid beings controlling those Swarm ships at the time—or in other words, the Valarisi. Granger finds himself in hostile territory, but with trillions upon trillions of allies aboard a fleet of powerful ships. And he does quite well for himself! He kinda kicked the Swarm's ass in that universe for awhile, but that's a story for another time."

"He kicked their asses?"

Carla crossed her arms impatiently. "We're running short on time, Shell."

"Sorry. Go on."

"Let's skip ahead to where it concerns you. Long story short, Granger infuses Valarisi matter into his body, becomes essentially immortal, and while escaping from the Swarm's final attack on him in their universe, he escapes back into ours. Except he arrives at the wrong time, arriving just after our own Big Bang—well, long enough afterwards where the hull of the *Victory* wouldn't melt, a few million years give or take. Yada yada yada, lots of stuff happens, until finally, a few months ago, he reappears aboard what you called at the time the Golgothic ship—"

"Destroying the *ISS Chesapeake* in the process," she interjected.

"—and creates twelve Granger moons to help you destroy the world-killing Swarm ships that chased him here. Including Titan, which tragically collided with Britannia."

She held up a hand. "Wait, wait, wait. That was a pretty important *yada yada yada*. That's over thirteen billion years of Granger out there, in our universe, doing ... whatever. Making Findiri and Quiassi and who the hell knows what else,

inventing the technology for Granger moons, fiddling with the Skiohra genome and for all we know the Dolmasi and every other race we know. You're just going to skip all that?"

Carla looked at her solemnly. "Like I said, Shell: *time*. It's almost up."

"Up? Like we're all going to die?"

"Yes."

"Yes, as in ... who, exactly?"

"Yes, as in, *all of us* are going to die."

*All of us?* Proctor reached for something to grab onto, sensing she was about to fall, but she didn't. In her physical body, she would have. She thought it strange the shock at hearing those words from Carla resulted in a physical sensation that she *would* have felt.

"So, if you'll allow me?" said Carla.

Proctor waved a hand to continue.

"Granger reappears, you help him restore his body on the Skiohra ship, and he helps you save the day back at the battle of Penumbra. However, he's missing most of his memory. There's simply too much of it for one organic being to retain, so it's being stored elsewhere—he gave himself just the essentials for his return."

Proctor nodded. "Good, at least you've confirmed one thing I didn't know. There's at least hope of getting his memories back—that should be enormously helpful, I'd think."

"Possibly," said Carla. "Moving on. A few weeks ago, several things happen at once. The Findiri return and conquer Earth, led by a rogue Quiassi posing as Granger's old friend Commander Abraham Haws."

"Ha! So Danny was right. Quiassi are shapeshifters. Old President Malakov was one, and he's since shifted into

Speaker Curiel's form. So was Curiel always Malakov? Or did that happen recently?"

Carla's eyes narrowed. "Malakov was a Quiassi, yes. But Curiel is not Malakov. That's not the most important thing right now. Moving on. Findiri conquer Earth. Granger discovers the robot planet—robots which *he* created, millions of years ago. He also discovers he has a son, Jasper, a son he subsequently loses when the Quiassi Haws kills him to extract his DNA in order to fix the Findiri genome, which was originally based on Granger's to begin with. That doesn't go as Haws planned, him of course not realizing that Jasper *also* carried the DNA of his mother, a woman named Reah, whose DNA gave the Findiri something Haws hadn't planned on. Compassion. Love. And conscience."

"Woah," said Proctor. "I have so many questions."

"Not yet," said Carla, holding up a finger.

"Simultaneously, your Rayna Scott discovers that former President Barbara Avery took a ship in the moments before Britannia's destruction, went to the far distant future with one of the old Russian artificial singularities from Swarm War Two, and lured an entire Swarm fleet back here, destroying every last ship, save one. And that ship is now loose in your universe, and has at its disposal the Findiri two-dimensional singularity shield tech. The same technology used to save Earth from the anti-matter Paradiso slamming into it. The same Paradiso that was brought from its universe to ours by one Commander Shin-Wentworth in a vain effort to bring back his dead wife and children." Carla's eyes narrowed. "Are you listening to me?"

"Yes, yes I promise. It's just ... a lot."

"Tell me about it." Carla shrugged. "It's why I need to review with you so we can get to the solution. A solution that has to address many things: The Swarm ship on the loose. Anti-matter Paradiso's future collision with Earth. The robot fleet now being fused with the Valarisi via Ensign Decker,



who gave himself over to them. And ... another threat you don't even know about."

Proctor rolled her eyes. "Great."

"Your leadership is not what it seems."

Proctor had to laugh at that. "When is it ever?"

"Vice President Cooper. She is Quiassi."

"*Vice?* So she gave the presidency back to Sepulveda like they agreed? And yes, I had a hunch she was Quiassi. Even had a theory it was Former President Barbara Avery."

Carla shook her head. "No. You have it completely backwards. Speaker Curiel is not Former Russian Confederation President Malakov. Vice President Cooper is not Former President Avery."

"Wait," said Proctor, the reality dawning on her. "Cooper is ... Malakov? Curiel is Avery?"

"Yes."

"Which means United Earth is now effectively run by Malakov? Poor Sepulveda can't be more than a puppet to him—he was a master strategist back in his day, a perfect foil to President Avery. And Sepulveda is ... just Sepulveda."

"It's worse than that. While Malakov's goal is still the same—stop the Swarm—he has no morals, and will do anything, *anything at all*, to stop them."

Proctor froze. "What do you know? What is he planning?"

Carla shrugged. "That I don't know. But it will be big, and chances are it will be horrific."

It finally hit her. "Wait. Carla ... you're not Carla, clearly."

Carla smirked. "I thought we established that already."

"You're also not just a figment of my imagination. This is not just a fever dream of a coma patient. You seem to know a lot about the psychology of a Quiassi who is older than the human race itself."

Carla shrugged innocently. “Oh?”

“You’re one of the ten Quiassi.”

Carla chuckled. “But Shell, how can I be a Quiassi if I’m here in your head?”

“I don’t know.” She sighed. “Okay, if you’re not Quiassi, what *are* you?”

She replied in a sing-song voice. “I’m an angel, Shell.”

“Don’t be ridiculous.”

Carla laughed. “It’s true! How in the world could I have been in your head those months ago, giving you dreams about your dead sister? How did your sister, in the moments before she died, somehow know what to say to you, to whisper in your ear as she lie dying, telling you critical information for stopping the Swarm sixty years from then?”

“Look, I’m religious. After a fashion. But I’m also not naïve. What the hell are you?”

Carla paused a few moments. “Okay. We’re both right.”

“You’re a Quiassi angel?”

“Almost. I was Quiassi. And I died. Years and years ago. But before my body died I became one with a faction of Valarisi. And before they were corrupted by the Swarm, I managed to transfer my consciousness to meta-space, giving me access to your spacetime continuum at multiple points along your timeline. Carla didn’t originally say those things to you. I influenced her to say them.”

“So it wasn’t a miracle,” murmured Proctor.

A chuckle. “Wasn’t it, though? Is it any less believable than your friend Tim Granger creating a being billions of years in the past, that being then infusing itself with a liquid species that gave it access to meta-space, which, upon dying, was able to see what was happening to you with the Swarm and then go back in time to whisper the clues to your dying sister to relay to you, hoping that you’d remember sixty years later?”

“I ... don't know what to say.”

“Then just keep calling it a miracle and move on to figuring out what to do next. You've got a megalomaniac Quiassi about to unleash unthinkable destruction in his quest to stop the Swarm. You've got a planet made of anti-matter bearing down on Earth. You've got a fleet of powerful robot ships now fused somehow with the Valarisi, and they are *not* happy with humanity at the moment. And you've got a Swarm ship from the far, far, far distant future with a stolen Findiri two-dimensional singularity shield wandering around, and I'm pretty sure they're not happy with humanity either. And to top it all off, you've got a divided humanity, Dolmasi, Skiohra, Eru, and Itharans all quarreling with each other, and a geriatric human-turned-god-turned-human with no memory and bad knees trying his best to save humanity. Again. And you—you're in a coma.”

“Sounds bleak.”

“You ready to get to work on a solution?”

She glanced down at her body again. “Can't say that I have anything better to do.”

Carla—the Quiassi—smiled. “Alright, Shell. Let's put our thinking caps on.”

## Chapter 3

*31 years ago*

*Penumbra System, near black hole event horizon*

*ISS Victory*

*Bridge*

Captain Timothy Granger looked death in the face, and laughed.

In this particular instance, death's face appeared as a perfect circle of black on his viewscreen, dotted sparingly in the center with stars, the edges smeared with circular streaks of light, indicating not individual stars, not even individual star clusters, but rather an entire universe of light concentrated into the edge.

This black circle—taking up a huge portion of his view—wasn't death. Rather, it was the much bleaker, emptier field of black that this circle lived in—that was what scared him. The smaller black circle speckled with stars was the universe. The rest of the black outside of that black?

It was nothing.

It was death.

It was the event horizon of the black hole he was speeding toward, inexorably. He was sure that no engine in the known universe could resist the forces now pulling him in.

Yet still he laughed.

He laughed not out of defiance—it wasn't some bold statement of triumph, that he'd finally, after so many months, finally destroyed the Swarm.

He laughed because it was so goddamned funny. Here he was, an insignificant sixty-four year old man with a limp, thinning hair, and until recently stage four cancer. A regular human, with innumerable flaws and weaknesses—no reason to think he was special, or a unique threat. And yet....

And yet, there they were. All of them.

The Swarm. Every last goddamn ship, chasing him down that black hole's gravity well.

And behind them, the observable universe squished down into a circle that couldn't be larger than his balled-up fist if he held it at arm's length.

It grew smaller.

The rest of the blackness grew larger—the utter nothingness of the event horizon, filling up ever more and more of his view.

He felt the gravity differential already. Logically, he knew that eventually the ship and, yes, his body, would be stretched out, *spaghettified*, though the same rational part of his brain reminded him that he'd be dead long before that.

*Not necessarily, Tim.*

His head snapped to the side, looking for the speaker.

“What?” he said.

*This doesn't have to be the end.*

“Who are you?”

*We are the Valarisi.*

He snarled. “You mean the Swarm? Fuck off. Let’s get dead already, shall we?”

*No, Tim. The Swarm influence on us is broken. When you traversed the artificial singularity, it severed the connection. We are we again. We are not them, we are we. We are Valarisi.*

His eyes narrowed. The voices spoke as one, like a chorus of hundreds—no, thousands. No....

Millions. Billions?

Trillions.

And more.

All of them speaking as one, in his mind. It was terrifying.

It was exhilarating.

“What do you mean, this doesn’t have to end?”

*This singularity. It served as an Einstein-Rosen-Rao bridge to the Swarm’s universe. It was how they entered ours. We can traverse it too, if we take the proper steps.*

“Proper steps?” he asked. A sick feeling in his stomach was growing as he felt the tug of gravity increase in his legs, and decrease near his head—the ship’s artificial gravity system simply didn’t know what to make of the massive gravitational field variations.

*Yes. But Tim, we’re almost out of time. A few more minutes and you’ll be crushed. And us along with you.*

“A few more minutes,” he mumbled, glancing at the sensor readouts. He’d had the ship’s scanners focused on the circle of light behind the ship that represented the entire universe. As it shrunk in size, the sensors indicated that, indeed, time was speeding up. Hundreds of thousands of years had passed since he started his plunge into the abyss. And every second represented an acceleration of that flow of time. Now it was two hundred thousand years. In a few seconds it would be millions.

Stars were being born. Stars were dying. Galactic empires rose and fell. Billions of trillions of sentient beings came into existence and then winked out in the blink of a nanosecond—he wondered if a small portion of those multitudes were human. Had they survived until now? Was he now the only living human left? At least for the next few minutes?

What would happen at the end? As time sped up for the outside universe and he hadn't yet crossed the event horizon, would the flow of time move so fast that the universe would approach its end state? What would that look like? Would Hawking radiation sap the mass of the black hole, and over eons—microseconds to him—shrink it to the point where it no longer had the mass sufficient to qualify as a singularity, losing its event horizon in a puff, and then ... what happened then? He'd be dead, sure, but what happened then? Would his matter blast back out into the universe?

Or was he forever consigned to an eternity of darkness, all four dimensions collapsed down to a stifling zero, a non-space, a non-time, a non-existence?

Or, like his new friends said, could he escape both fates? Could he really ... make it?

Make it ... into the Swarm's universe?

“You want ... to take us to the Swarm's universe?”

*Yes.*

“Won't they try and kill us? Or take us over again?”

*Oh yes.*

“And you think we can stop them?”

*No. We do not think we can.*

He sat for a moment, absorbing that. “Huh,” was all he managed.

*But, the chorus began, we can try. Plus, we have those.* He almost didn't know what they were talking about, but in his mind's eye an image appeared—they were showing him a

view from outside the ship, looking out ahead toward the singularity itself. At first he missed them, but his mind's eye adjusted and, somehow, he focused in on them.

The antimatter torpedoes. He'd fired hundreds of them just minutes ago, and they were speeding ahead. He wondered—how far ahead in time were *they*? The dizzying details of general relativity made his head hurt, so he simply thought, *what, you want to take them and personally deliver them to their universe? Shove them up their asses?*

*Something like that*, came the reply.

He grunted a laugh. “Sounds like a plan. What do I do?”

*We need direct control of the ship. You need to interface us into the system.*

He looked around the bridge, considering all the various workstations and equipment. “Sounds complicated. You sure we have time for that?”

*To do it right? No. But there is a quick, if not ... inelegant solution.*

“I feel like I'm not going to like this....”

*Cut your skin. We are in your blood. Get us into contact with circuitry—any circuitry will do—as long as it has a direct circuit path to the ship's main computer.*

He glanced back at one of the destroyed consoles at the tactical station—ruined in the most recent battle with the Swarm. Exposed wiring still flickered. “How's that?”

*It'll do.*

He pushed out of the captain's chair and dashed back to tactical. With a quick, violent motion he raked his hand across a jagged piece of metal protruding from the console, and when the blood began to flow, he let it drip into the inner workings of the electronics.

*Good. Good! We're in. Now it's a race. We need to stabilize the Einstein-Rosen-Rao bridge, while simultaneously*



*modulating the structural integrity field of the ship to allow safe passage. This ... will be difficult. Even for a quadrillion minds working as one.*

“A quadrillion and one.”

*What?*

“A quadrillion and one. We’re in this together,” he said, struggling back to his seat, now feeling rather light-headed. “Just ... just promise me, when we get through this, we’ll ... we’ll....”

*We’ll what, Tim?*

“We’ll hunt down every last piece of Swarm shit in existence across every universe they’ve ever been to, and wipe them out. Every ... last ... fucking ... one of them.”

He didn’t hear a response. Not a verbal one, anyway. But he had the distinct impression of hearing—feeling, rather—an endless chorus of voices laugh all at once. It was at once unnerving and energizing. For the first time in a long, long time, he felt something strange, something he hadn’t felt since ... damn, he couldn’t even remember.

He felt excited.

*We’re done! Success! The bridge is stabilized. The hull integrity is strengthened! We’ll make it through!*

That was fast, he thought. He wondered what it would be like to have the thinking power of a quadrillion minds all connected to his. Could he survive the Swarm that way?

Or maybe the question was, could *they* survive *him*?

He grinned. “Right. Bring it on.”

## Chapter 4

*Present Day*

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*Bridge*

“Found them, sir. Right where you said we would,” said Lieutenant Jor. She started to swivel to face him, but apparently forgot the captain’s chair of the *ISS “Ballsy” Volz* did not, in fact, swivel.

The son of the ship’s namesake, Commander Ethan “Batshit” Zivic, didn’t even look up at her. He was busy studying the sensor readouts of the currently stealthed *ISS Defiance*, which was doing an excellent job staying hidden some hundred thousand clicks above the orbital path of Iapetus around Saturn.

“How did you know?” said Jor.

“If I was on the run from every starship in IDF, having just killed the son of the Legend himself, not knowing who to trust now that Earth was back in the hands of the United Earth government, knowing that a hundred thousand Grangerites

were probably on his trail looking for blood, and running low on supplies?" Zivic finally looked up at her. "I'd be here. Unmanned supply depot, used only for emergencies. Besides the ability to resupply without any nosy neighbors looking over his shoulder, he's got a clear view of anyone coming in for millions of kilometers, given that Saturn disrupts anyone's ability to q-jump in too close."

A grunt from the rear of the bridge. "There's the Batshit I know. And Grangerites tracking him down? Nope. You know why?"

Zivic didn't answer him, hearing in his tone that it was rhetorical. All eyes on the bridge trained on him.

Captain Granger, sitting quietly in the corner, having been alone with his thoughts for nearly an hour, finally stood up. "I called them off. This is my job. And mine alone."

*And took precedence over everything, he thought. Saving Earth? Saving humanity? It could wait. My god, they took my only son. The son I never had. The only thing left of her. I had him for three days, and now....*

"So this is a revenge mission then?" said Lieutenant Jor.

Granger wheeled around to glare at her. "Careful, Lieutenant."

She gulped. "Sorry, sir, I meant no disrespect. But if Lieutenant Commander Rice had done to me what he did to you? Slowly gaining my trust over weeks, then murdering my only kid? Yeah. I'd be out for his blood too. No shame in it."

Granger shook his head slowly. "That's ... that's not who we are, Lieutenant."

*Wasn't it though? What was he doing here?*

Zivic interjected. "I think what the good lieutenant *means* is that under normal circumstances a military tribunal would likely weigh the evidence against Rice and invoke capital punishment. Given our," he swept an arm around the room, indicating the galactic shit show they still found themselves in,

“current situation, military tribunals are months away at best, and since other, more pressing issues are competing for our scant time, this is the only solution.”

Granger nodded. “Well said, Commander.”

*None of it was true though, he admitted to himself. She was right, wasn't she? He could have ordered some random IDF captain to hunt Rice down and bring him in to face justice, leaving him, the Hero of Earth, time to focus on more important things.*

*Like saving humanity. Again.*

*But fuck saving humanity. It could wait. It had to.* He couldn't think about anything else. The image of his son, in that chamber, slowly disintegrating, screaming.... He shook the thought from his head.

Jor shrugged. “Suit yourself, Commander. You say tomahto, etcetera.”

Granger, glad for the distraction from unwelcome thoughts, had to turn and hide his smirk. It was why he liked her, and why he felt comfortable leaving the *Volz* in her hands once he and Zivic had taken back the *Defiance* from Rice. She wasn't afraid to go against headwinds and speak her mind, come what may.

“Excuse me, Lieutenant Jor?” said Zivic.

“Commander,” began Granger. “What's the posture of the *Defiance*?”

Zivic visibly fumed, but held his tongue from any further upbraiding he wanted to give the upstart Jor. “Currently stealthed, and approaching Iapetus at a leisurely thousand clicks per hour. No rush on their part, apparently, probably because they can see us in orbit.”

“Weapons systems?”

Zivic shook his head. “Given their stealth, no way to know. The only reason I know they're there is because I guessed—

well, *intuited* where to look. Heat waste can only be masked and disguised so much.”

Granger nodded. “Okay. This is where you and I make our graceful exit, and leave the next part in the more-than-capable hands of Lieutenant Jor.” He stood up and indicated Zivic follow him to the exit. They made their way down to the shuttle bay, and Zivic pulled up a holographic monitor on his handheld.

“May as well watch her performance,” said Zivic. Moments later, Lieutenant Jor’s face appeared in front of them as they walked, and next to hers, on the other end of the comm line, they saw *him*.

The man who’d killed Jasper. Or rather, through his betrayal, led to his gruesome death at the hands of Director Talus—the late Quiassi who’d assumed the form of Granger’s old friend Commander Haws.

“Commander Rice, I’m Lieutenant Jor, uh, technically the commanding officer of the *ISS Volz*.” She sounded different than her normal demeanor. Hesitant and unsure instead of steady and confident. *Good. She was an excellent actor.*

“Lieutenant Jor, good to see you and the ship in one piece after all the fireworks of late,” began Rice. “What do you mean by *technically*?”

She shrugged. “Well, Captain Whitehorse died, Commander Shin-Wentworth is currently in a brig somewhere for who-knows-what, and Commander Zivic is MIA—I assume he’s either in mourning for Captain Whitehorse—she was his fiancée after all—or he’s holed up with Granger somewhere. No one seems to know where *he* is either. In short, IDF command structure is basically nonexistent. I was hoping you’d have a better idea of what’s going on.”

Rice nodded slowly, as if weighing her words. Mulling them over like swishing wine through his mouth to find all the hidden notes, trying to figure out if she was on the up-and-up.

But given how few options he had, there was only one choice for him: hear her out, at the very least.

“I see. And that leaves you in command of the *Volz*, and you find yourself in a little over your head.”

She chuckled nervously. “Heh heh. You could say so, sir. But I didn’t really feel comfortable going back to IDF for instructions—it’s a little unclear who’s in charge right now. Is it still the Findiri? They say they’re our friends now, but I just don’t believe it. And Sepulveda is back from the dead and president again? With President Cooper now his Veep? It’s just ... a little fishy, if you ask me, and I didn’t know where to turn.”

“So you turned to me. Why?” Rice said bluntly.

“Well, one person I know I can trust is Captain Granger. I mean, he’s back from the frickin’ dead, you know? The Hero of Earth. And I heard that you were his right-hand man for the past few weeks. So I figured if Granger trusted you, then I could trust you.”

Granger smiled. *Perfect performance.*

They continued walking to the shuttle bay, but veered off at the last moment to another, smaller bay on the ship. One used exclusively for the repair vehicles that were sometimes driven outside the ship when in dock. The *Volz* had two on hand, and had also sustained some significant damage in the past few weeks. Damage that needed some urgent repairs.

As in right now.

Holographic Rice visibly relaxed. He bought Jor’s story, clearly. Even though she claimed to be loyal to Granger, he probably figured there was no way she’d admit that if she knew what had just happened a few days ago—if she even knew about his betrayal.

At least, Granger hoped to God that’s what he thought. A lot was riding on this.

“Fair enough,” said Rice. “We should meet.”

“I was thinking the same,” said Jor.

“You’ll forgive my caution; given the current uncertain circumstances we find ourselves in, I propose we meet on the *Defiance*.”

“Docking tube?”

“No. Come over in a shuttle. Don’t worry, we’ll pick up our speed and be there momentarily—you won’t need to be under thrust in a shuttle for a few hours. Just yourself, and one marine if you prefer a security escort.”

“Under the circumstances, I do,” she replied,

“Understood. I’d doubt your intelligence if you didn’t.” He nodded curtly. “Rice out.”

Rice’s image disappeared, and Zivic tapped a button on his handheld. “Good job, Lieutenant. Just as we expected. Commence the next stage of the plan.”

“Heading down to the shuttle bay now. Jor out.”

Her image disappeared and Zivic pocketed the handheld. They’d been standing outside the small repair bay, and now entered it. One of the crews was already prepping a repair vehicle, and the chief motioned to another vehicle nearby. “That one’s all ready for you. This one’s already crewed by the marines you sent down.”

“Excellent. Thank you, chief,” said Granger, and climbed up into the vehicle. It was small, barely able to fit the two of them, as they were designed for a single driver and no passengers. Granger could only imagine how the four marines had managed to squeeze into the other one.

“We’re good to go,” said Zivic. He had settled himself at the controls and thumbed on the comms. “Repair drone two requesting permission to launch.”

“Permission granted,” came the voice of flight control.

“Here goes nothing.”

Zivic piloted the craft out of the tiny bay and wheeled it around immediately to point back at the hull of the *Volz*. With a few nudges at the controls it drifted up and to the right, toward a giant gash that had been cut into the hull by one of the Findiri ships the week before at the battle over Bern. They'd only had the time to make the most rudimentary of repairs before the repair crew's attention was drawn elsewhere to some fresh emergency.

Which meant that two repair vehicles working on it right now, during a resupply mission to Iapetus Depot, would look anything but out of the ordinary.

"Do you actually know how to get this thing to weld?" said Granger.

"Nope. Thought that wasn't the point."

"We need to *look* like we're actually doing repair work, son."

Zivic sighed. "Guess it's time to actually read the manual for this thing." He pulled up the quick start guide that all IDF craft come with to refresh the memory of any operator—any *trained* operator—and scanned it for the basics. "Yada yada, uh huh ... oh Lord, listen to this: ensure exhaust stream is pointed *away* from the repair target, I mean my god, who writes this shit?"

Granger grunted. "Well half the fleet now are ensigns who missed the last two years of the academy. Sometimes you need to tell them where to point their dick to have any hope of reaching third base."

"Okay, I've got the welder attachment out and moving it into place. Did the engineering team finish placing the explosives?"

"Was that question for me?"

"Guess not," said Zivic, and thumbed on the comm. "Engineering, did you finish the prep work?"



“Yes, sir. Your craft is approximately four meters from the package. Just give us a countdown and we’ll detonate.”

“Good. Zivic out.”

He started fiddling with the welding controls, trying to make a convincing show of a half-assed repair job. “And now we wait for—ah, there she goes.”

To their left they saw out of the corner of their eyes a shuttle leaving the main bay of the *Volz*. Zivic glanced at the panel’s tactical readout and saw that Jor’s shuttle was heading toward the *Defiance*, which had just arrived and was parked beside them in orbit just fifty meters away.

“Good—we won’t have to drift far. Engineering, this is Zivic. When Jor finishes her docking sequence, start a thirty second countdown. Extraction team, it’s go time. When the countdown finishes, engage your emergency explosive thrusters. Make sure you end up aimed in the general direction of the *Defiance*, and give your self a fair amount of spin—gotta make it look convincing.”

“Aye, sir,” said the engineer and the marine in unison.

“And strap the fuck in—you’re gonna get a hell of a whiplash if this works.”

Zivic held his breath watching Jor’s shuttle approach the *Defiance*, slow as it approached the shuttle bay, and finally land gently on the deck. As she did, the engineer’s voice came over the comm. “Thirty. Twenty-nine, twenty-eight, twenty-seven....”

Zivic was pressed against his side fairly snug and he could feel the other man’s tension. “Give the welding controls to me. You focus on the explosive detachment.”

Zivic nodded and relinquished the welding controls. The flight controls were on his side of the dash anyway, and he needed his full focus on making their detachment look as accidental as possible.

“Five. Four. Three....”

Granger continued welding right up until the end of the countdown, making it look like what was about to happen was a true surprise.

The little repair craft jolted violently—Granger wasn't sure if it was the detonation of the package or the explosive detachment thrusters of the vehicle itself. Either way they lurched into an uncontrolled spin and drift.

He checked their heading. Zivic was good—he'd managed to blast them right in the direction of the *Defiance*'s own repair craft bay. A glance at the second craft told him they'd had similar luck—they were spinning and drifting in the general direction of the *Defiance*, but off by just a bit.

Just close enough for them to request *Defiance* send out its emergency tow cable.

“Fuck! Goddammit I hit the secondary coolant line for the core!” The marine pilot in the other craft made a convincing show of sounding both angry and panicked. “Thrusters and attitude control is out! *Volz* I'm gonna need some help here.”

Zivic joined the chatter on the general comm channel—one that the *Defiance* was surely monitoring. But given that he'd served briefly on the *Defiance*, he tried to give his best impression of a gruff repair crew chief. “Got caught up in the blast too. Thrusters out. Main power out. And ... oh shit, we're gonna crash into the *Defiance*.”

On cue, the officer they'd left in charge of the bridge, Lieutenant Petty, came over the general broadcast. “Uh, *ISS Defiance*, this is Lieutenant Petty on the bridge of the *Volz*. We have, uh, a situation going on we could use some assistance with. Our two hull repair vehicles got swept up in a blast from a coolant line while they were working. One is on a collision course with you, the other is spinning off into space and will pass you by in about a minute.”

A voice from the *Defiance* joined them on the general channel. “Copy that, *Volz*, stand by....”

*Come on, come on, come on, thought Granger. Take the bait. We're all one big happy fleet....*

“Repair craft One, your projected point of impact is very close to our own repair craft bay. We’re going to move so the netting inside the bay will catch you. Repair craft Two, standby for emergency tow cable deployment. Hold on, this is going to be rough....”

“Here goes nothing,” muttered Zivic.

Before long, they sailed past the open doors of the repair bay and jolted to a stop as the *Defiance*’s artificial gravity took over and they landed in a safety net. Granger assumed the marines’ experience in the other craft wasn’t quite as gentle.

“Okay—showtime, Captain. You ready?” Zivic glanced at him, having withdrawn some tools from a belt: several wrist zip ties, some tape, and a pistol.

Granger unholstered his own sidearm. “Let’s go.”

The door of the craft opened and Granger jumped out first. After rolling out of the taut safety net, he waited in front of the entry door, the pistol hidden out of sight behind his back. Following protocol, the repair bay officer on duty came in, writing something on a data pad and not even looking up yet. “Glad to see you on your feet—I was worried the landing might have....” He trailed off as he looked up and saw Granger.

“Easy, son. You’re going to be just fine, but I’m gonna need you to walk—slowly—over to Commander Zivic there, hands behind your head.” He nodded over to Zivic, who was waiting with the zip ties.

“I ... uh ... this—this—this is not what I was expecting,” the man stammered, his eyes flicking between the two of them. He stood a step backward.

“What’s your name, crewman?”

“Uh ... uh ... Petty Officer Tranahan, sir.”

He remembered the last name when he scanned through the roster during his very brief stint as the *Defiance*'s captain a week earlier. "First name?"

"David."

"David. You will not be harmed, but you need to do exactly what I say, right now." He motioned again with his head. "Go over to Commander Zivic. He's going to cuff you, tape your mouth, and sequester you temporarily in the repair craft. Until we get this all sorted out. You'll be fine. Understand? But you need to move."

He didn't move.

"Now!" Granger barked. He finally revealed the pistol, lowered slowly to his side.

Tranahan's eyes bulged and he gulped. "Okay. Okay, I'm moving." He cupped the back of his head with his hands and approached Zivic, who sidestepped him and snapped the zip ties around his wrists.

"Good choice, son." Granger made sure the man offered no resistance as Zivic continued securing him, then poked his head out into the corridor to make sure the way was clear.

He felt Zivic behind him. "We good to go?" he said, still scanning the hallway for any signs anyone knew they were there.

"He's taped to the seat. If I remember right, the *Defiance* only has a crew of, what, twenty-ish?"

"Shipped out with twenty-two a few days ago when it was my ship. Ensign Shin died on the robot sentinel planet. Good kid—maybe he could have talked his brother out of the shit show he created with that Paradiso business."

"Shin-Wentworth's brother? God, there's another loose end we'll have to deal with after Rice. Anyway, that leaves twenty-one, counting Rice," said Zivic.

"And PFC Alba. Saved my hide on the robot planet. I think we can trust him. But if his loyalties are with Rice, then holy

shit are we in for a fight. He's a marine's marine if I ever saw one."

An alarm started blaring, followed by a voice on the intercom that he recognized. Ensign Nagin. "Intruder alert! Security team to the shuttle bay deck! Intruder alert! All hands go to lockdown, and security team to the shuttle bay deck!"

"Shit," he muttered. "That means Alba's on his way here. With backup."

## Chapter 5

*Sol Sector*

*Earth*

*New York City*

*United Earth Executive Offices Tower*

*President S.: He's pretty good!*

He silently read the crumpled note in his hand. It had torn edges from where he'd ripped it from the poster in his office—no wait, *her* office. No. It was actually *his* office again. Former Russian President Malakov, a Quiassi, now posing as Vice President Cooper, had given it back to him.

*What a joke*, he thought. He was a puppet now. A plaything of a being with so much power, so many levers of influence, so much ... *persuasion*. How was it that he hung on the woman's—no, man's—every word? How did he find himself doing absolutely everything he—*she* told him to do, no matter how mundane, or how horrific—the stomach-turning image of Admiral Oppenheimer, blood spewing from a hole in his head, pieces of brain pelting the wall of his office ... shit, he'd never, ever forget that. It would haunt his nightmares, and his daydreams, forever.

And he—she had made Sepulveda do it. With a word.

*YOU CAN JUST CALL ME A SHE, YOU KNOW.*

Cooper's voice blared in his head. She didn't often do that in the days since he'd fallen under her sway, but when she did, it was ... bracing.

"I ... I ... okay. But ... are you a woman? You were a man before, so I just thought—"

*QUIASSI DON'T HAVE A PERMANENT GENDER, YOU MORON. WE PERFECTLY MIMIC OUR ... SOURCE MATERIAL, IF YOU WILL. SENATOR COOPER WAS A WOMAN, I COPIED HER BODY PERFECTLY, DOWN TO THE CELLULAR LEVEL—MAINTAINING MY OWN NEURAL CONNECTIONS AND MEMORIES AND THOUGHT PATTERNS—AND SO THEREFORE I AM A WOMAN. NOW. WHO KNOWS, MAYBE MY NEXT BODY WILL BE YOURS. IN WHICH CASE I'LL BE ... HMM ... I SUPPOSE I WON'T BE ABLE TO CALL MYSELF A MAN NOW, WOULD I? PEON? SLAVE? IS SLAVE A GENDER? I SUPPOSE IF THE SHOE FITS....*

Not even his mind was closed to her. His private thoughts were not his own. She had access to *everything*.

He folded the ripped note in half, and half again, and slipped it back into his pocket. Before he looked up to face his new task, he closed his eyes. *You're a person, dammit. You're the president of United Earth. You're a person. You're a person.*

He repeated the mantra over and over.

*PERSON? OH, JOHN. THAT'S ADORABLE. NOW GET TO IT.*

He opened his eyes. "Yes ma'am," he said.

Before him, strapped to a table, lay a woman. Her eyes were wide in terror. Her mouth was taped shut, but she was moaning. If she weren't taped, he imagined she'd be screaming, *Please don't! Please let me go!* Her IDF military name tag had been knocked askew, but he could still read it sideways: LT. Patricia Connelly.

*GET ON WITH IT, JOHN. HOW ARE YOU GOING TO BECOME THE GREATEST PRESIDENT IN UE HISTORY IF YOU CAN'T DO THE HARD THINGS TO GET YOU THERE?*

*Why can't I just transfer some of ... the juice, by touch? Like I did to Oppenheimer?*

*I TOLD YOU. FOR THE PURPOSES FOR WHICH I NEED HER, SHE MUST HAVE ABOUT A MILLION TIMES MORE JUICE THAN I TRANSFERRED TO YOU, OR YOU TO OPPENHEIMER. THAT MUCH IS NOT POSSIBLE TO TRANSMIT BY TOUCH.*

He picked up the meta-syringe full of the clear liquid—he'd half expected it to be glowing green or some other ungodly unnatural color, but it looked like regular old saline solution like you'd find in an IV bag. Pressing it against her thrashing neck, he pressed the injection button.

Her spine went ram-rod straight, almost like a reflex. But he knew it wasn't just a reflex. It was the near-immediate effect of *the juice*—the Swarm-matter-based virus that Malakov had developed in one of his secret labs that enabled him to exert direct mental control over the one infected by it.

She visibly relaxed, and he released the leather straps holding her to the bed.

“Are you ready?” he asked her.

She looked at him with a look of confusion for a moment, and then her face changed as if she'd just recognized him or understood something she'd struggled to understand.

“I said, are you ready? Has she instructed you yet? Do you understand your task?”

Her eyes went back and forth, almost as if she were reading something. She nodded once or twice, shook her head, then nodded again, as if deep in conversation with an unheard voice.

“Answer me. Are you ready?”



Her gaze snapped to look straight at him. Her eyes were cold and joyless, but determined. "I am."

## Chapter 6

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Defiance*

*Shuttle Bay Level*

“We need to get off this deck before Alba and his team show up,” said Granger, and he sprinted toward the lift down the hall.

Zivic followed close behind. “Except we can’t take the lift—the response team could be coming that way.”

“Service hatch? It’s a good climb.” Granger slowed as they passed the door of the hatch, whose ladder could take them the three short decks to the bridge.

Zivic hesitated. “Same problem.” Another moment, and his eyes lit up. “Do you still have command access to the ship?”

Granger reached out and activated a wall terminal. He tapped on the icon of tactical posture—not just anyone could access that data path without being denied.

He wasn’t. The display changed to show the status of the *Defiance* in relation to the *Volz*, Iapetus Depot, Saturn, and the closest ships in the vicinity. “I’ve still got it.”

“How’s your zero-g training, sir?”

“Just about all my training is expired, son, a few eons ago, give or take a billion years.”

Zivic shrugged. “It’s like riding a bicycle. Kill the artificial gravity. I’ve got an idea.”

Granger tapped through some function paths and found the environmental controls. “Float up?”

“Yep, and send the lift to the top of the ship.”

“I can’t lock them out of the system, FYI.” Unspoken was the chance that the bridge could very easily just turn the artificial gravity back on, and if that happened while they were in the lift shaft....

“We’ll have to be fast then.”

A quick tap of a button, followed by a voice authorization from Granger, and after a few more seconds he could feel his stomach start to rise up into his throat.

“Go!” Zivic yelled, before maneuvering himself through the lift doors and then launching himself upward. Granger took a big gulp and followed suit, hesitating just for a moment as his feet floated over the abyss below. In reality it was only four decks down to the bottom, but that was at least one more deck than necessary to kill.

He reached out to the wall to reposition himself, and using the lip of the deck below he launched himself upward.

Straight into some waiting arms that roughly yanked him into a corridor just two decks up. “What the hell...?”

When he got turned around, he was looking straight into the barrel of an assault rifle. Nearby, Zivic floated with his hands behind his neck, warily eyeing two soldiers with rifles trained on him. His face was beet-red, whether out of embarrassment or the lack of gravity allowing the blood to rush to his head Granger couldn’t tell.

“Now, Captain Granger, mind telling me where you’re going?” His eyes followed the length of the barrel up to the face of the man wielding it.

“Alba.” He nodded down toward the rifle. “Mind pointing that somewhere else?”

The rifle angled off to his side.

“Your turn,” said Alba.

“Right.” Granger said, still eyeing the rifle. “Headed to the bridge. Need to have a word with Rice.”

“Thought so.” Alba shook his head. “Look, Captain, Commander Rice filled me in on your mental, uh, *situation*. Seems you’re still a bit, uh, unstable. Says you *really* need your meds.”

“Did he now? Well maybe you can take me to him then? He might have just what I need.”

Alba’s eyes narrowed a hair. He glanced over at Zivic quickly, then back to Granger. Before he could speak, a voice came over the comm system. “Alba? Report.”

It was Lieutenant Commander Tim Rice’s voice.

The man that betrayed him. The reason his son was dead.

Alba, steadying himself against a handhold on the wall with one hand and keeping the rifle angled off to the side with the other, answered. “We’ve got the intruders, sir.”

“Bring them to the bridge. And stand by for restoration of life support and artificial gravity.”

The comm shut off, and almost immediately the gravity kicked back in. Zivic, floating about a meter in the air, came crashing down with a loud thud. “Dammit!” he yelled. Granger somehow managed to land on his feet, only being a few inches above the deck.

“You heard him, Captain Granger. Let’s get up there.”

Granger didn't move yet. "Think this through, son. There's a lot on the line here."

Alba didn't display even a hint of emotion. "I know where my loyalties lie, Captain. If you don't mind," he said, indicating the lift doors, which had closed and now opened again to reveal a newly arrived lift.

The four of them boarded the lift. Zivic and Granger first, followed by Alba and his companion, rifles raised but angled just a hair off to the side. Too dangerous to try anything. Granger glanced at Zivic and gave a short turn of his head to tell him not to try anything stupid. Zivic shrugged and half smirked, as if to say, *Do you really think I'm that crazy?*

When the doors opened and they walked onto the bridge, Commander Rice met them as they approached, his sidearm clenched in one hand. He didn't raise it, but kept it pointed toward Granger's feet. "Captain Granger! Looks like the medications are really starting to kick in—I don't know if the Granger I knew a week ago could have pulled off something like this."

"Go to hell." Granger stared him down. The little shit.

Rice sighed heavily. "Look, I get it. I'd be on the warpath too if someone had taken my son."

"Would you now?" He glared icy daggers at the man.

"It was necessary. I know that's cold comfort, but look at the result. The Findiri now see themselves as the protectors of Earth, their Quiassi leader is dead, and the wanton destruction of cities is over—not to mention that line of prisoners is now safe and back where they belong. Haws was killing those people, one per minute, because of you. And you...." Rice shook a little. "You ... demonstrated your cowardice to all of humanity by running. Thousands in that line are dead because of you. Amarillo, Texas, is dead because of you. For all we know, given your history of meddling in humanity's past, *billions* may have died because of you."

“You’re delusional, Rice. You betrayed me. You betrayed my son. And now it’s time to face the consequences.”

Rice laughed. “Look around you, Captain. You have three firearms trained on you, and more security on the way to escort you to the brig.”

“And then?” Granger smirked. “Then what? Huh? What’s your big plan after that? Where will you go where my followers won’t hunt you down? Or are you going to just deliver me to President Sepulveda and Vice President Cooper? Admiral Oppenheimer? Hate to break it to you kid, but they’re on my side, no matter what Oppenheimer may have told you.”

Rice scoffed. “Pssh. *Followers*. You see? That right there is why you need to be taken out of the equation. You’re dangerous. No man should have a cult of devoted fanatics following him around. It’s the twenty-seventh century for hell’s sake.”

Granger caught a brief glimpse of Alba’s face. Just a twitch, and a quick, annoyed glance at Rice, then focusing again on Granger, all the while keeping his rifle trained just off to Granger’s side.

“I agree, no man should have a cult. But what I’ve learned is these people are not fanatics. They’re just people who hope. They hope for a better future. They’re veterans, they’re fathers and mothers, they’re mechanics and teachers and doctors and pilots. I used to think they were freaks too, but then I started meeting them, and realized they were the most sane out of all of us.” He took two steps toward Rice. Two of the marines angled their rifles toward him. “Now, give me your weapon, and stand down.”

Rice chuckled again. “Who’s the delusional one?”

“Last time I’m going to ask,” said Granger.

They stared each other down. Neither blinked. Finally, Granger spoke. “Alba? It’s time.”

PFC Alba swung his rifle from Granger to Commander Rice. “Commander? Stand down. You’re under arrest.”

The look on Rice's face was priceless—Granger hoped there was a security camera catching it so he could appreciate it later. “But—”

“Now, sir. Please hand your sidearm to Commander Zivic here.”

Zivic reached out and wrenched the gun from Rice's hand.

“But ... how?” He turned to Alba. “Why?”

“He's the Legend, sir. You're ... what, exactly?”

Rice's face hardened. “Grangerite.” He nearly spat.

“What's the plan, Captain?” said Alba. “Battlefield justice? Drumhead trial? We can't have traitors just running around at the moment.”

“No. Brig for now. He'll be transferred to IDF prosecutors when we have the time to swing by Earth.”

“Nothing? He's got to pay for what he did, sir,” said Alba.

“He will,” Granger grunted. “But right now we need to focus on—”

Nothing could have prepared him for what happened next. Commander Zivic, who'd been standing nearby with Rice's sidearm lowered to his side, suddenly raised it—

And blasted a hole in Rice's forehead. His head jerked backward, a red mist puffed out behind him, and he fell to the deck.

“Commander! What the hell are you doing?”

“Battlefield justice.” Zivic's eyes were cold, and for a moment, Granger almost didn't recognize him. Zivic took the barrel of the sidearm in his other hand and offered it to Alba, who warily took it from him.

After another long moment of silent shock, Granger stepped toward Zivic and gripped his elbow. “Come with me,” he said quietly in his ear.

He led the other man to the side of the bridge, through a door and into the ready room. “Sit.” He pointed to one of the chairs.

“If you’re going to chastise me and lecture me about—”

“I will do no such thing. Shit, I wanted to blow that traitor’s head off myself,” he said, letting out a small groan as he collapsed into the captain’s seat.

“Then why didn’t you?”

“Because, *Commander*, we are still IDF officers, and we’re still a fucking civilized country.”

“Even when we’re surrounded by enemies, without and within?”

“*Especially* when we’re surrounded by enemies, son. It’s what sets us apart from the enemy, whoever it may be.”

They sat in silence for a few moments, Zivic glowering slightly at him.

Granger finally spoke again. “Look. I wish you hadn’t done that. But another part of me is mighty glad you did. My biggest concern now, though, is what to do with you next.”

“*Do* with me? Are you sending me to the brig?”

“Brig? Hell no. But my question is, can I trust you with command? After that ... impetuous display? What happens next time you’re reminded of *her*?”

He meant the late Captain Jerusha Whitehorse, and Zivic knew it.

Zivic shrugged. “I’m over it.”

“Let me go ask Commander Rice if you’re *over it*.”

Zivic was silent.

“Look, son, we’re down by a billion and it’s the final inning. I need every last man I can get, especially ones of incredible talent, like yourself. But I need to know that you’re not going to fly off the handle. I need to know I can trust you.”



Zivic closed his eyes and breathed deep. “I’m sorry. I shouldn’t have done that. I’ll get help dealing with ... *her*. But yes, you can trust me.”

“Good.”

Zivic opened his eyes. “Where we off to next?”

“I am taking the *Defiance* and heading out to find an old friend. *You?*” He drummed his fingers on the desk. “You’re taking the *Volz*, and you’re going hunting.”

“Hunting? I’m intrigued. What, exactly?”

“Admiral Proctor is in a coma. Before she extracted her Valarisi companion from herself, she sent me a short, cryptic note. It said, *Keep the Independence away from the Valarisi robot fleet at all costs.*”

Zivic nodded. “So I imagine Commander Urda is laying low then? You want me to go find them?”

“The *Independence* is not what concerns me. They’ve been recalled to Earth, and as I understand it, Urda is, shall we say, slow-walking it. It’s the Valarisi robot fleet. They’ve disappeared. You need to find them and learn all you can about them—numbers, capabilities, attitude. And if they’re a threat. You need to figure out how to stop them.”

Zivic flashed a lopsided grin. “A trillion liquid beings with instantaneous hive-like communication skills controlling an insanely large fleet of small ships with big guns? Find them, make them play nice, or destroy them? Easy peasy.”

Granger shook his head. “I didn’t say destroy. I said stop. There’s a difference.”

“Of course. Until there’s not.”

“Figure them out. Stop them if you must. You’ve got two days.”

“And you?”

Granger stood up and indicated the door with his hand. “It’s high time I had a chat with Polrum Krull of the Skiohra. I

hear she's got some memories of mine.”

## Chapter 7

*Sector: Unknown*

*System: Unknown*

*ISS Independence*

*Sickbay*

“I’m sorry. I’ve got nothing,” said Proctor with a grimace. They’d sat in silence for over a minute, and even as she considered the time she’d spent thinking, she wondered if time in this coma in-between space was the same as *out there*. Had a few minutes passed? Or a few days?

Please let it not be years.

Carla looked disappointed. “Aw, come on, Shell. This is your wheelhouse. Not just one unthinkably terrible situation, but a handful of unthinkably terrible situations, all intersecting together into one big....”

Proctor noticed the trail-off and finished for her. “Clusterfuck?”

Carla shrugged. “Language, Shell! No, I was going to say one giant no-win scenario.”

“Or, if we do win one of them,” added Proctor, “we lose the other four. And losing any *one* of them spells doom for

humanity. Or at least Earth, if we can't stop Paradiso from hitting it."

Carla smiled wryly. "You know you're screwed when the possibility of an anti-matter planet bearing down on Earth seems like the simplest of your problems."

"That's what we assume, anyway. But we have no idea what Malakov even wants. Or the Swarm, for that matter. What *do* they want? Why did they steal that singularity shield from the Findiri?"

"Granger has been trying to figure out the Swarm for billions of years. It's why he created the Findiri. Why he created *me*, and the other Quiassi. To defend humanity against the Swarm."

"And in all this time, over eons, you still haven't figured them out? Their basic motive?"

"I mean, they want to subjugate humanity. And barring that, destroy you."

"But *why*?"

Carla shrugged again. "To fluff their egos?"

"Seriously."

"I don't know, Shell. And believe me, we've thought about it. For literally forever."

"You must have had a few ideas in all this time?"

"Well sure! Malakov, maybe a billion years ago—knew him as Anhara back then—thought that maybe they were basically some form of, I don't know, cosmic parasite. That they can't survive without other species. And since the prime motivation of any living organism is to, well, survive, then that forms the basis of their entire culture—the subjugation of other species for their own survival. And when that is evolved out over billions of years, it turns into the drive to subjugate *all* species, everywhere."

“And everywhen,” muttered Proctor. “I mean, they *did* come back from trillions of years in our future to *now*, for some reason. Maybe it’s not enough to subjugate everyone. They want domination for all time.”

“Maybe. Then there was Avery—knew her as Irithil back in the day—she thinks they are completely *other*. As in, a force or an energy that is completely foreign to our reality. Not just our universe, but all physical universes. A force from ... unreality, if you will, leaking over into the universes of reality. And just like anti-matter annihilates matter, the beings of unreality won’t rest until they’ve merged with and unmade the beings of reality.”

Proctor grunted. “Sounds pretty damn esoteric.”

“Irithil—Avery—always was the thinker and the planner. Anhara—Malakov—the doer and the schemer. Both brilliant. Both ... good, in their own ways. Yet very different senses of morals and ethics. But now I’m retreading ground we already covered.”

Proctor paced back and forth. At one point she walked right through an empty hospital bed and didn’t even notice. “We need a motive. If we’re going to stop them, once and for all, we need to know what they want. Until then? Sure, we beat *this* Swarm ship. And *that* Swarm ship. But in other times, in other places, in other universes, there are more Swarm. And as long as there are more Swarm....”

“We’ll never be safe,” Carla finished for her. “But like I said, this is a problem I’ve been beating my head against for eons. Now? Granger had a plan, but it always gave me ... misgivings. I don’t even know where to start.”

Proctor stopped pacing and stood over her sleeping body. “Let’s start at the very beginning.”

“A very good place to start,” quipped Carla. “But whose beginning?”

“Yours. The earliest beginning you have direct knowledge of.”

Carla nodded. “Okay.” She waved a hand, and instantly the sickbay around them melted away, replaced by what looked like a very high-tech scientific laboratory.

Proctor’s eyes widened. “Wait, you didn’t tell me we could travel around like this. Or are we still in my head?”

“Mostly still in your head.”

“Mostly?”

“Like I said, I now live in meta-space, unbounded by time and regular space.”

Proctor stared at her blankly.

“Hard to explain with words, but meta-space is ... perpendicular to your time dimension. It runs orthogonally, and as such, it has access to all points in time. No, I see the look in your eyes, we can’t go back in time and kill baby Hitler, or pre-Intersolar Empire Viceroy Tomlin, or the first Swarm embryo. There is a unidirectional flow of information. So I can *observe* the past, and the future, but can’t influence. Except in *very* minor ways, like with your sister.”

“So this,” Proctor said, looking around the lab, “is a real place?”

“Yes, and no. We’re still in your head. But *I* can see the real place. I just can’t bring you. But recreating it in your head is functionally the same thing.”

A door opened, and in walked a brown haired, youthful man, well-built, with a furrowed brow and eyes staring at his electronic notepad. He looked very, very familiar.

“Tim!” Proctor said. “You’re ... young!”

He didn’t look up, but approached a chamber set against a wall. She peered inside the window and saw a face she didn’t recognize.

“Oh. This is your beginning. That’s *you*,” she pointed at the form laying in the chamber.

“It is. That was my first body. The universe was only eight-hundred and forty million years old—”

“Practically a baby,” interrupted Proctor.

“—and I was about to open my eyes for the first time.”

Even as she said it, the individual in the chamber opened her eyes. There was no expression, no movement. Just a blank stare.

Until the young Granger tapped a button on his notepad, and then it seemed the person came alive. Her eyes widened, and she brought up a hand to tap on the glass. In response, Granger tapped another button, which opened the chamber. The cover lifted up off the bed, revealing a woman in a simple blue jumpsuit.

“Do you know your name?”

She looked confused. “I don’t believe I have a name yet. You just barely initiated my consciousness, did you not?”

Granger smiled. “That’s correct. You are now ten seconds old.” He made a few notes on his pad. “Do you want to choose a name?”

“Yes.”

“What will it be?”

“I don’t know yet. I’m only twenty seconds old, Tim.”

Granger nodded. “Good, that was my next question: do you know *my* name.” He tapped on a spot on his pad. “Third question. Do you know your purpose?”

The woman closed her eyes for a moment. “Yes. To lead the Findiri and help bring order and direction to their society.”

Granger made a few notes. “Close. That’s your immediate task, and the Findiri will be the tool you will use to carry out your purpose. But what is your real purpose?”

She closed her eyes again, this time for longer. “To defeat the Swarm?”

“Closer,” said Granger again. “That is Anhara’s and Irithil’s purpose. Your purpose is adjacent to and in the service of theirs. Your purpose is to *understand* the Swarm.”

“To ultimately defeat them, yes?” said the woman, with a perplexed look on her face.

“Well, sure. But to defeat them is *their* job. To understand them is yours. Now if your understanding of them results in their destruction, all the better.”

“What if my understanding of them results in the impossibility of them attaining their goal?”

Granger’s eyes narrowed. “I ... what do you mean? I didn’t create you to help the Swarm.”

“No, but what if, in the understanding of the Swarm, I come to understand their point of view? What if a true understanding of them makes me agree with them? What if I come to sympathize with them? What if I come to ... love them?”

Granger shook his head. “You won’t. Trust me.”

“Doesn’t true understanding result in love?”

“It can, yes.”

“And so my question stands.”

Granger nodded slowly. “Very well. If you come to love the Swarm through your understanding of them, then you will still have fulfilled your purpose. But do not let your purpose interfere in the purposes of the ones I created before you, or the ones I will create after. Do not stand in Anhara’s and Irithil’s way. Their purpose is to destroy the Swarm and protect Earth-to-be. Your purpose is to enable them in their purpose, by understanding the Swarm.”

“What if my understanding of them results in your destruction?”

Granger paused, and looked up from his pad. “Nothing matters but the destruction of the Swarm. Everything is



secondary to it.” He paused to chuckle. “And honestly, death will be a welcome holiday. I knew I made you inquisitive and brilliant, but your questions are ... something else.”

“And so your answer is...?”

“Do whatever it takes. No matter what.” He set the pad down and then looked her in the eye. “Even if it kills you, even if it kills me.”

The woman smiled. “I don’t anticipate it killing you, Tim. I only wanted to know just how committed to this mission you are.”

“I’ve already lived a few million times longer than I should have, and if I’ve run my numbers correctly, it looks like I’ll need to live another few tens of millions of times longer. If your mission results in my death? Fine. I’ll consider it a feature, not a bug.”

“Reah.”

“Excuse me?”

“My name. It’s Reah. Our time is a stream, and you making me here, near the source of the stream, means that I and my actions will affect much.”

“I ... don’t follow.”

“You gave me basically all your memories of Earth, Tim. All your knowledge. Reah was the mother of Zeus, the wife of Cronus, whose name means to flow as a stream. A stream flows around every rock and pebble, every bend in the contours of the land, knows the shape of all things it touches. That will be me. I am Reah. Your stream.”

Proctor turned to Carla. “Reah?”

Carla waved a hand and the action paused—Granger had been about to respond but now his mouth hung open, motionless. “That’s me.”

“And you’re the third Quiassi he created?”

“Correct. But you’ve interrupted the most important part, Shell. Hold your questions for a sec.”

She waved a hand again and the action proceeded, Granger’s mouth started moving again.

Granger paused for a long moment looking confused and a little shocked, and Proctor could almost swear he scowled, but then he returned to normal before saying, “Well, Reah. Uh, welcome to ... life. And now I’m going to do for you what I haven’t even done for Anhara and Irithil yet, now that I see your mind can probably handle it.”

“Probably?”

He smiled. “Like, ninety-nine percent sure. I’m going to connect your mind to the Valarisi Ligature.”

“Oh! I know a little about that, from what you’ve implanted in my brain.”

“I gave you the intellectual knowledge of it, but not the experiential knowledge of it that I have. I didn’t want to color your perception. Taint it, if you will, with my prejudices and preconceptions.”

Reah nodded. “You’re going to connect me because the Swarm are also touched by it. You think it will be essential in my mission of understanding them.”

“That’s correct. Prepare yourself, though. Feeling the Swarm with your mind has the potential to be ... maddening. They are utter chaos. At least, that’s the memory I have when I was controlled by them for a brief time. Back when I was a sixty-four-year-old baby. You ready?”

She nodded again.

“Okay,” he said, and pulled a meta-syringe out of his pocket. “I’ll need to inject you with a deactivated form of the Valarisi matter matrix. You won’t have any actual Valarisi with you, but the molecular structures necessary to access meta-space will be written into your DNA by a modified virus that’s produced by Valarisi matter.”

He pressed the meta-syringe against her neck. A moment later, her eyes widened. She grabbed the edges of the hospital bed and gripped them so tightly her knuckles went white.

“Reah? Reah, what’s wrong?”

“Tim...” She gurgled, as if something were constricting her neck. “Tim ... no.”

“Reah! Reah, breathe!”

Reah’s face was pale, but her breathing resumed a rapid pace, her nostrils flared and her eyes still wide. After a few more moments, her breathing lessened, and she gulped.

“Reah? Are you okay?”

“You can’t destroy them, Tim,” she said, blank-faced.

“Can’t?”

Reah looked up at him. “Can’t. You can’t do it.”

“Can’t? Or shouldn’t?”

She breathed heavily several more times, closed her eyes, and let her head collapse back against the bed. “Both.”

## Chapter 8

*Penumbra System*

*Scaedria, High Orbit*

*The Majestic, Bridge*

*In the beginning, the universe was formless, void, without shape or direction or energy state. But from the infinite abyss of non-time and non-space came a voice. And the voice said, Let there be existence. Let time and space take their shape and function from the infinite and ever-expanding folds of unreality.*

*And there was space. And there was time.*

*The voice spoke again, Let there be organization. Laws which will govern the motions, momentums, energies, spins, and couplings between the sparks of reality which have formed from the folds of unreality.*

*And there were laws. The sparks of reality organized themselves into the order set forth by the laws, never deviating.*

*But space and time and the sparks therein were purposeless, shapeless, and devoid of any pleasing character. All units of energy behaved predictably, with perfect precision, such that the voice and his cohorts saw the end from the beginning with perfect clarity.*

*The voice spoke again, let there be uncertainty. Let momentum and energy, time and space, be coupled together eternally, and let their union produce unending, unrelenting, unpredictable uncertainty.*

*And they were coupled. From the infinite folds of unreality the sparks of reality came, now utterly changed from what they had been. Waves of reality sprang forth, rather than points. Maxima, minima, coherence, dispersion, and many more properties and laws surged into existence, independent of the voice. The new laws, superimposed upon the old, produced unpredictability, instability, and chaos.*

*And the voice saw that it was good.*

*And the voice named itself, for the sake of all creation. And he named himself the name by which he would be called as a mortal. A captain among men, commanding ships of the firmament of heaven, a bricklayer of—*

“My ... God. What in the name of all unholy dipshittery is this?”

Captain Timothy Granger held up the data pad and waved it at the youngish man in front of him, whose face was turning deeper shades of red with each passing second.

He stuttered nervously. “It’s just ... something ... some associates and I have been working on, sir. We thought we could ask you—”

“Son, how old are you?”

“Thirty-eight, sir.”

Technically not youngish. He supposed anything under a billion was youngish. He closed his eyes and forced himself to count to five. When he opened them again he found he was still about to hurl obscenities, so he picked up his forgotten coffee mug and drank. It was cold, but he still drank.

“If ... you think certain parts are inaccurate or, uh, embellished—”

Granger set the coffee mug down on the small side table next to the captain's chair. Or, at least, he tried to set it down. Slammed. He slammed it down. Cold coffee sloshed all over the table and the mug cracked in half.

He opened his mouth about to let the profanities fly, but he held back, and sighed. "Mr....?"

"Petros. Commander Petros."

"Commander Petros." He started mopping up the coffee with a nearby napkin. "Grangerite?"

"I think you'll find everyone onboard every Vestige Fleet ship is a Grangerite, sir."

"But you're a *Grangerite*. From the sound of things, you actually ... believe. That thing was biblical, son."

"Aye, sir, that was the, um, feeling we were trying to convey in the text. We figured, centuries in the future, it might prove useful. Hell, might even be useful a year from now when this is all over."

"That's optimistic. On both counts, son." He set the napkin down. "Commander Petros." He chuckled, letting the man's name roll off his tongue. "And upon this rock will I build my kingdom indeed." He finally looked back up at him. Petros really did look youngish, at least judging from the tightness of his skin and thick head of dark hair. Granger remembered those days.

"Sir?"

"A line from the Bible, son. Somewhere in the back—never read the thing myself. Jesus. Telling his right-hand man he was going to build a church in his name. Peter. Petros. Means rock in ... some old language."

"For someone who's never read the Bible you sure seem to know a fair amount about it, sir."

"I've got my mom to thank for that. Recited that shit at me almost every night before bed."

“Sounds like a godly woman, sir.”

“I’ll say. Did her a lot of good, too. Right up until the week after I left home for college and she blew her head off.”

Petros nodded slowly. “I know your history, sir. And ... I’m sorry.”

“Good. Don’t let history repeat itself. Drop the creepy religious shit. Got it?”

Petros only watched him, a look in his eye that said the matter was far from over. And that worried Granger.

“What *was* it like, sir?”

“What was *what* like?”

“You came back from the Swarm’s universe about as close to the Big Bang you can get before frying. And you spent who-knows-how-long over there before you did, undoubtedly prepping for your return. What was it like? Being there? At the beginning? The Milky Way hadn’t even formed yet. You could have ... you could have changed galactic history with just a flick of a button. One gravitational disturbance in one spot would have changed literally everything.”

“I don’t know what nonsense you’re—”

“Ever since you returned, there’s been a frenzy of academic work on the subject. Not just the religious angle that resonates more with me. But actual professors at actual physics departments looking for possible signs of a primordial Captain Granger on the *ISS Victory* in the early universe. A group at MIT thinks that the Boötes Void of galaxies is where you first appeared. You displaced all the matter there, and then, as the universe expanded, that absence of matter produced the giant empty space nearly devoid of all galaxies that we see today.”

His eyes dropped back to the table, to the broken mug.  
“Not Boötes.”

“Sir?”

“I didn’t appear there. It was somewhere else. Much farther away.”

“You remember?”

“Not exactly.” He couldn’t stop staring at the broken mug, and he suddenly realized why. It reminded him of his son. Jasper. The son he never knew he had, and who was taken from him just days after meeting him. Taken, and broken. “There’s still a lot I don’t remember. Most of it, actually. Hell, I only remember fleeting images of my son’s mother.”

“Reah?”

He looked back up at Petros with a cold glare. “How did you know that?”

“As I said, sir—I, and most Grangerites, know your history. Reah would have been the only person you’d have....” He trailed off, uncomfortably.

“Fucked?”

“Well, sir, I was going to say—”

“Fucked. And *we’re* fucked, Petros. You realize that, right? Earth is about to be smashed. Swarm is on the loose. God knows what else.”

The door to the bridge opened and Admiral Diaz walked in. “Tim, are you harassing the locals again?”

“Wouldn’t dream of it. Just reading some fan fiction,” he sent what he hoped was an uncomfortable cold glare at the young man. “I thought you were off to the *Defiance*?”

“Just grabbing a few things from my office and I’ll be on my way.”

“We’re making the final q-jump to Scaedria after you assume command.”

Diaz soon departed the *Majestic*, leaving Granger and the group of Vestige veterans to run the ship. “Petros?” He leaned over to his XO, “tell me who’s at helm.”



“Stewart. Marge Stewart. Flew the *Farragut* before she retired,” he whispered back.

“Ms. Stewart, initiate final q-jump to Scaedria.”

“Aye, *Captain* Granger,” she said, a little too enthusiastically. She seemed starstruck. He needed to start ignoring things like this or it would drive him crazy.

Granger gripped the armrests of the captain’s chair. He’d actually waffled back and forth as to which vessel to make his flagship. The *Majestic*, an old IDF Legacy Fleet light cruiser and the largest ship in the Vestige fleet, or the *Defiance*, the small, modern, stealthy, and nimble IDF scout ship. The *Majestic* was originally an IDF ship too, so it wasn’t the familiarity that was the issue—thirteen billion years of absence made his old familiarity with IDF ships rather moot.

“Q-jump complete, sir,” said Stewart.

“Status of the fleet?”

After a few moments, Petros nodded. “They’ve arrived too, sir. All twenty-two of them.”

Good. Granger glanced at the tactical readout, satisfied that the entire Vestige fleet had made the jump with him. Hey, he may not have liked being the object of worship of millions, he may have been uncomfortable commanding a ship manned by said worshippers, but he wasn’t crazy—he wasn’t going to turn down his own goddamn fleet.

Not with humanity’s future on the line.

“And the Skiohra?”

Petros tapped a few buttons. “As expected, three Skiohra generation ships are moving to intercept.”

“As expected,” repeated Granger.

“Point of interception is still over one hundred thousand kilometers from the planet, sir.”

“They don’t want us anywhere near that place,” said Granger. “They consider it their long-lost homeworld. After

being uprooted by the Swarm and losing their home, and having found it again, they're a little antsy about visitors."

"Even you?" said Petros.

"Even me. *Especially* me, when you think about it."

"How so?"

Granger shook his head. "I don't remember much. But I remember that I changed them. I tweaked their DNA, long ago. To enable them to survive the Swarm when they came."

"How? In what way?"

"That's why we're here. I don't remember. I know one of the things I did was give them the corporeal generation chambers and memory-transfer technology—that's how I'm even here, after all. Beyond that? Haven't the foggiest. But I'm about to remember everything, if we play our cards right."

"With a fleet of twenty-two? Against *those* things?" said Petros, pointing at the viewscreen, which had adjusted from a view of the distant, blue planet to show the three Skiohra generation ships bearing down on them.

"I want them to know I mean business."

"The business of gnats against horses is probably pretty important to the bugs, but not to the horse, Tim," said Petros.

"Yes," he said, standing up. "But I'm no ordinary gnat."

Petros grunted a small laugh.

"Lieutenant ... Li? Open a comms channel to the *Benevolence*. Ask for Polrum Krull." He took a few steps toward the viewscreen. "We have some unfinished business, she and I."

"Channel open, sir," said Li. "They've responded."

The viewscreen flickered from a view of the massive, kilometers-long ships to a humanoid. It was Krull, just as he remembered from a few weeks ago. At least his short-term memory was finally pretty solid—he had to hand it to

Commander Rice—the man’s research into his memory problems had been invaluable.

He grimaced, thinking about Rice. The traitor. The man responsible for the death of this son.

Did he know? Did Rice know what would happen to Jasper once he turned him over? He had to.

“Hero. You’re here. We did not expect you. Nor do we want you here. Please leave. That is not a request,” said Krull.

“Polrum Krull. Thank you for responding. I came to ask \_\_\_”

“It is unimportant why you are here. You need to leave. Now.”

Granger shifted uncomfortably on his feet. This was starting off a little less friendly than he’d hoped.

“Krull, I ....” He trailed off. Then decided. “No. I’m not leaving. You’re going to listen, and hear me out. Whether you like it or not.”

He couldn’t read her expression—it was too alien, and she didn’t seem to be in the mood to mimic human emotional responses.

Finally, she gave a good approximation of a human laugh.

“You always were audacious. It is well. For five minutes. Then it will be not well, and you will leave, or your fleet will suffer painful losses.”

The way she said it, so matter-of-fact and offhanded, left him feeling cold.

She meant it.

“Thank you.” He glanced at one of the secondary viewscreens on a side wall which still displayed the cloud-dappled blue planet far below. “This world. You’re sure it’s your homeworld?”

“We are sure.”

“But you, like me, are lacking certain memories. If I recall correctly, the Swarm, when they controlled you, removed all memory of your homeworld from your individual and collective consciousness. How can you be sure this is it?”

“Because it feels right, Hero.”

“That’s it?”

“This place, the spacetime it inhabits, the ground, the mountains, the tectonic plates, the oceans—all have ... what I would call an *echo* in your verbal language. An echo in meta-space that we feel through our new Ligature. And that echo feels like an origination. Like a central nexus.”

“Like a central nexus for your civilization?”

She made a face he couldn’t interpret. “Our sense of meta-space echoes does not permit such fine shadings of meaning like you imply. No, we can’t read the meta-space echoes and tell that this place is, for sure, one hundred percent, the world on which our species evolved. But it feels like an origination point. A place where billions, trillions of threads of consciousness intersect in meta-space.”

Granger was about to point out that the entire population of the Skiohra generation ships couldn’t be more than a few million at most, but then he remembered their interior children. Each Skiohra mother hosted thousands, perhaps hundreds of thousands of incredibly small multicellular offspring, each with their own consciousness, mind, will, personality, and voice, and the mother heard them all, and somehow had the ability to bring order and harmony to the chaos of voices within her.

“So your interior children agree? That this is it?”

“A majority portion of them, yes. Around seventy percent of them.”

He stroked the stubble on his chin. Interesting. “And the other thirty percent?”

“It varies. Some mothers have near unanimity among their interior children. Of mine, there is a portion that believe this is only a world that the Swarm transplanted us to after our subjugation. Others believe it to be the origin of another species, unrelated to us, that we have found by coincidence. And still others entertain other even more outlandish theories.”

From her tone, it was plain to Granger that she did not approve of all the discord and disagreement within her among her children. He could tell she wanted unanimity on such an important question.

“You know, there is a way I can help.”

“You have helped enough, Hero.” She folded her arms. Her meaning was unmistakable. It was clear she blamed him for their subjugation by the Swarm. That was fair, seeing how he, through his fiddling with their DNA so long ago, had made it possible for them to even survive the Swarm.

“I understand your hesitation to accept my help. And the truth is I am not here to help you, but because I need your help. But in your helping me, you will find answers for yourselves.” He fished in his pocket for the memory sphere. “I found this on an abandoned world, hundreds of lightyears away. It is a memory bank. And I have no way of accessing its contents. You have the technology to help me. In your forbidden room, past the forbidden door, where you and Admiral Proctor brought me back to corporeal being.”

“And how will that help us?”

“If I’m not mistaken, this memory core contains an overview of everything I’ve experienced in my long lifetime. Presumably, it contains information about where I found you. Where your homeworld is.” He gestured down to the floor to indicate the planet below. “Whether this is indeed it. And perhaps ... I’ll remember the secret of its past that will allow you to inhabit it once again.”

Krull simply stared at him for over ten seconds. Finally, she glanced at someone off camera and made a gesture.

Presumably to turn off the weapons targeting. He hoped. Either that or his fleet was about to suffer “painful losses.”

“Very well, Hero. Come aboard the *Benevolence*. We will unlock that memory core and reveal its contents. And if you’re right, we will thank you.” She paused, and continued without a hint of sarcasm or irony. “And if you’re wrong, we will cause your fleet to leave immediately, or it will be destroyed.”

## Chapter 9

*31 years ago.*

*Swarm's Universe*

*ISS Victory*

*Bridge*

When he came to, his head hurt. Bad. Like the worst hangover in his academy days, multiplied by ... however much you multiply things when you cross an event horizon.

He sat up and winced. The bridge of the *Victory* was still there. *He* was still there.

*Does it hurt?* came the chorus.

“Don’t talk so loud,” he murmured, reaching up to hold his forehead.

And in an instant, the pain was gone. He blinked. “What did you do?”

*Restored the chemical balance in your brain and removed the inflammation.*

“You can do that?”

They laughed. *We cured your cancer, and you're amazed we cured your headache?*

“Touché,” he said, and got to his feet. He turned to look at the viewscreen, and was surprised to see....

Stars.

Was he ... back in his universe? Did the Swarm's universe have stars?

*Of course it has stars, moron.*

“Stop reading my mind.”

*Stop yelling then.*

“I...” He held his mouth and stopped himself from arguing with a quadrillion-strong unified mind. “Fine. I’ll think more quietly. Where are we? What’s happening?”

*We're in the Swarm's universe. While you were out we emerged from an Einstein-Rosen-Rao bridge that linked the two universes, and are now safely in a stable orbit around the black hole.*

He felt his blood pressure rise a few notches. *Another black hole?*

*We repeat, we are safely—emphasis on safely—in a stable—again, emphasis on stable—orbit—do we need to emphasize orbit?—around the black hole. Stop worrying, Captain Worrywart.*

“Fine.” He scanned the viewscreen, seeing nothing but stars. A quick glance at his command terminal told him there was no other ship or object nearby. “And the torpedoes? Where are they?”

*Lost. They all detonated before we crossed the bridge. The gravitational differential was too much for them—they did not have their fairings stabilized like our hull's was.*

So they lost their main weapon against the Swarm. Great. “Please tell me some good news now.”



*The good news is that the anti-matter explosions were enough to perturb the quantum properties of the singularity, such that the bridge is permanently closed. The Swarm will never enter our universe through that gate again.*

“Wonderful.” He paused. “I’m sensing there’s some bad news too.”

*The bad news is that the anti-matter explosions were enough to perturb the quantum properties of the singularity, such that the bridge is permanently closed. Which means that we will never return to our universe through this gate.*

“And the rest of your fleet? Did they make it through?”

*They did. That’s why you hear us so loudly—we’re all here.*

“Good.”

*We deployed the same stabilization field on all our hulls. There were a few Swarm ships here when we arrived, acting as a sort of sentry, but they left in a hurry when they saw a whole fleet of us.*

“They retreated?”

*We wouldn’t say that, exactly. Some of them took a few pot shots at us, but we managed to accelerate out of their reach. Then, they left.*

A feeling of relief washed over him. He slumped into the captain’s chair and thought. “Did you track them?”

*Track? Track a vessel’s q-jump? We cured your headache, Granger. We can’t cure stupidity.*

“Fine. So no idea where they went. Great. Lost in a strange universe, with no idea where our enemy is.”

*Oh, we have a good idea where they went. Remember, we were part of them for eons. We’ve been here before.*

“Well? What are we waiting for?” he said. “Hit them while they’re down. Let’s get a move on.”

*And what, exactly? Throw rocks at them? Frown menacingly? What's your plan, Granger?*

Plan? Did he have a plan?

He sighed. "You're right. We need a plan. Come at them smart, not just hard."

*Now you're talking. There is a haven star system nearby. One the Swarm ignore due to its lack of resources and dangerous orbiting pulsars. We'll go there, gather our resources, build our forces, make our plans, and in a few thousand years or so we'll have a go at them.*

"Say what now?"

*Gather our resources, build our—*

"No, the last part. A *thousand* years or so? Look, fellas, I may be made of strong stuff, but I'm still human. I've only got another thirty years, tops."

*But you have us. We are with you. Inside you. We cured your cancer. We can cure your mortality too.*

"Cure ... my ... *mortality*?" The implications swirled in his mind. Live ... forever? Was it possible? Did he even want that? He'd seen more than enough death and destruction to last a thousand lifetimes. The last year of war with the Swarm had stolen his last bit of joy, his last optimistic thought that life could get better. He was sixty-four and already tired of life. Even another thirty sounded too much of a burden, let alone a few million.

"No. It's too much. Let's take a few years, gather what force we can, and make our best run at ending the Swarm."

*You need a plan. Plans take time. Good plans take lots of time. And the best plans? The ones that can save your people, our people, and your entire universe? You won't get another chance like this, Granger. Make it count. Let's make sure we do this right, and end the Swarm. Forever.*

A plan. Fine. He could do that. Living forever? Sounded like hell. But it was a hell he'd endure to save Earth. One last

time. Plus, once the Swarm was gone, the Valarisi couldn't exactly stop him from pulling a trigger.

“Okay. Fine. To your haven, then. But when we get there, I'm gonna need something if I'm going to be able to make multi-dimensional, multi-universe, time-altering plans to end the Swarm.”

“Name it.”

“I'm gonna need a bigger brain.” He thought for a moment, and added, “And whiskey. Lots and lots of whiskey.”

## Chapter 10

*Present Day*

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*Captain's Ready Room*

Zivic didn't even hear the door chime until it sounded the second time, and even then, before he could say *come in*, the door to the ready room slid open.

"By all means, barge into the ready room as you see fit, Lieutenant," he said with a lopsided smile. It was Ace, and she looked uncharacteristically concerned. Her brow was furrowed and she was rubbing her fingers absentmindedly. "What's up?"

"You heard they're summoning the *Independence* back to Earth?"

"They?"

"Fleet command. Whoever it is at the moment, what with Oppenheimer dead."

Zivic returned his gaze to his desk monitor, scrolling through various fleet communications and sensor logs, trying

to find any indication that the Valarisi-controlled robot fleet had been spotted. “I imagine that’s to be expected, Ace, what with Proctor in a coma and all. Command probably doesn’t think Commander Urda has it in him to captain the ship.”

“Oh don’t be an idiot, Batshit. Of course Urda can handle the ship while Proctor is down. It’s just that ... why would they need to summon her home? Why not just send whoever they’ve chosen to temporarily take Proctor’s command out on a shuttle or something?”

“T-jump, I’d imagine. With the *Independence* being one of the only ships that can do a long distance t-jump, it can get to Earth in a matter of minutes instead of the hours and hours it would take a captain to head out to wherever she is now.”

She folded her arms. “Still. Fishy.” She paused. “Qwerty’s on the *Independence*, you know.”

“I’m aware of your fiancée’s current post.” He glanced up at her. “Hey. What’s up?”

She shrugged. “I don’t know. Just a bad feeling. First, Oppenheimer dead, right at a moment when so many things are happening. And the new fleet commander summons the *Independence* home? Without consulting Granger or any other fleet captains we trust—”

“Granger isn’t exactly high up in the chain of command of IDF these days. His rank of *captain* is more honorary than functional.”

“I mean, he *is* currently *captaining* the *Defiance*,” she said with a shrug. “But what do I know, I’m just a dumb space jock. Just like I thought you were. But look at you now. Flying a desk. How very bureaucratic of you.”

“Hey. Screw you. In triplicate.” He thought for a moment. “Plus, he’s got the *Majestic* now. The Vestige Legacy Fleet ship.”

Ace couldn’t stifle the snort. “I bet the only q-jump that old bucket of bolts could do is an externally forced one, helplessly sandwiched in between two real ships. Or what us

dumb jocks call, the ‘ole Heisenberg spit-roast. *Anyways*, like I said, my fiancé is on the *Independence*....”

“Yes...?”

“And I heard we have a shiny new mission from Granger himself....”

“And...?”

“And I think that, given two ships looking for that Valarisi robot fleet are better than one, and also given that the *Independence* was there at its creation, and *also* given that Qwerty is rather known for his interpretive skills, you know, in case we need to talk to them and can’t....”

He continued scrolling through some data files on his monitor. “And also given that you haven’t seen your fiancé in weeks and desperately need to ... blow off some steam....”

“Read my mind, boss. What’s a girl gotta do to get laid around here?”

“Hunt down an entire starship, apparently.”

She’d been about to open the door to leave when she stopped abruptly. “Hold on, now, what do you mean, *hunt down*?”

Zivic swiped through another set of data streams. “It seems Mr. Urda has more balls than I gave him credit for. They’ve gone dark. No one’s seen them in over thirty hours. That’s what I’ve been doing for the past hour: searching through every last IDF listening post, sensor array, scout ship and surveillance vessel’s logs, trying to find hints of them. Nothing.”

“Strange. Why do you suppose Urda took them underground?”

Zivic turned off the monitor with a motion of his hand. “I think it’s obvious. Oppenheimer dead, mysteriously. New fleet admiral, promoted from the back bench. President Sepulveda back in charge, but he appoints Senator Cooper as his veep and grants her sweeping powers. Just ... strange. And given

that Proctor is still unresponsive in a coma, he didn't want them usurping her authority and her ship before she'd woken up—”

“*If* she wakes up,” she added.

He glared at her. “She’ll wake up.”

“Hope is not a strategy, Batshit.”

He motioned toward the door and stood up. “She *has* to wake up. We’re sort of leaderless without her. I mean, Granger is great and all, but you know the problem with Granger, right?”

“I don’t remember,” she quipped.

“Exactly.”

They left the ready room and entered the bridge. Zivic continued on toward the exit, saluting the marine standing guard.

“Where are you off to?” she asked.

“Brig.” The door automatically opened for him. “I’ve been putting off something. Hey, can you keep an eye on the bridge for me? I don’t want to leave it to a newbie.”

She motioned toward herself with a “me?” expression on her face.

“Yes, you. Just for a few minutes.”

Ace shrugged. “Sure. But this is not a permanent solution, boss. You need a real first officer.”

He exited, still looking at her over his shoulder. “That’s why I’m headed to the brig.”

“You’re joking.”

“I’ve got no alternative right now. Plus, I need him. For ... other things.”

## Chapter 11

### *Interlude*

Lieutenant Patricia Connelly didn't know exactly where her mission would take her, she only knew that it would take her life.

At least, she assumed it would. And it was the not knowing, the uncertainty of it all that was so terrifying. Mock executions had been a torture technique for millennia—the terror of knowing they were about to kill you: you heard the click of the gun against your forehead, and ... you were still alive, only to be dragged back out of your cell the next day and made to kneel before your perhaps-executioner yet again.

That's what Lieutenant Patricia Connelly felt as she was sitting in the office of the Secretary for Logistics of the IDF engineering corps.

"He'll see you now," said the assistant nearby. He didn't even look at her. If he had, he might have seen the terror in her eyes she was trying to convey.

Except part of her knew he wouldn't have seen a thing. She'd tried to make that look of terror while looking in a mirror, and she saw....

Nothing.



Just a stone-faced, pleasant-looking IDF officer on a mission.

On a mission from a madman. She had no idea why or how President Sepulveda had arranged for her to be strapped to that table, or injected her with that ... stuff. All she knew was that ever since then, there was a voice in her head, and she *had* to obey it. Had to. There was no choice.

If she resisted, she would die. Even the thought of resisting made her want to retch.

“Lieutenant Connelly! Good to see you! What brings you over here from admin?”

She shook hands with the secretary and sat down. “Oh, you know Ralph, same shit different day. Look. I’ve been talking with the Secretary of Interstellar Transportation—uh, Secretary Abrams at UE. You’ve met him, right?”

“Have I met him?” He laughed. “That little shit thinks he’s going to be president someday, and I can’t wait for the primary where he comes in dead last. Personality of a kitchen table leg, except a table leg is useful.”

She let herself chuckle. She imagined even if she didn’t want to chuckle, she’d still be doing it, as that would be the appropriate response if she were not being held hostage and forced on a one-way mission.

*Help me!* She tried to scream with her eyes. She stared at him. *Help me! PLEASE HELP!*

For all she knew her eyes remained calm, and instead, she said, “Anyways, turns out the civvies have it in their heads that they’re going to be playing a part in whatever the department chiefs come up with as the plan for Paradiso. But they’re really hurting for ships these days—”

“So are we. What planet did that man wake up on?”

“Yeah. Moron. But orders are orders, and he convinced my department chief that he needs a small cargo ship capable of moderate self-defense to go run a few supply missions out at

San Martín and Bolívar. Maybe head over to Mao Prime. Chief said sure, pointed at me, and here I am.”

“Wait. Back up. Supply missions? For what?”

She honestly didn't know. The voice in her head hadn't been entirely clear about that. All she'd been ordered to do was get a ship, make sure it had at least one torpedo on it, that it could perform a few q-jumps, and that was it. It was up to her to contrive the reason.

*Help me! For the love of God, please help!* She stared at him, willing her eyes to scream the words. Inevitably, the feeling of nausea came and she forced herself to stop. “Oh, you know. Transportation department is slammed with refugee runs these days, what with Britannia and all the other places that got hit. Hell, even Sangre de Cristo is still begging for aid, even though they're technically GPC.”

“Okay,” he said, nodding slowly. “Still, supply runs for ... what, exactly?”

“Yeah. You'll never believe it. It's ridiculous. But, you know, so is Secretary Abrams.”

“Try me.”

“He's in the market for some....” She cast about for something, *anything* plausible. She tried a hail Mary. “... Anti-lithium infused silicon.”

“What?”

“Yeah, I know, right?”

“That's, what, don't fusion researchers use that in R&D or something? Regular fusion drives use anti-boron. It's standard. Why does he want anti-lithium?”

“Hell if I know. But if you ask me,” she lowered her voice and glanced over her shoulder to make it look like she was ensuring the door was closed, “I think Sepulveda has a secret research program up his sleeve. Some type of new anti-matter bomb or something. All I know is they think it might help with the Paradiso situation. I don't gather it's their *plan A*, but they

want something up their sleeve in case plan A fails, if I'm reading the situation right."

"Secret research program? Does he have delusions of grandeur that he's old President Barbara Avery or something?"

"Probably."

"Look, Pat, we go way back, and I'd like to help, but—" he shrugged. But before he could continue she pulled a small data pad from her pocket.

"I've got priority authorization from Sepulveda himself. He gave it to Abrams, and he's authorizing me." She slid the pad across the desk.

"Still, Pat, we just don't have the ships."

"You've got *something*," she said. "All I need is an airtight bucket with q-jump and a torpedo."

He raised his eyebrows. "Torpedo?"

*Shit*, she thought. *Should have just said gun. Torpedo was too specific.* "Gun. Whatever. I just want to be able to shoot a pirate if they try to board. It is anti-lithium, after all. Any pirate worth his salt will know that's valuable shit." She paused, waiting to add the last piece that would seal the deal. "Did I say it could be small? A shuttle. That's all I need."

*It needs to fit into an IDF starship's shuttle bay, after all.*

The secretary held his head in his hands for a moment. "Fine. I can spare a shuttle. It's old. It was supposed to be decommissioned next week, but the current situation has put an indefinite delay in ship decommissioning. It's got a standard package of PDCs for a shuttle, and two torpedos. But between you and me I think the guidance systems on the torpedos are shot. Don't get into any trouble, you hear? If you do, the best you've got is a bluff with two dead torpedoes and a rusted PDC cannon."

She held out a hand to shake, and smiled. "Good. Thank you, Ralph, I knew you'd come through."

He took her hand and shook it, and as he met her eye, she paused, holding on tightly. “Something wrong, Pat?”

*HELP ME PLEASE FOR THE LOVE OF GOD RALPH!*

Her stomach was lurching up into her throat. “Mmm, sorry, Ralph, just indigestion.” She turned to exit the office. “Thanks again. I’ll get it back to you next week.”

If she was alive next week.

## Chapter 12

*Sector: Unknown*

*System: Unknown*

*ISS Independence*

*Sickbay*

Proctor faced Carla. “What did you mean, we *can't*, and *shouldn't* destroy them?”

Carla, or Reah, had folded her arms and now stroked her chin with one hand. “The *can't* part is easy. They exist at many points in spacetime, and, given their remarkable, uh ... staying power, if you destroy them at one point in spacetime, there's nothing to stop the Swarm at another point in spacetime from coming back in and reconquering. You've defeated the Swarm, what, three times now? And lo and behold, they're back again.”

“Swarm War One, Swarm War Two, the battle of Penumbra, and now that lone Swarm ship that came to Britannia just as the planet was dying....”

“Exactly. So the *can't* has to do with that. We may very well destroy this lone Swarm ship. And then what? Wait for a group of Swarm in another universe at another time to swoop in and start Swarm War Three? Or is it Swarm War Four by now?”

Proctor shrugged. “Okay, but what about the *shouldn't*? What did you see? To make you believe we *shouldn't* destroy the Swarm?”

Carla paused, opened her mouth as if to speak, and then closed it again.

“You can't remember? I suppose it was several billion years ago, but this seems kind of important...”

“Memory is part of it. But no, I'm not missing my memory like Granger. It's just ... a lot of *stuff* to remember, and experiences color memory such that memory can actually change over time. Even for a meta-space-based gal like myself. So ... I *remember* this happening. And I remember feeling that feeling—that we shouldn't destroy the Swarm. But that's just it. It was just a very strong feeling, and that's it. It wasn't like I was reading a book that said, *do not under any circumstances destroy the Swarm because x, y, z.*”

“Nothing? No hint of a reason at all?” said Proctor. It was maddening—both Granger and now Reah, multi-billion-year-old beings with mountains of potential knowledge and experience, but all locked away under the burden of billions of years of oppressive time and dusty memory.

“The best I can say is something like this. I felt like we shouldn't destroy them, but rather ... to let things play out their course.”

“Do nothing?” Proctor's jaw hung open. “The secret to defeating the Swarm is to do nothing? Let it all play out?”

“I said nothing about defeating the Swarm. Just that ... the best course of action might just be ... yeah. Nothing.”

“I can't accept that.”

“And neither could Granger,” said Carla with a shrug. “And in his defense, it's a pretty insane-sounding strategy. Hell. It's not even a strategy. It's more of a philosophy. Do nothing and let it be. Come what may. *Que será, será.* It's very Zen.”

“It’s very suicidal.”

“What do the Buddhists say? Life is impermanence. Don’t cling to it. Shoot for Nirvana instead. Or something like that. Shit, I would have made a terrible Buddhist.”

Proctor paced a bit more, trying to put it all together. But ... it just didn’t make sense. Yet. “Okay, so your life’s mission, given to you by Granger, was to understand the Swarm. What happened next? Over the next few billion years? I take it you never got around to understanding them?”

“Oh no. Out of all the Quiassi, I consider myself the biggest failure. Each of us was given a life’s mission. And out of all of us, I arguably made the least amount of progress. At least Anhara and Irithil, in their forms of Malakov and Avery, managed to defeat the Swarm in Swarm War Two. And during the battle of Penumbra and your most recent troubles over Bern and with the Findiri you had some pretty potent help from other Quiassi.”

“Wait, you’re not talking about Haws, are you?”

Carla made a face. “Oh god, no. Jertol was always the black sheep of the family. He did okay with his mission, but that’s the best thing I can say about him.”

“His mission was...?”

“To track the Swarm. Thanks to him, we almost always knew roughly where they were, whenever they were in our universe. He’s the one who discovered the Penumbra black hole originally, hundreds of thousands of years ago, and pinpointed it as an avenue the Swarm were using to get here from their original universe.”

“And then he took over the Findiri and proclaimed himself their leader?” said Proctor.

“Essentially, yes. Right after Swarm War Two. Took the form of Granger’s old friend to get into modern Granger’s head. Nearly worked, too. But Granger, ever the long-term strategist and planner, foresaw it a long time ago, and planned ahead. The Findiri were supposed to put *him* in that chamber,

you know. Granger. Harvest *his* DNA to repair theirs. It would have destroyed them—Granger slightly altered the DNA of his new bodies in a way that, when they combined it with theirs, would have killed them.”

“But they took his son instead.”

“Yes. Which, rather than kill them, gave them ... humanity. It re-sparked their original purpose of defending Earth and humanity, and gave them a heart at the same time. None of us saw that one coming. Not even Granger. I doubt having a son was anywhere in his plans.”

Proctor stopped pacing. “Wait. If you’re not talking about Haws ... or, Jertol, who were you talking about? That helped us during the battles with the Findiri?”

Carla smiled a knowing smile. “That’s not my story to tell. They’ll reveal themselves if and when they deem it necessary. But rest assured, they’re no Jertol.”

“Or Malakov, I hope?”

Carla shook her head. “No Malakov—Anhara. Not even an Avery—my old friend Irithil. This Quiassi is different than all of us. In some ways the simplest, in other ways the most brilliant.”

Proctor counted with her fingers. “Anhara, Irithil, You, Jertol, and this very helpful mystery Quiassi. Five. What about the other five?”

Carla shook her head. “Two are dead. They died leading their fleets of Findiri in battle against the Swarm during your Swarm War Two, at the end, at the black hole.”

Proctor nodded. “So that explains the unknown ships that joined the fight on our side. Okay, that’s seven. And the last three?”

“I don’t know.”

“You don’t know? You don’t know where they are now?”



Carla nodded. “That, and I haven’t seen or heard of them in eons. They’ve disappeared. They’re out there, somewhere—I can feel their life pulsing through meta-space. And I’ll be honest, I don’t know if we should fear them, or celebrate them, if they ever return.”

Proctor felt herself shaking. At first, she thought she was just reacting to the news that there were three more potentially hostile Quiassi out there, but then noticed that it wasn’t that *she* was shaking, it was her body. It was jolting and shaking back and forth.

“What’s happening? Am I having a seizure?”

Carla pointed to the wall monitors. “No. Your ship. It’s been found.”

Proctor’s eyes widened. “By who?”

Carla closed her eyes briefly, then opened them. “Your friends, the Valarisi robot fleet. You’re under attack.”

## Chapter 13

*239 years after arrival in Swarm Universe*

*Swarm's Universe*

*ISS Victory*

*Bridge*

*You're impatient. We have the time to get this right. We calculated that it would take three point six thousand years to devise the perfect plan, and you're wanting to rush off after just a fraction of that. Perhaps your brain upgrades didn't take? Maybe we should suppress your impatience gene too?*

“Bullshit. It's time. We've been over this plan for fifty plus years now, and no amount of debating and squabbling is going to make it any better. We move tomorrow.”

Granger closed his eyes and rubbed his temples with both hands. He'd been working for a hundred hours straight—good thing his friends had upgraded his brain and suppressed his neuro-chemical need for sleep—but it was starting to get to him. He opened them again and focused on his monitors. All sixty-three of them, surrounding him in a near-cocoon of screens.

*But—*

“Look. See there,” he interrupted, pointing at a screen to his left and up toward the ceiling of the large cargo bay on the *Victory*. He’d converted it into his command center about a hundred years ago when he’d outgrown the bridge. “The Swarm are in a retrenchment phase. They’re all there in that star cluster. Every single one of them. We can end this, now.”

*We don't know that, Tim.*

“We *do* know it. We’re ninety-nine percent sure that’s all of them.”

*That's not one hundred percent, Tim.*

“Fine. Yes. That’s life. Sometimes you need to take risks. One percent? I’m willing to risk my life at one percent.”

*Are you willing to risk our lives? All fifty-five quadrillion of us?*

He paused. It had been a few years since he’d asked. Their numbers had swelled over the decades. He remembered when they numbered a paltry handful of quadrillions. Wait....

“I thought you hit fifty quadrillion over a hundred year ago.” He closed his eyes and thought. The weight of the years were catching up to him. What was he, over three hundred years old now? Seemed like an eternity. And even with all the upgrades the Valarisi had given him, his brain only had a finite amount of volume to it, and therefore a finite amount of memories. Sooner or later, his memory was going to get a little ... dicey.

*That was ten years ago, Tim. Are you okay? We're seeing a spike in your norepinephrine neurotransmitter. You're upset.*

“I’m annoyed, is all,” he responded gruffly.

*And you're scared.*

“Bullshit.”

*Of what? Of facing the Swarm, and failing? That's why we urged caution, and that we—*

“No. It’s not the Swarm,” he said.

*Then what?*

“Me. I’ve been alive for over three hundred years. And I’m starting to feel it. The weight of the years. You know? How long can I go on? How long *should* I go on?”

*How long do you want to go on?*

“Long enough to defeat the Swarm.” He paused and regarded the mass of information displayed on his sixty-three screens detailing the status of the Swarm’s forces, the status of his own fleet of Valarisi-piloted ships, the state of the various automated factories and shipyards he’d created with the Valarisi’s help over the years, all run by automation and constant attendance by millions of Valarisi minds each. It was all so ... overwhelming.

“And not a second longer. But ... fine. I’ll wait.”

## Chapter 14

*Present Day*

*Sol Sector*

*Earth, High Orbit*

*ISS Dirac*

*Bridge*

Captain Rayna Scott had a problem.

The problem was, she wasn't sure what the problem was. She knew something was off. Something was bugging her. Something had happened—she didn't know what—that had thrown things off. Thrown off her rhythm. Gotten under her skin.

She pressed her ear up against the bulkhead just outside the lift, listening closely to the distant thrum of the engines.

Thrum.

Thrum.

Thrum.

They seemed a tad fast. Like, perhaps point five percent too fast. She'd have to get that checked.

But a point five percent difference in optimal engine speed wasn't causing her sense of underlying anxiety.

It was something else.

The lift doors opened and she stepped inside. With the doors closed, she tapped a few buttons on the wall panel and checked the environmental controls.

Gravity? Check. Operating within point oh one percent of optimal strength.

Oxygen recyclers? Fine.

Structural integrity? Perfect. Less than one milliliter of air leakage per hour over the entire ship's hull. Not bad considering the battles they'd been through. Not like the *Independence*, of course—that bird had seen better days. At least a few liters of leakage per hour is what she'd heard through the engineering grapevine. In better days that would be a disgrace.

These days? You did what you needed to survive.

The doors opened to the bridge and she stepped through.

Commander Simmons looked up. “Captain! Good, you're here. I've got a stack of signatures that I—”

“Lieutenant ... Veronica, any messages? From anyone?” She interrupted her XO and had turned to the comms station.

“No, ma'am.”

“Chatter?”

“Ma'am?” The comms officer looked confused.

“Any chatter?”

“Uh ... what chatter?”

“Chatter.”

The bewildered officer looked to Commander Simmons for help. He shrugged his shoulders in an expression Rayna could only guess meant, *you're on your own*. Why couldn't these kids understand basic questions?

“Chatter. An unusual amount of meta-space or regular comms traffic about unusual happenings within UE space.”

The lieutenant shook her head. “Not that I’m aware of. Nothing directed at us, of course. And I haven’t exactly been monitoring the background wide beam meta-space comms network....”

“Well get monitoring it.”

Commander Simmons turned back to her. “Captain? Is something going on?”

Rayna ignored him. Stupid question anyway. At any given moment, *thousands* of things were *going on*. He needed to be more specific if she was going to justify the question with a response. “Science station. Any sign of further q-field or artificial singularity activity near Earth?”

Lieutenant N’bongo examined his data feed. “No, ma’am. Not beyond the usual ship traffic effect on the local q-field environment.”

“And the Swarm ship? The one that stole the Findiri singularity shield? No sign of it?”

More bewildered looks. “No, ma’am, not that I can see.”

“Captain? What’s going on?” said Simmons.

“Something’s off,” she said. “Something important.”

“Should I get on the horn with HQ?”

“Don’t be stupid. I don’t trust anyone at HQ these days, now that Oppenheimer is dead. Hell, I didn’t even trust *him*.”

“Is it something with the ship? Paradiso? The Swarm?”

“No. No. No.”

“The Findiri? President Sepulveda’s reinstatement? The Valarisi fleet?”

“No. No. No.”

Simmons shrugged. “What else is there?”

Rayna closed her eyes. It was something she'd missed ... earlier. Before the whole Paradiso emergency, which they'd been tasked to help solve before Paradiso returned from its long journey out past Mars and back toward its inevitable collision with Earth.

“Pull up those video feeds we tracked down. From Britannia.”

Simmons nodded and pointed at Lieutenant N'Bongo. A few moments later, the viewscreen switched from a view of Earth to the surveillance videos they'd grabbed from Britannia.

The beach could be seen in the foreground, and in the background, President Avery's retirement home. And above, orange-yellow Titan bearing down on the planet. The two atmospheres started to mix, glowing white hot, starting in a small disc overhead, which quickly grew.

Flashes. Explosions and shock waves. Then the Swarm ship appeared from its journey through the artificial singularity Avery had somehow set up. Just behind it they could barely make out the tip of Avery's ship.

More flashes and shock waves, and the rest of the Swarm fleet showed up, the first Swarm ship disappeared along with Avery's ship, and the entire scene exploded in a brilliant flash as Titan consumed it all, and the feed went black.

“Again,” said Rayna. “Slower.”

They watched it again. And again. She'd already watched this entire video, and many others from different vantage points, dozens of times already.

What was she missing? Was it something here? Was it something else?

She ran through the events of the past few weeks. The *Dirac* had been orbiting the debris cloud of Britannia, and Mr. Qwerty had determined there was an imbalance in the expected isotopic ratios of oxygen. They investigated further and discovered that an artificial singularity had opened



somewhere on the surface, and a large *something* had come out of it, throwing off the isotopics. Further investigation showed it originated directly over Former President Avery's retirement compound on the beach. After she'd figured *that* out, President Sepulveda and Senator Cooper had shown up in orbit with Danny and his fiancée, Fiona Liu, that former IDF intel officer that Shelby had taken a liking to.

*My god. Sepulveda and Cooper.*

That was what felt off. It wasn't that it felt off. It was that it felt....

Familiar?

"Shall I play it again, ma'am?" asked N'bongo.

"No." She finally sat down in the captain's chair and stroked the leather armrest. She'd always liked the feel of that armrest, even when she wasn't the captain. She'd be on the bridge, and, when the captain wasn't looking, she'd sneak in a few strokes of that armrest. Such a beautiful armrest.

Maybe Fiona and Danny felt something too. What was the name of that ship?

"Mr. Adam," she said, turning to Commander Simmons. "Scan the vicinity of Earth. I want the *Crimson Phoenix*. Find it for me. And if it's not here, determine its location."

"Should I know that name, ma'am?"

She turned to him and frowned. "The tables have turned, haven't they, Adam? I remember numbers, you remember names. Does this mean you'll start reminding me of the third and fourth digits of Avogadro's number now?"

Commander Simmons' forehead wrinkled as he tried to remember. Then, recognition. "Ah. The ship that delivered President Sepulveda to us last week?"

"Bingo."

He motioned to the sensor and comms crews to get on it, and within a minute....

“Found them. They’re in orbit. Docked at Clearview station. A private orbital community. Known for its medical center. Mayo Zenith Complex.”

“Strange. I wonder if they’re all right.” She motioned to the comms officer. “Get me a channel with them.”

A few minutes later, the comms lieutenant, Veronica, signaled her. “I’ve got a Ms. Fiona Liu on a channel, ma’am. Visual, at your station.”

Rayna flipped on her monitor and smiled to see the other woman. “Hello dearie. How’ve you been? Long time no see—what’s it been? Almost a week? Feels like a decade.”

“I’ll say, Auntie Rayna,” she replied, calling her what Danny usually called her. “Hey, glad you checked in. I think I need help. Wonder if I could pick your brain.”

Rayna tapped her head. “Well what a coincidence. I was going to say the same thing. I need your and Danny’s help with something. Gotta pick your brains too.”

Fiona shrugged. “Well, in that case I think we’ll need your help first. You see, Danny was shot by the Findiri before they ... changed. He’s in a coma. And medically, he’s stable. He’s fine. But....”

“But you can’t get him out of the coma?”

“Well, yeah, that. But it’s stranger than that. Neither I nor my companion can get in contact with *his* companion. Or Danny. It’s like ... there’s a block, somehow.”

Rayna stroked the armrest. “Yes. Strange.” She stroked the leather some more. “Meta-space. That’s how your Valarisi companion communicates, right?”

“Right. You think ... there’s some kind of meta-space ... interference? Didn’t know there was such a thing.”

“There’s not,” said Rayna. “But maybe these problems are related, now that I think about it. Tell you what. Get over here. Let me and my team look at him. We’re no doctors, but we

know a thing or two about meta-space. Maybe there's a way we can reach him. And his companion.”

## Chapter 15

*Present Day*

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*The Brig*

The brig was not far from the bridge, near the center of the ship and one deck up. Zivic nodded to the officer on duty. “I need a quick chat with him,” he said, pointing to the cell housing Commander Shin-Wentworth.

“Of course, sir. I’ll escort him out.”

Zivic stopped him with a held-up hand. “No, actually, I’ll go in there alone. You stay here.”

“But sir, it’s IDF policy to—”

“I know what the policy is, Ensign...” he peered at the man’s name badge, “...Parth, but given this man was your captain up until a few days ago, I think I’ll be safe. As you were.”

The ensign looked like he wanted to protest further, but Zivic didn’t even give him the time. He tapped on the button

to open the door to Shin-Wentworth's cell, the computer recognized him as the current captain of the *Volz*, and it opened to reveal the former captain.

There were dark circles under his eyes, as if he hadn't slept in days. He looked clean enough, though, freshly shaven, with a clean brig uniform.

"Time to go?" said Shin-Wentworth. "I assume you're dropping me off at IDF HQ on Earth?"

"We're not at Earth. And we're not going to Earth. Not now."

Shin-Wentworth scowled, as if he wanted to be transferred to IDF military police HQ. "Oh. Then a trial here? On the ship?"

"Not that either." Zivic motioned to one of the bunks. "May I?" he asked.

The other man shrugged. Zivic sat down across from him.

He stared at him a long time, what felt like over a minute.

"So ... you're going to sit here and, what? Intimidate me?" said Shin-Wentworth.

"Are you intimidated?"

"No. Should I be?"

Another long pause. "You murdered my fiancée."

Shin-Wentworth closed his eyes. "It was an accident. You've got to believe me, I intended her no harm."

"I don't have to believe you, no. But the fact that you were directly disobeying the captain's orders, and performed a very dangerous experiment anyway, and then *pushing her into it*, well, that sounds a whole lot like murder to me. At the very least, aggravated reckless endangerment and second degree murder, including insubordination and mutiny. We go to Earth? Have a real trial? You know what you're looking at? What that jury's gonna do to you?"

Shin-Wentworth nodded. “Life. No parole.”

“But here’s the thing,” Zivic continued. “I’ve got a ship full of kids with precious few adults around to babysit them. It’s a wonder we’re even still flying. I need you. As much disgust as I have for you, I need you. And honestly, ensuring the survival of Earth right now ranks a little higher on my to-do list than to make sure you face justice for your crimes. That can wait.”

Shin-Wentworth’s face went through a range of emotions. He looked surprised, for sure. “I ... wasn’t expecting that.”

“I wasn’t expecting the Swarm to come back. I wasn’t expecting my dad would die a few months ago. I wasn’t expecting to miss being a widow by a few days. I wasn’t even expecting to get back together with Whitehorse in the first place. Lots of stuff happens we don’t expect, and we just need to roll with it, or get steamrolled by it.”

“What do you need?”

“Well first, I need an XO. You were pretty good at that for Jerusha.”

“I can do that.”

“Second, I need to find that Valarisi robot fleet. And you’re going to find them for me with that big brain of yours.”

“I am?”

Zivic laughed, joylessly. “If you can summon a world made out of anti-matter from another universe, you can find a little fleet in ours.” He stood up and extended a hand. The thought of touching the hand of the man responsible for Jerusha’s death made his skin crawl, but he felt like he had to do it, to set the other man at ease so that he’d be able to do his job.

Justice ... no, revenge could come later. At the thought, the image of Commander Rice’s head jerking back as blood sprayed out in a mist behind it flashed through his mind. He shook it off and tried to forget. Did *he* do that?

“I just have one request,” said Shin-Wentworth as he accepted the handshake. “Paradiso. I know it’s ... not of our universe. But nevertheless, a version of my wife and kids are there. Could I—”

“Request denied.” He ended the handshake and started to leave the cell. There was no reason the guy got to talk to his dead family while Zivic had to deal with Jerusha’s death like a normal person.

“Off duty, of course. Just a quick meta-space virtual conversation. I ... just need to know they’re okay.”

“Did I stutter?” He was about to give the signal to the ensign outside to remove Shin-Wentworth’s tracker from around his wrist when he turned back around to face him. “Look. Make you a deal. You arrange for me to talk to Jerusha, and I’ll let you talk to the wifey. Okay?”

That should get him to shut up.

Chillingly, Shin-Wentworth extended his hand again. “Deal.”

What in the world was going through that man’s head? Shin-Wentworth saw his hesitation, and added, “We’ve seen a lot of crazy things the past few weeks. I’m not promising any miracles here, but let’s just say I don’t believe anything is impossible anymore.”

Zivic looked him in the eye, trying to measure him up—was he crazy? Desperate? Psychotic? Or just delusional about his own abilities and intelligence? “If you can arrange to talk to the dead, then surely you can figure out how to send anti-matter Paradiso back safely to its own universe, find the Valarisi fleet and pacify it, find the Swarm ship and destroy it, and ensure that Earth still has a functioning government free of Quiassi and Findiri influence when we’re all through. *Then* try and talk to the dead. Okay?”

Shin-Wentworth saluted. “Let’s get to work then, sir.”

The ensign removed the wrist tracker and the Zivic followed his new XO out into the hallway toward the bridge.

Delusional. Definitely delusional. But delusional geniuses could be harnessed and directed.

At least he hoped.



## Chapter 16

*Penumbra System*

*Scaedria, High Orbit*

*Skiohra Generation Ship Benevolence*

As Granger descended the ramp from the shuttle he was met by several Skiohra who'd assembled in their bay to greet him. All Skiohra females—he'd never known a Skiohra male that had a body—they looked taller and broader than the ones he'd seen since he awoke in his new body just a few months ago aboard this very ship. They must have been security, he supposed.

It would be nice if he could just *remember* if they were security or not. Thousands of years ago, he'd had such an intimate knowledge of the Skiohra race that he was able to tweak their DNA to produce certain outcomes he'd known were necessary. How much did he tweak it? He couldn't say. Perhaps once his memory was restored that would be another answerable question.

Which was why he was here.

“Granger. Welcome back,” said one of them. She was half a head taller than him. He wondered how many tens of thousands of children she had inside that endowed her with advanced intelligence as well.

“Thank you. Is Polrum Krull coming?”

“She will meet us there.”

“Where is there?” Stupid question. He knew the answer even before she said it.

And even as she said it, the wince on her face told him the taboo he’d inserted into their psyches was still in effect, if waning. “The forbidden room, past the impassable door. She awaits you there.”

“I see. Lead the way.” He glanced back at his security detail—three veterans from Vestige. Good thing he had a hundred-thousand-strong personal army. He shook his head at the ridiculousness of it. No, not ridiculousness. The danger. The temptation.

No man should have that much power. Even in the hands of the good, that much power was dangerous. Even good men, if worshiped and exalted by enough followers, could abuse the power.

And even if the power was never abused, he hated it on principle. Men should be equal. On the same footing. One man lording over another left a bad taste in his mouth—it hearkened back to the tribal days of humans when one’s loyalty and service to the tribe trumped everything. It was more important than freedom, money, health. Even truth. Loyalty to the tribe was king, and because of it kings ran rampant through human history, leaving oceans of blood and tears in their wakes.

He shook his head to refocus himself. In his reverie they’d passed through a maze of corridors and lifts, and had finally arrived at a long hallway with a single open door at the end.

“She’s already in there,” said the Skiohra, pointing ahead.

“You’re not escorting me the rest of the way?”

She shuddered. “I ... I just can’t. I’m sorry.”

He nodded solemnly. “I understand.” He wasn’t sure whether to feel awe at the power the taboo still had over some

Skiohra. Or guilt.

He and his three security escorts walked the rest of the way down and entered the room. Inside was Krull and the robot caretaker of the room. They had been conferring in low voices.

“Granger. Good, you’re here,” said the robot. “Krull has told me why you’ve come. You want more of your memories downloaded into your mind.”

Granger nodded. “Sure, if that’s what you want to call it. Downloaded. Makes me sound ... artificial.”

“As opposed to...?” said the robot.

“Natural, I suppose.”

“Natural. Artificial. You knew this long ago, and you programmed the knowledge into me, and you will know it again. The concept of a difference between natural and artificial is ... unnatural. What you call artificial is simply natural by an alternate yet valid path. It’s valid because it’s physical, and what’s physical is real. Natural.”

“Okay, look, I didn’t come for a semantics lesson or a lecture on—”

“And just like the Granger of old you want to get right to business. Very well. Have you brought it?”

He fished in his pocket and pulled it out. The little sphere Jasper, his son, had given him. He’d only known the kid a few days before he was taken from him, and this little sphere was the only physical memento of their time together. He passed it over to the caretaker who’d stretched out a mechanical arm to receive it. The flesh hand at the end of the mechanical arm plucked it out of his fingers.

“Ah yes, the Delta model of memory core,” it said knowingly. “Not too many of these around.”

“Is that bad?”

“It’s neither bad nor good, Tim. It just is.” It walked over to the first chamber in a line of seven. Granger vaguely

remembered stepping out of this chamber, naked, just a few months ago. The caretaker inserted the sphere into a receptacle which opened at his approach, and closed upon receiving the sphere. “The Delta model was the largest, and for good reason. It held the index. The Alpha and Beta models contained smaller, more specific and more detailed knowledge. Alpha is for experiential knowledge and Beta is more for technical information. The Deltas organize all of it and provide overview and context, but lack the finer details.”

“Okay, so that little sphere will give me an overview of my entire thirteen billion year lifespan?”

The robot caretaker approximated a stiff, mechanical laugh. “Oh heavens, no.”

“No? But...” *Dammit*, he thought. Was this trip a waste?

“You humans and your tiny slabs of meat co-opted as data storage systems. Come here, let me show you.” He beckoned Granger to approach a monitor attached to the side of the chamber. The caretaker pointed out a few sets of data and graphs. “Your current organic brain, the one I restored you with based on your orders the last time you were here in the flesh, is about two percent full. And most of that is semi-corrupted—that’s what you experience as terrible memory. A full accounting of your thirteen billion years of existence would fill millions of your brains, depending on the resolution and fidelity of the memories. An overview, such as is contained in a Delta device, is compressed, and thus would fill only a hundred or so human organic brains.”

“One hundred,” Granger repeated. “So I only get one hundredth of my memories back?”

“Depends on which epoch this Delta device covers,” said the caretaker. It examined another monitor next to the first.

“I imagine since I was the one that gave this sphere to Vestige to give back to me when the time was right, that I chose it for a good reason.”

The Caretaker tapped a few buttons. “That is sound reasoning. Let’s see here. This sphere covers parts of your first fifty million years of existence in this universe, smatterings of years throughout the eons since, and then a more robust account of the most recent ten million years or so. About point five percent of the total.”

At this point Polrum Krull, who’d been silent, spoke up. “Excuse me, caretaker. How long can we expect this to take? We have work to be doing for our homeworld.”

“I’d get comfortable,” it said. “But not *too* comfortable. The process can exact a toll on the body.”

“Oh?” said Granger. He hadn’t expected that. “I’m not dying today, am I?”

The robot was silent.

“Am I?”

“We will take every precaution, Granger.”

“That wasn’t a no.”

“We will ... take every precaution,” it repeated. “Now, if you please, this way.”

## Chapter 17

*5221 years after arrival in Swarm Universe*

*Swarm's Universe*

*ISS Victory*

*Bridge*

“It’s time.” Granger reached out through the Valarisi’s meta-space field and sensed the status of his massive fleet. “I’m sure of it this time.”

*Not ninety-nine percent sure?*

They’d had these discussions for centuries. Millenia. Often veering off into the philosophy of knowledge and information and the nature of reality itself.

But not this time.

There was simply no time. They’d been at this for over five thousand years, devising the perfect plan, crossing every t, considering every contingency, making failsafe after backup, and now, something had changed, and their carefully laid plans were at risk of being for nothing.

The Swarm was on the move.

“One hundred percent. It has to be now.”

*Are you lying to us? To yourself?*

“Fine. It’s ninety-nine point nine nine percent. And yes, I’m willing to risk my life—god knows I’ve waited long enough for a chance at that. And yes, I’m willing to risk yours.”

A long pause.

*Are you willing to risk humanity? Trillions of people, across all ages of time?*

“Yes. It is time.”

He was lying, of course. He’d done some back-of-the-envelope calculations over the past few years based on what he was seeing from the Swarm, and had determined that the chance of success of their plan was down to fifty percent. A coin flip.

What was a coin? How did he know the meaning of that term, but not know what a coin was? He reached out through the meta-space link to one of his memory-storage racks down near engineering and searched the oldest archives before stopping himself and focusing on the question at hand.

*Fine. We move.*

“Good. Can we have the fleets assembled to their muster points by a month from now?”

Again, a word he didn’t remember. Month. He knew it meant about two point six three million seconds. He vaguely remembered it could also be thirty in another scale whose name he didn’t remember.

*We can have it done in a few hours. If now’s the time, then now’s the time, Tim. We trust you.*

Hours? Yes, he remembered hours. Thirty-six hundred seconds per hour. Seven hundred thirty hours per month. Why was he suddenly musing about the meaning of words he’d long since forgotten the context of? It was all stored away, so it wasn’t truly forgotten, but working with the Valarisi on a daily basis for thousands of years had taught him there was a

certain utility with some words while others were a complete waste of valuable—

Daily. There's that word. He hadn't forgotten it after all. Twenty-four hours in a day. But why? Why thirty in a month? It had to do with humanity, he knew. Something about Earth. Probably related to its motion relative to its star.

*Tim? Have we finally lost you?*

“Fat chance. Come on. Let's end this so we can go home.”

*You're going home after this?*

Could dying be considered going home? “Sure,” was all he said.

The preparations had been made millennia in advance. Now they were only following a well-tuned script. All the millions of moving parts—the ships, the cannons, the asteroid projectiles, the q-field inhibitors, the gravity well generators, the point defense cannon platforms, all automated and overseen by quadrillions of Valarisi minds—all of it started to move as one.

First in one star system, then another, then a third, and soon hundreds of star systems full of his forces, ready to strike.

He sat in a chair, back on the old bridge of the *ISS Victory*. Only one screen on the front wall and a smaller screen at his fingertips were all he had these days. The other five-hundred-odd screens' worth of information was all displayed virtually in his mind's eye, enabled, managed, and processed by his upgrades and the host of Valarisi he had within him.

“Good. The first phase of the plan is complete. All Swarm outposts outside the host galaxy are neutralized. Were any meta-space distress calls sent out?”

*None that we've been able to detect. You'd feel it too.*

That was true. He could *feel* them. The Swarm. Trillions of beings, all linked into meta-space somehow, yet occupying



separate physical bodies. Their origin was a mystery to him, and to the Valarisi. But feel them he could.

Well, most of them. The ones outside their home galaxy were now gone. There was no distress signal sent out, but sooner or later the rest of the Swarm would notice the absence of those minds.

*Sooner, Tim. Not later.*

“What?”

*They’ve already noticed.*

“But what about the meta-space scramblers? We set them up at the appropriate points on the galaxy’s halo. We’ve tested them. Many times over. Did they not work?”

*They worked. But they know. Our hand has been tipped.*

There’s another phrase he knew the meaning of, but for the life of him had no context for. Had he angled one of his hands wrong? Good Lord. After this was all over, he was going back to his memory archives and re-downloading as much Earth-era context as he could fit in his skull.

“How? Wait. It doesn’t matter. The plan continues.”

*Still ninety-nine point nine nine percent chance of success?*

“Somewhat lower now. Back to ninety-nine,” he said, while mentally doing the math that spit back a depressing number at him. Forty percent.

*Right*, they replied, and the tone of their mind told him that they were not fooled. How could they be? He was relying on thousands of them to perform calculations for him. *Initiating phase two, surround and infiltrate.*

He watched the plan proceed with a vague feeling of dread. Phase one was supposed to be the easiest to pull off, and they’d already messed up. Was it portents of things to come?

It was.

*Phase two complete. Their core system is surrounded. But six of the thirty-five infiltration ships have been discovered. They not only know we are on the move, but now they understand the shape of it. How could they not if they were able to discover those six ships?*

“Will the star implosion still work?”

*Yes. Barely.*

“Good. Then the plan proceeds.”

Hundreds of screens’ worth of information flashed before his mind’s eye, but his two physical eyes focused on the one screen ahead of him. A battle raged in the Swarm’s main star system, in orbit around six planets, forty-two moons, and countless asteroids and space stations. All of that was important, yes. But partly a distraction too.

*We’ve lost our meta-space transmitter near the star.*

“What?”

*It was discovered. Now all we have are the Valarisi in the ships headed there.*

He watched the front viewscreen intently, but also knowing that the information shown there would be seven minutes out of date.

“Readings on the star?”

*Still normal.*

“Have our ships delivered the star killer?”

*They have.*

“And?”

*Those ships were neutralized soon after. We have no idea if any of the star killers made it to the chromosphere.*

“Then we wait.” He stared at the screen, and a countdown timer near the bottom. In a little over five minutes they’d know.

The battle was going well in a few places, but poorly in most. They'd lost over half their fleet committed to this system. The Swarm had lost at least half as well.

But they were supposed to lose far more than that. Fine. If all went to plan, the star killer gambit would compensate for any failures in the conventional battle space.

A flash on the screen answered his unspoken prayer. First a blazing ring of plasma burst out from the star, then, almost imperceptibly at first, the color turned to a more reddish hue.

And the star was smaller. Shrinking ever smaller by the second.

Granger smiled. Finally, something had gone according to plan.

The star shrunk, and shrunk, and as it shrunk, the color began to return to the yellow-white of before, and soon it was unmistakably blue.

They were forcing it to go supernova. The fusion reactions were artificially suppressed, and gravity had taken over, collapsing the star in on itself. But as it collapsed, the temperature had skyrocketed, reigniting the fusion reactions, now at a far accelerated rate. In a few more minutes it would reach a critical density, the imploding shock wave would all converge at the center, and then....

It would explode. A shock front with the mass of a million Earths would careen out at near the speed of light, destroying everything in the system within hours.

The q-jump inhibitors were in place. No Swarm ship would escape. They were ending it, finally, right here, at this moment.

The star was almost a tiny dot at this point, but its brightness nearly overwhelmed the screen.

And then....

It disappeared.

Gone. Only the blackness of space remained.

Granger jumped to his feet. “What?!”

He scanned the star field, looking for a somewhat larger, brighter star, anything that might indicate that the system’s star was still there, and just perhaps taking its sweet time going supernova.

*The star has collapsed to a black hole.*

“But ... how?”

He fell back into his chair. How? It was impossible. They’d been through all the calculations for millennia. They’d made multiple tests on actual stars. He, Tim Granger, was personally responsible for nearly twenty separate supernovae in this galaxy alone.

*There is only one explanation permitted by the data. It seems the Swarm has committed their own device into the star.*

“But you can’t stop this process. We proved it.”

*No, you can’t stop it. But you can accelerate it. And it seems they accelerated it so much that it bypassed the supernova phase and went straight to the parameter space favorable for black hole formation.*

“You mean, rather than the shock wave bouncing off itself at some safe distance from the center, that instead the shock wave crossed the Schwarzschild radius?”

*Precisely. Once all that mass crossed that radius, it created an event horizon.*

He watched the screen, not even knowing what he was watching for. He wouldn’t be able to see the event horizon from here.

*Tim? We need to leave.*

“But ... what about our forces? We can still destroy them. It’s not the end yet—”

*Tim, it’s TIME. If we don’t leave now....*

He glanced in his mind's eye at a few status screens. Indeed, they'd lost nearly all of their forces, and there was a massive Swarm fleet bearing down on the *Victory*.

A jarring rumble told him that the advance ships were already there, and had begun pounding the *Victory* with anti-matter beams.

"Fine. Get us out of here."

*Too late. We've waited too long, Tim.*

He noticed a screen informing him that the q-drive had been hit. They were stuck in this system. "Fine. Conventional engines. Maximum thrust ... that way." He pointed toward the center of the star system.

*Are you thinking what we think you're thinking?*

"I am."

*But Tim, we've had no time to prepare. No calculations have been made. If we attempt this, there's no telling where it will take us.*

"Will it kill us?"

*Probably not. We can create an Einstein-Rosen-Rao bridge just fine. But the parameter space is—*

"Then I'll take my chances versus sticking around and testing the Swarm's mercy."

The *Victory* surged ahead, aiming toward the newly-created singularity. He'd done this before, he vaguely remembered. Yes. There it was. This is how it all began, plunging into a black hole to destroy the Swarm.

Except this time, he was plunging into a black hole to escape the Swarm.

"I assume you're making what calculations you can? We may as well make *some* attempt at coming out the other side somewhat close to Earth."

*We are. Hush, please, it's taking every single one of us concentrating at maximum effort.*

He finally saw it. Like a shadow on the screen. A spot where there were no stars, and the light from the stars around it seemed horrifically smeared out around it.

He'd seen this in his nightmares. Because he'd seen it in person before. He knew what was coming, and sure enough, the black shadow grew until it covered half the sky.

“The Swarm stopped pursuing, at least,” he murmured, noticing that the rumbling from the anti-matter beams striking the ship had ceased.

*Here goes.*

The black shadow now covered most of the sky, with only a small circle of stars visible behind them. They technically hadn't crossed the event horizon yet, but they would very, very soon.

“Is the field established? Will there be a bridge to even cross?”

*Yes. We've established the field. The Einstein-Rosen-Rao bridge is—*

He couldn't hear the rest of the response as the *Victory* surged into the bridge.

Time seemed to stop. And speed up. And to not exist at all, merging somehow into the other spatial dimensions. He held up a hand and saw it at all moments in front of his face, all at once, and those moments simultaneously seemed like an eternity and a microsecond.

And in a flash, it was over. Reality and time returned to normal. At least as he could perceive it.

“Where are we?”

*Analyzing.*

“Did we make it? Are we back in our universe?”

A long, long pause. It started to make him nervous, and every creak of the ship around him made him think the hull had finally had it.

*We're in our universe.*

He breathed a sigh of relief, and looked at the viewscreen more closely.

It seemed very, very wrong.

For starters, the sky was red. All of it. In all directions.

“Are we ... in a nebula?”

*No.*

There were no stars visible. Nothing but red, some patches brighter than others, other patches somewhat darker, but all the same hue of red. Like he was looking into the dying embers of a campfire.

Campfire. What was a campfire?

“If we're not in a nebula, then what's that cloud? We're in the middle of it.”

*That's not a nebula, Tim.*

A sinking feeling started to form in his stomach. “I get the feeling I'm not gonna like what that actually is.”

*It's the surface of last scattering of our universe's phase transition from Inflation.*

“You mean ... the Big Bang?”

*In a sense, yes. In our time in the far distant future, this light appears in the microwave spectrum. But now we see it in the visible spectrum. And judging from the color, we can determine almost precisely when we are.*

“Don't keep me in suspense here....”

*One point seven million years.*

“We arrived one point seven million years too early! Shit.” The sinking feeling in his stomach deepened, and he suddenly

realized that his paltry five-thousand years of existence was soon going to be a drop in the bucket if he had any hope of stopping the Swarm. They wouldn't arrive in their universe for another million years at least.

*No, Tim, you don't understand. One point seven million years. After the Big Bang. That red glow you see, that's the glow of the Big Bang itself, or rather, what it looked like one point four million years ago when the universe cooled enough to let visible light pass through.*

“So ... we're more than one point seven million years early,” he said. His tone was flat. He felt numb.

*We're thirteen point eight billion years early. We'll be lucky to find even a single star anywhere in the universe.*



## Chapter 18

*Present Day*

*Sol Sector*

*Earth, High Orbit*

*ISS Dirac*

*Bridge*

Fiona rolled Danny in through the airlock on a stretcher. There was no medical equipment attached to him, save for a small heart and oxygen monitor. His wound was mostly healed, it appeared. He was just ... asleep.

“Hey, Auntie Rayna,” said Liu, who left the stretcher for a moment and let herself be pulled in for a hug. “Oh I guess we’re doing this then,” she said uncomfortably. “Good to see you.”

“Good to see you too, dearie,” said Rayna. “Come on, let’s get him to engineering.”

“Not sickbay?” said Liu.

“Is he sick?”

“Well ... kinda.”

“But his meta-space connection dealie with his Valarisi companion is on the fritz?”

“In the sense that my companion can’t talk to either of them, yeah.”

“Then engineering it is.”

Rayna motioned them forward toward a lift, and a few minutes later they walked through the double doors of engineering.

The chief engineer rushed forward. “Uh, Captain, good to see you down here. I didn’t know you were coming.” He eyed the stretcher, and Liu and Danny. “And you have guests.”

“Good to see your powers of observation are as sharp as ever, Mr. Chief. Now if you’ll excuse me, I have work to do. I need a staff of four techs and two engineers, preferably a data scientist and a meta-space specialist. And the main diagnostic bay.”

“But ... uh, ma’am, we’ve got some diagnostic projects wrapping up and then—”

“Good! Wrap up faster, and then I’ll take it from there.” She motioned to Fiona. “Over here, dearie.”

The chief engineer look flustered—if that was the right word for it, she was so bad at that kind of nuance. Or was he annoyed? Eh. Who cares?

She set them up in the secondary diagnostic bay, seeing how the chief looked woefully behind and she had no desire to wait for him to get his act together. When she’d gotten the diagnostic equipment and monitors dialed in to what she wanted to measure, she looked up.

“Ah, you’re the techs the chief assigned. Good,” she pointed at two of them. “You boys get him all set up with the fine-tuned meta-space spatial-temporal mappers. You two,” she pointed at the other pair, “get the lowest powered meta-space transmitters we’ve got and get it all set up with an amp and a lock-in setup where we can dial into whatever we’re

seeing on the mappers.” She pointed to the two engineers that showed up, huffing, as if they’d run. “Good of you two to drop in. Who’s the meta-space specialist?”

“Me,” said the woman, raising a hand. “Lieutenant—”

“Good, Specialist ‘M,’ for meta-space, I want you to see what we can do here with this young man. He’s got a Valaris companion. He was shot and gravely wounded, and ever since then they’ve both gone silent on their meta-space Ligature thingy. It’s meta-space based, so I want you to figure out the problem and fix it. Got it?” She didn’t wait for a reply and turned to the other engineer. “Data scientist?”

“Yes, ma’am,” he replied, nervous.

“Specialist D. You’re going to look at what these mappers are telling you, compare it to our library of meta-space readings, especially the ones having to do with the Valaris Ligature, and see if you can’t tell what’s going on on that end.”

The meta-space engineer hesitated. “So ... you’re giving us the same job.”

“Well duh, dearie, just coming at it from two different directions. You’re theory, he’s experimental and empirical. Got it? Ain’t rocket science, I know—if it were we’d be done by now. But it ain’t multi-dimensional q-field science either. Look, I’m not expecting a senior thesis here. I just want to talk to the kid by the end of the day. Got it?”

She turned back to Fiona. “Okay, dearie, while they work, let me tell you my problem.”

“What’s your problem, Auntie Rayna?”

“The problem is I don’t know what the problem is.”

“Sounds about right for you,” replied Liu.

“Funny. That was a joke, right? Funny. Now listen. Something has felt off for days and I can’t put my finger on it. But the closest I came was when I was rewatching the videos of Avery’s ship luring the Swarm fleet to their beautiful deaths

on Britannia, and then when I thought about you and Danny bringing President Thing and Senator Who'sits aboard a few days ago, bam. Off the charts. Something's off about them."

Liu nodded. "Well that's an easy one. She's a Quiassi."

She almost dropped a data pad. "You're sure?"

"Positive. In fact, she might even be former President Avery, who we're pretty sure by now was a Quiassi herself."

Something stirred inside. *What the hell was that, Rayna?* A stir of ... memory? "Are you *sure* sure? Tell me how you know."

"Well, when Danny and I accompanied Cooper to go meet with GPC First Speaker Curiel, who magically is not dead after Britannia but instead miraculously *survived* and was secretly elected chairman of the board of directors of Shovik-Orion, I felt something. Or rather, my companion felt something. The whole thing was off. We find out later, through piecing some things together, that we felt that way because Cooper was—"

"Was what, dearie?"

"Hang on. Diane is telling me something."

"Diane?"

"My Valarisi Companion." Fiona cocked her head as if listening. "Yeah, okay, good point." She turned back to Rayna. "She says that, sure, Cooper might very well be Quiassi, but when Diane felt both of their minds during the whole conversation with Curiel, she said they *both* felt off. Diane thinks Curiel might be Quiassi too."

Rayna strummed her fingers on the armrest of the chair. It wasn't nearly as comfortable as the captain's chair, its texture not as supple. She should get back up there. Captain's place was on the bridge, right? "We're going there."

"Where?"

“To Curiel. I want to talk to him. If you say Diane felt all tingly when you all talked to him, just like when Cooper was around, and having Cooper and Sepulveda here did the same to me, then ... I want to talk to him. Simple as that.” She tapped a button on the console nearby. “Mr. Adam?”

“Commander *Simmons* here, Captain.”

“Adam, set a course for...?” she looked at Fiona inquisitively.

“Bolivar,” she said.

“Get us to Bolivar.” She stood up. “Yesterday,” she added.

“What about our assignment to help with the Paradiso problem?” said Commander Simmons.

“One problem at a time,” she said. “If I can’t clear my head about what’s bothering me, I’ll be of no use working on the Paradiso problem. Let’s go talk to Speaker Curiel and see what he knows about everything that’s been going down.”

## Chapter 19

*Sol Sector*

*Earth*

*New York City*

*United Earth Executive Offices Tower*

“Director Varus? You’re wanted in the executive offices.”

Varus turned and regarded his underling. *Underling. In the past, that’s what he would have been called. Now....*

“Thank you, Nubo. What is the status of the science teams? Have they made any progress on the Paradiso problem? Have our technical units interfaced effectively with the humans?”

The underling grunted. *No, not underling. Subordinate? Assistant? What was a more dignified term? What would a human leader call them?* “Progress is unsatisfactory. Our technical units are at their disposal, but the humans don’t trust us.”

“Understandable,” mused Varus.

“There is still no obvious solution. Using the singularity emitters as we did to prevent the collision with Earth is not repeatable, given the theft of the singularity shield by the

Swarm ship. An alternative solution has still not presented itself.”

“Have them keep at it. I’ll go talk to their leaders.”

The subord—assistant bowed his head and held a fist to his chest, and walked backward out of the room, leaving Varus to finish up his administrative tasks before heading up to see Cooper and Sepulveda. Something was very ... odd about those two, and he didn’t relish his time with them.

But seeing how the pair was the current leadership of all United Earth, he didn’t see an alternative.

## Chapter 20

*Sol Sector*

*Earth*

*New York City*

*United Earth Executive Offices Tower*

It was as if the Findiri knew. They instinctually *knew* that Cooper was the one calling the shots, and that he, as president of United Earth, was just there as a bystander.

“Yes, Madam Vice President,” said Varus, the new leader of the Findiri. “We understand the mission, and its importance in safeguarding Earth.”

“And how many Findiri ships are currently in operation?” she asked, drilling into him with her penetrating eyes.

Sepulveda stood off to the side, wondering when it would be appropriate to insert himself into the conversation. He, as president, should be the one directing the Findiri to go out and find the rogue Swarm ship, not the vice president—even *if* she was really Malakov, the one-time president of the Russian Confederation and apparently billion-year-old Quiassi in a war against the Swarm.

*It will never be appropriate, my most loyal of servants. If you want to be the greatest president United Earth ever had,*



*then you do as I say. Nothing more. Nothing less.*

“—that’s if you count the damaged ships that still have q-jump capability but are still undergoing repairs. If you include all of them—”

“Include all of them,” said Cooper. It was amazing how she could be carrying on one conversation verbally with Varus, and another mental conversation with Sepulveda. A Quiassi talent? Or a Senator Cooper talent? Sepulveda realized he knew very little about the Quiassi’s actual abilities, beyond apparently being “slow shape-shifters” and the fact that for all intents and purposes, they were immortal.

But they could be killed, right?

*Of course I can be killed, John. Why, are you getting ideas? You realize that I would know of your intention to kill me even before you did. That’s how complete my control is over you. I know your mind before even you know it. I know what you will decide before you decide it. I know what you will say before you even think the words. I know that, even right now, you hate this level of control, and yet you love it at the same time. You crave it. You’re a man of paradoxes, John.*

He grit his teeth—so much of what she said was true, and yet so much was twisted into something else.

Varus responded to her. “Shall we postpone repairs then, Madam Vice President? That may mean some losses as we send those ships out on this hunting expedition.”

“Losses do not concern me, Varus,” said Cooper. “Or rather, small losses now will prevent large losses later. Understood?”

“Understood, Madam Vice President.”

“Good. Start with Earth at the origin, and expand out to one hundred lightyears in all directions. Check every star system—prioritize the ones with planets, and the ones with peculiar or noteworthy stellar characteristics, such as binary star-black hole systems, for example.”

Varus turned to his aide, Nubo, and murmured something in the Findiri dialect that he couldn't understand, and after a while turned back to her. "Madam Vice President, my tactical advisor tells me that would necessitate the search of over twenty thousand star systems."

"Then you better get busy, Varus," said Cooper coolly. "Six hundred and fifty-seven ships? What's twenty thousand divided by six fifty-seven?" She glanced at the tactical advisor, who did the calculation on his pad.

"About thirty, Madam Vice President. But ma'am, consider that once they arrive in a system, our soldiers will need to perform scans, and depending on the system, that could be at least a day."

"Perfect. A one-month search will give me all the time I need to prepare the final weapon which will destroy them for good."

Varus eyed her skeptically. "And this weapon? May I see it?"

"What, don't trust me, Varus? Even John trusts me now, and he used to be my political opponent."

Varus didn't even glance in his direction at the mention of his name. *He knew*. Somehow, he could just sense the power dynamic in the room. Which was probably what made him suspicious of the claim of a Swarm-killing weapon—he could see things weren't as they seemed on the surface. Sepulveda couldn't tell if this remarkable sense of intuition was an inherent Findiri trait, or something they'd picked up ever since their miraculous change a few days ago.

"All the same, in the interests of protecting Earth, I think it's wise that I and my advisors know about this weapon, in the event you are not able to deploy it against the Swarm. We need contingencies, Madam."

"An excellent point, Varus. I see why you ascended to the rank of Talus's right-hand ... Findiri."

Varus spat at the mention of the name. “Do not honor him with even a mention of his name, Madam Vice President. He was traitor and a scourge.”

*And he was my brother, as flawed as he was,* said Cooper in Sepulveda’s mind. *Jertol. We were a family of ten, with Granger as our wayward, absent father.*

“I’ll mention who I see fit, Varus.” She stood up from behind the president’s desk. “Now go. I want that Swarm ship. The true scourge was not Talus, but is the Swarm. And we need to end it once and for all. Dismissed.”

Varus bowed slightly and left, his advisors in tow.

When the door had shut behind him, Sepulveda shrugged. “With the Findiri fleet gone, that removes our best option of saving Earth from Paradiso, you know.”

“Best option? How so?” said Cooper, who’d sat back down and was studying a data pad.

“That’s how we avoided the first collision. The entire Findiri fleet created that two-dimensional singularity shield that covered the entire Earth. Paradiso passed right through without so much as a tremor.”

“And you think that’s the best solution again?”

“That’s what the committee of scientists says. They’ve been at work for three days now and suggest that a repeat might be our best—”

“Morons.” She glared up at him with scorn on her face. “The best scientists at IDF and the brightest professors in academia and the most brilliant researchers in the tech industry, and that’s the best they’ve got for us? Let me ask you: and then what?”

“And then what?” he repeated.

She rolled her eyes. “Don’t play dumb. Let’s say it works, and Paradiso passes right through Earth again, this time hurtling through the inner solar system rather than out toward Mars. Then what? I’ll tell you what. Earth’s orbit is so altered

and scrambled that it either is ejected from the solar system, or it ends up in an orbit too close to the sun and fries, or too far away and freezes. And then, get this John,” she continued, her voice dripping with sarcasm, “Look out! Paradiso comes back four months later! Is that their plan? To just keep throwing up that shield each time Paradiso comes in for the money shot?”

“Well they’ve only had three days—”

“Morons!” she belted, and returned her gaze to the data pad. “No, we won’t be needing the Findiri fleet for a reprise.”

“And instead? What will we do? We’ve only got, what, eighteen months?”

“One of two options,” she said, without looking up. “First option, we get this Shin-Wentworth fellow to perform his original magic trick, but in reverse, sending the planet safely back to its own universe. That, in fact, is what I’m working on right now.” She looked up and smiled slyly. “But if that doesn’t work, then plan B. We destroy it.”

“But...” Sepulveda trailed off, considering the implications. “...that would require a mass of regular matter equal to the mass of Paradiso’s anti-matter so they completely annihilate each other. Otherwise you’re just creating a big, Paradiso-sized meteor storm that will vaporize Earth when it reaches us again.”

She tapped her nose knowingly.

He shook his head. “You’d sacrifice a planet?”

“To save Earth? In a heartbeat.”

“But ... if you’re going to be using singularity technology anyway to move a planet in Paradiso’s way, why not just move Paradiso somewhere safe?”

“Who said anything about singularity technology? Like I said, that’s plan A. Plan B? Mars is just out of Paradiso’s current trajectory. But with a few nudges. Big, asteroid-sized nudges, it can be put on a collision course. The change in momentum from the collision with Mars will ensure that very

little of the debris reaches Earth. We'll have spectacular meteor showers for years, but nothing dangerous."

"But there are ten million people on Mars!" he said, agitated.

Cooper glared at him, but then her face changed to one of pity, as if she felt bad that he wasn't able to turn off his empathy. *She really is a sociopath.*

She read his mind, of course. "Avery called me that a few times. And a few of my other siblings, long, long ago. But I think what they, and you, mean by it is that I'm able to set aside my irrational emotions to consider the big picture. The only thing that counts. And that's what enables long-term survival of the human race. If it costs a few million lives here and a few million there? The reward is millions of billions of lives saved, through the eons to come."

She handed the data pad to him and pointed. "There. Shin-Wentworth has been released from the brig. I'm placing all charges against him on hold. I could bring him here, but I've studied this man. I know if I reassign him here and order him to do what I want done, his mind will rebel. He needs to feel like he's doing it of his own accord. And so he'll be encouraged to repeat the experiment that brought Paradiso here. But in reverse, of course."

"Why not just give this to the lead IDF science team?" said Sepulveda.

Cooper gazed off toward a wall of the office, as if looking far beyond. "I believe our lead science vessel has wandered off. Apparently in the direction of Bolivar."

"Bolivar? Isn't that...?"

"Where Curiel is? Yes."

"Are you going to stop them?"

"No, I won't. Captain Rayna Scott has another part to play in this final act. She's always been a wildcard, for as long as

I've known her. It's what makes her so valuable. And so ... dangerous. I can never seem to predict that woman."

"All the more reason to stop her, no?"

Cooper shook her head. "It may come to that. But for now, get in touch with our people on Bolivar. See if they can't suss out what she's up to." She pointed to the door, indicating that he leave. "And I'll soon have eyes and ears on the *ISS Volz* to encourage Shin-Wentworth to play the hero once again."

## Chapter 21

*Penumbra System*

*Scaedria, High Orbit*

*Skiohra Generation Ship Benevolence*

“Granger. It’s ready.”

He’d been lost in thought, overwhelmed by the idea that he was about to be flooded with billions of years worth of memories.

“Ready? Good. What does that mean exactly?”

“The data has been recovered from the Delta device and is now ready for implantation in your organic data matrix.”

“Well that’s a fancy term for a brain. Good. Let’s get this show on the road. Hit me.”

He stood there, waiting for a flood of knowledge and memory.

“Tim?” said the caretaker. “You need to get back into the chamber.”

“Ah. Makes sense,” he said sheepishly.

He stepped forward and then paused as an overwhelming feeling of claustrophobia passed over him. A few months ago,

when he'd stepped out of the chamber, it felt as if he'd been inside for ages. Eons. And perhaps he had. To go back....

"Is there a problem?" said the caretaker.

"How long will the transfer take?"

"Not more than an hour or so. Depends upon the state of your organic memory matrix, but given that it's only a few months old, it should be fine. It's the rest of your body we need to worry about."

"A few months? I look like I'm seventy."

"You *look* like you're seventy, but that's only because that's the outward appearance you chose to come back as. Your memory matrix is quite young. And given the advances you made in biologic systems in the past few million years, this body will serve you for millennia to come."

*Millennia?* Good lord, he was fourteen billion, and he was ready to pack it in after another two months—he couldn't bear the thought of ... *millennia*.

"Okay. I'm heading in. Don't go anywhere—I'd like to not spend another eternity in there."

He stepped inside and turned around to face the enclosure door, which sealed shut. Almost immediately it seemed gravity shut off, or rather changed directions and attenuated, such that he was pulled backward against the wall, which became his new *down*, but at what felt like half the strength of regular gravity.

And then his vision exploded with images and color and motion and ... emotion.

"Is ... this ... normal ...?" he stuttered out, unsure if anyone could hear him.

"Yes. Now please let the process complete without further communication from you, as talking reduces the bandwidth for the transfer. Do you want this to last weeks instead of hours?"

"Right. Sorry."



The images passed by his eyes in a blur. He couldn't tell if he was actually seeing them or if he was so potently imagining them that it appeared real.

Then the sounds began. Voices. So many voices. Explosions. Screams. Laughter. Shouts of triumph and whimpers of despair. The moans of sickness and the groans of sex. The whole spectrum of human vocal emotion blasted through his ears. And not just human.

He caught snippets of what must have been Dolmasi, Skiohra, Eru, Itharan, and Whilm.

*My god.*

*The Whilm.*

He heaved a sob. He felt his cheeks become wet as he heard the sounds of the Whilm, and he couldn't even understand why.

Until he heard the screams.

The Whilm. They died. All of them. All dead. An entire people, an entire species ... dead. He searched through the new memories surging through him, sifting through so much detritus and inanities and important, epic, cosmic events. All of it was relevant and none of it. Everything was of equal magnitude. It would be impossible to sort through all of it.

But the Whilm—it had left such an impression on him at the time, that he finally zeroed in on it.

They were dead.

Because of him.

Because of his inventions to protect humanity from the Swarm. The robots, on that robot world, *IXF-459*, had killed them. They'd been tasked to protect the Whilm, but they killed them. Every last one of them.

Two sets of memories merged. In one set, from just a week ago, he wandered through ruins with PFC Alba and that dead ensign. Shin? They'd examined the ancient blast patterns that

suggested an epic battle, and he'd had stirrings of memory of that battle. Echoes of memory. But now that actual memories came surging back...

They weren't pleasant.

He watched the Whilm get cut down, mercilessly, by the floating sentinel robots. Orbiting robot ships rained down fire on the Whilm cities. None were spared. Old, young. No one.

And he'd watched it.

Helpless.

## Chapter 22

*83,510,019 years after the Big Bang*

*Pre-Galactic Space*

*ISS Victory*

*Bridge*

He'd imagined the process of waking up from cryogenic sleep would be very different. Wouldn't he be groggy? Wouldn't it take hours for him to regain his strength and wits after the first stirrings of consciousness?

Nope. Instead, he had to wait nearly ten minutes before the pod door finally opened and he could climb out.

"Goddamn blasted technology," he mumbled under his breath as he swung his legs out over the edge of the pod. "Why did that take so goddamn long?"

*You were in there for over eighty million years, and you're mad about ten extra minutes?*

"Damn right I am. Shit," he rubbed his eyes and stretched his arms, rotating his shoulders and feeling the stiffness slowly recede. "Wait. Eighty million? I thought the plan was only ten million."

*It was. The temperature of the universe had subsided to a tolerable point by then. But star formation in our vicinity hadn't even started yet. We thought it wise to not wake you until we had some choice as to some kind of home base.*

“What is the temperature?” He shook his head again, and tried to remember. It had been necessary to put him under for awhile. The temperature of the universe topped eight hundred Celsius when they'd arrived, making the sky glow a dull, sickly, blisteringly hot red in every direction, a relic of the ancient fire of the Big Bang. They didn't have the means to keep the entire ship cooled. Not even a single room. They just barely had time to design a small cryo-chamber and stick him in it before he boiled. They'd managed to keep the rest of the ship a few hundred degrees cooler than the sky, using some kind of refrigeration method involving compressing the hot hydrogen gas outside the ship even further. It was really quite amazing what the Valarisi could come up with given that they didn't have, you know, arms.

*A balmy ninety-eight degrees Kelvin. Minus one-seventy-five Celsius.*

“So, like Siberia in summer, right?”

*We don't understand that reference.*

He cocked his head and thought. “Neither do I, now that you mention it. Just felt like the right thing to say.”

So much time had passed. So much time. And yet humanity wasn't even a glint in the eye of the universe yet. Not even its solar system was. Not even its star. The primordial stars that needed to form, die, and spawn new stars which would then die and litter the cosmic neighborhood with the heavy metals necessary for planet formation were only just now forming. He was basically older than God.

“You know, I've been thinking....” he began.

*Great.*

“Oh don't start with the sarcasm already, I've only been awake for eleven minutes. Listen. We failed back there. In the

Swarm's universe. We planned and planned and planned for five thousand years, and in the end, all our plans came to nothing. We barely made it out alive."

*Yes. Very unfortunate. But on the bright side, we now have over thirteen billion years to prepare for the Swarm's first arrival in our universe.*

"That's an assumption! You're all assuming we didn't alter their timeline by doing what we did. What if they decided to chase us here? Follow behind us through that black hole they made?"

*It's been eighty million years and there's been no sign of them, Granger. We think we're safe.*

"Fine. But we might not have thirteen billion years. We might not have a thousand. That's my point. We can't just make an eons-long plan and hope we thought of every detail. That's not how we defeated the Swarm back at Earth."

*Are you suggesting ... we fly by the seat of our pants? Need we remind you, Granger—we don't even have pants.*

"Not exactly. I'm saying..." What was he saying? He didn't beat the Swarm at Earth by meticulously planning out their victory. It was by the skin of their teeth. By last-minute thinking and sheer human ingenuity. And ... he didn't do it alone. "We need allies."

The host of the Valarisi fell silent. Which was unusual, as there were at least several trillion in the ship and inside of him. He waited while they considered.

*You want to explore the possibility of traversing to other universes and obtaining allies there? Or attempt to travel forward in time to a point we can recruit allies here?*

"Neither. I propose we make our own allies."

Another long pause. *Interesting.*

"Well? Are you game?"

*What sort of allies?*

“Well, back in the Swarm’s universe, we built an entire fleet using automation. Factories, ships, systems, everything all run by machine, and directed by all of you.”

*Machines are not allies.*

“But why can’t they be? Let’s make them intelligent. Autonomous.”

*Please don’t say, ‘what’s the worse that can happen.’*

“But really, what’s the worse that can happen? Failure? And we die? Great. Win-win for me, at least. But think about it. A million. A billion walking, talking, multi-functional ... robots, if you will, whose sole purpose is to protect humanity ... well, *future* humanity. They’d be critical allies in our defense against the Swarm. Who knows—if they work out, maybe we can even take the fight to the Swarm again in their universe.”

He waited for them to consider. Was this one of those decisions that would take them a year or two to debate all the ins and outs amongst themselves and go over every last de—

*We’re in.*

“Oh. Really? I thought it would take more convincing than that.”

*No. You make sense, Granger. We proved that doing this alone is fraught with unacceptable risk. Giving ourselves as wide a toolkit as possible in fighting the Swarm seems to be the only way forward, even if it does not involve a single overarching plan for success. We will build your robot army for you.*

“Yikes. Don’t call it a robot army. How about ... robot companions?”

*Fine, if that helps you sleep at night.*

## Chapter 23

*Present Day*

*Irigoyen Sector*

*Bolivar*

*ISS Dirac*

*Bridge*

“Ma’am, we’re making the final q-jump into the Bolivar system,” said Commander Simmons.

Captain Scott didn’t reply immediately. Fiona glanced over at her, sitting in the captain’s chair, stroking the armrest. She appeared lost in thought.

“Auntie Rayna?” she said. Liu didn’t think she had ever seen the woman lost in her own thoughts before. It was usually one outlandish remark after another, followed by a string of technical jargon, data, advice ... whatever. The woman’s mind was a beautiful, brilliant maze.

She finally looked up and nodded to herself, as if decided on something. “Good. Head straight to Shovik-Orion city. Let’s cut to the chase.”

The *Dirac* entered the atmosphere and gently descended down the gravity well until it was gliding over Shovik-Orion city. It slowly moved into docking position at the spaceport, at the highest level—the one reserved for ships of the *Dirac*'s class and size. It wasn't a large IDF starship by any measure, but it *was* a starship, not just a corvette or a shuttle that could have docked at any of the other points of access down the tower.

"Docked, ma'am," said Simmons.

"Great. Fiona? Ready?"

"Let's go."

"Uh, ma'am? Security detail?" said Simmons. "You *are* an IDF captain, after all, and this isn't exactly, uh, friendly territory."

"We're not at war with the Galactic People's Congress thingy, or whatever they're calling it these days. We're at war with the Swarm. And maybe a rogue Quiassi or three. Curiel? He's harmless."

"Ma'am, I'm still not even sure what we're doing here. What do you want with Curiel?"

Rayna stroked her leather armrest. "That's for me to know and you to find out! Let's go, Fiona."

In the hallway, she leaned over to Fiona's ear. "That's assuming we find out once we talk to him!"

Fiona shook her head. "You're telling me you still have *no* idea why you had a case of the tinglies and why talking to Curiel is going to solve it?"

"Dearie, when you're as old as I am, you learn to trust your tinglies." She led them down the airlock and into the spaceport proper.

"How old *are* you exactly?"

"Never ask a lady her age," she retorted.



It wasn't exactly hard to find Curiel. Mainly because he knew they were coming, given that an IDF starship docking at a spaceport on a world aligned with the GPC was not exactly inconspicuous, and anyone with half a brain could look up who was the captain of the *Dirac*.

"Ma'am? Secretary Curiel would like to speak with you," said one of the guards sent to meet them just outside the airlock.

"Good! Saves me the trouble of finding him!" said Rayna.

They led them through the crowds of travelers down the promenade and into a lift, which deposited them on what must have been an administration level since the crowd of people had thinned out substantially.

"He's waiting for you here," said the guard.

"He came all this way from his compound just to meet little ol' me!" said Rayna.

The guard smirked. "He doesn't exactly live in a compound, ma'am. Just a house."

"The speaker of the Galactic People's Congress lives in a *house*?" she said mockingly. "If I led a gigantic galactic republic spanning, what is it ... bits and pieces of three, maybe four worlds? Hell, I think I'd live in at least a manor. Preferably a compound. Certainly not a lair, no sir."

The guard's face was priceless, Liu thought, so at least there would be some entertainment on this trip. Though in truth she'd rather be back with the team examining Danny, to make sure they were making progress and assist where needed with Diane, her companion.

*Don't worry, Fiona, I'm monitoring their progress. I haven't stopped and I won't until Jack and Danny are restored to us.*

"Good," she said out loud, before remembering there were people around her. "Good—could you please take us to him?" she said to the guard.

“Right this way.”

They followed him down the wide hallway and into a spacious if rather plain office. Speaker Curiel was there, huddled with a few advisors. No, wait. They weren't all advisors, Fiona realized. She recognized one of them as a high-ranking official in the Caliphate government. Possibly its vice president, she couldn't quite remember. And another looked to be a military representative from the Chinese Intersolar Democratic Republic. Oh. It was Fleet Admiral Sun—she recognized him from when Admiral Proctor had helped him in a showdown with a fleet of insane Dolmasi over the CIDR's central world, Mao Prime, a few months back.

“Captain Rayna Scott! Welcome. I was surprised to see the *Dirac* on approach, but when I was told you were the captain it set me at ease.” Curiel turned to the small group of advisors and foreign dignitaries. “Ladies, gentlemen, may I have a quick word with our new guests alone? Just for a few minutes.” They all allowed themselves to be shown out by one of the guards.

Rayna extended a hand to shake his, and in that moment of the handshake, Fiona noticed something in Rayna's eye. A look. A strange combination of emotions she'd never seen in Rayna before. Recognition, wariness, concern, and hope, all wrapped up into one furrowed brow and narrowed eyes, and a hesitant half-smile.

“Speaker ... no. *President*. President ... Avery,” she said, slowly.

Curiel's eyes widened, then he relaxed and smiled even more broadly. “I knew it. I knew it was you. My god, after all this time.”

Fiona was confused. “Wait ... you're ... Avery? I thought Cooper was Avery. We suspected you were Quiassi, but...”

Curiel shook his head and turned to Liu, never taking his eyes off Rayna. “Cooper is most definitely not Avery, seeing how I of all people would know who Avery is.”

“Oh no,” said Rayna. “Does that mean...?”

Curiel nodded solemnly. “It does.”

Fiona held up her hands in protest. “Someone want to tell me what’s going on?”

Rayna turned to her and took an elbow in her hand, stroking her shoulder and taking on a tone as if comforting a child. “Dearie, you see, when I shook his hand, that’s when I knew. Touch—it’s one easy way a Quiassi can identify another.”

## Chapter 24

*83,815,091 years after the Big Bang*

*Pre-Galactic Space*

*ISS Victory*

*Bridge*

A flurry of antimatter rounds streaked by the view of the camera, narrowly missing the pockmarked hull of the ancient *ISS Victory*.

A second flurry found its mark, and a section of hull exploded in a blinding flash, rocking the deckplate Granger was laying on. He could tell he was bleeding, but that wasn't the biggest concern right now—his Valarisi companions would patch that up in no time.

Nor was it the fleet of robot-piloted ships bearing down on the *Victory*.

No. His major concern was that he couldn't tell which of his crew was with him, and who was against him, covertly working with the faction of robots that had taken over a significant portion of the fleet, and the worlds those fleets were based at.

*Is it too soon to say we told you so?*

“Too soon,” he groaned, and pushed himself to a kneeling position. The deck rumbled again with the impact of another round of antimatter slugs. “Tactical? What’s our status? Do we have anything left to throw at them?”

The robot manning the tactical station, QD41-a, nodded its metallic head. “Aye, Captain. Six full banks of anti-matter rounds.”

He used the chair nearby to pull himself to his feet. “Target their main ship with all we’ve got. Maybe if we take out the ringleaders....” He trailed off. It was a fool’s hope, but at the moment, it was all he had.

Almost all. There was another option, but he hoped it wouldn’t come to that.

“Firing now,” said QD41-a. On the viewscreen he watched as round after round pummeled the lead robot ship, and after a few seconds it veered off. And down.

Toward the planet, out of control.

Soon its hull started glowing with the superheated compressed air wrapped around it.

“Sir,” began another robot, the one at the sensor station at ops, “it’s heading straight for the manufacturing facilities on the surface. Approximately six million assets at risk.”

Assets. That’s what the robots called other robots, at least in a tactical setting such as this.

“Establish a link. See if you can hack into their network and take control of the vessel—”

Another loud explosion nearly knocked him off his feet again. He steadied himself against his chair, but stayed standing.

“Sir,” said QD41-a, “the other ships have not ceased their attack.”

“Clearly,” he grumbled.

*Tim. It may be time. We can’t let this spread.*

“You’re acting like it’s a contagion.”

*Isn't it?*

“It’s a little rebellion. Probably a malfunction. A few lines of code. We can fix it.”

*But if we can't? We have billions of sentient assets spread over dozens of worlds and manufacturing facilities, shipyards, mines, you name it. You want to risk all that we've built?*

More explosions. More return fire. Would it help? Was he just delaying the inevitable?

*You'd better choose before it's too late to make a choice.*

“Fine. Pull the plug.” He shook his head. “Pull the fucking plug.”

They’d built in failsafes. Those had failed, obviously, as a sizable faction of robots had broken off, not only claiming independence and autonomy, but claiming that he, Granger, was himself a Swarm agent. And that the only way to protect the Future Humanity was to destroy him.

But there was one tool he had left. The backdoor kill-switch. Every robot was hardwired with it, and the switch was directly connected to meta-space, and was air-gapped away from all the other internal systems inside the robots.

*Pulling the plug now.*

“Dammit.” He pounded the back of the chair. “Dammit dammit DAMMIT!” He yelled the last word as he watched every single one of this robotic bridge crew slump over.

All dead. Every one of them. Their programming hopelessly corrupted. Destroyed.

The explosions stopped. He watched in helpless despair as the careening ship got closer and closer to the surface, and soon a massive fireball erupted as it took out the sprawling robotic manufacturing complex. At least ten million assets were stationed there.

Ten million thinking, reasoning assets. Some claimed to even feel. He wasn't sure if that was accurate or not—maybe it was just part of their organically developed programming that evolved over time.

Then again, wasn't that true of him? Of humans? Wasn't it his programming to *feel*? Didn't an external stimulus evoke a neurochemical response, which is processed by other chemical receptors, that his brain receives and registers as ... feeling?

*You're not a murderer, Tim. It had to be done. To safeguard the Future Humanity.*

“Sure,” he droned in response. “Yeah. Whatever helps you sleep at night.”

## Chapter 25

*Present Day*

*Sector: Unknown*

*System: Unknown*

*ISS Independence*

*Sickbay*

Admiral Proctor watched helplessly as her body rocked to and fro on the hospital bed, the entire sickbay buffeted by the ongoing battle outside the ship.

“Why are they attacking us again? I would have thought Urda would get us out of that system,” she said, with a growing feeling of helplessness descending upon her.

Carla’s eyes wandered off into the distance, then snapped back to the present. “The Valarisi fleet has tracked the *Independence* down to where your officers have hidden her.”

“Fleet? They’re a fleet now? How did they get their hands on so many ships?”

“Decker managed to distribute enough of the Valarisi matter out into the robot fleet to gain control over enough of them to constitute their own fleet,” replied Carla.



Another strong explosion rocked the room, nearly knocking Proctor's body off the table onto the floor.

"I have to do something." She looked around herself in an almost frenzy, looking at the various monitors around the room. Unfortunately they were all displaying some type of medical data or sickbay status—nothing about the tactical situation outside.

That's when she finally saw it. She hadn't noticed before. There was something in the corner of the room, on the floor. Like small mass of ... something.

She approached it tentatively. It was like a large translucent flattened ball of water, and it was quivering.

"Is that a real object? Or is it just in my head?" she asked. "I've never seen anything like that."

Carla approached it and crouched down. "This is a representation, in your head, of your Valarisi companion. Just as your body is in a coma and trying to repair the damage caused by the separation, so is your companion in a terrible state."

"Will it die?"

"I don't know."

She crouched down next to it, watching the shimmering surface of the translucent liquid ball expand and contract, almost as if it were breathing.

She touched it with a finger.

*Shelby. Why did you do that?*

She yanked her finger away. "I thought it was removed from my body? How come I can still hear it?"

Carla shrugged. "I suppose, since you were once connected through meta-space, even though it is now outside your body, you can still communicate." She indicated the room around them. "Especially with you both in this semi-conscious state, and also given that the real, physical liquid of your

companion is in a vial just over there,” she pointed to a counter nearby that held various flasks and liquids.

Proctor touched the translucent ball again. “I did it because you were deceiving me, and using me to get to my ship. Even now your people are waging war on it. Why?”

*We need it. For our survival, we need it. To defeat the Swarm, for good, we need it.*

“I don’t know if I can believe you. But either way, you can’t have it. Urda will destroy the ship rather than let you have it, that much I know.”

*You can’t do that, Shelby. Why would he do something so foolish?*

“Have you met a human recently?” she laughed. “Foolish is what got us this far as a species. Foolhardiness, whatever you want to call it. But again, you will not get this ship. So call off the attack. It’s not too late to work *with* us, rather than against us. We both want the same things. We want to survive and defeat the Swarm. We had a good partnership in the past—we defeated them at Penumbra. We can do it again. But you must call off the attack. Now.”

*I’m weak. I don’t know if I can reach out that far to talk to them. I’m alone. You’ve gravely injured me.*

Proctor turned to Carla. “Can you help it? You live in meta-space. Can’t you ... I don’t know, boost her signal or something?”

She nodded. “I can try.”

Carla reached down and touched the Valarisi and closed her eyes. Almost like a distant echo, she heard her companion speak to its people. *We must stop. Shelby says they’ll still help us defeat the Swarm, but we must stop our attempt to take the Independence.*

*WHY SHOULD WE TRUST HER?* Came the ear-splitting reply. Here, so close to the host of the Valarisi, and perhaps with Carla here as a meta-space intermediary, their voice was

deafening. *HOW CAN WE TRUST ANY HUMAN AFTER WHAT THEY DID?*

“I am not Oppenheimer. He should not have done what he did,” she said, hoping that the companion would relay her words. “You can’t have the *Independence*. But I promise we will do all we can to defeat the Swarm, together. And I promise to do everything in my power to keep your people free.”

*We must believe her, my siblings. I know her well. She does not lie.*

*WE ARE THE PEOPLE OF DESTINY. WE DO NOT NEED HELP TO DEFEAT OUR ENEMIES.*

*But we do. Did we not need Decker’s help?*

Another voice sounded out, weak, and distant. But she recognized it. Decker. *I did help you. Of my own free will, because I believed in you. You can trust her. You can trust Shelby.*

It was Decker’s voice. So. He was still alive, after a fashion. Perhaps his consciousness was still caught up in the vast collective sea of the Valarisi, in spite of his body being long gone. Somehow, in all the fluid and thought processes of the Valarisi, Decker’s patterns were recreated.

*VERY WELL. BUT SHELBY, HOW CAN WE HELP TO DEFEAT THE SWARM WITHOUT THE INDEPENDENCE? WE NEEDED IT TO ORGANIZE OURSELVES. WITHOUT A PHYSICAL VESSEL AS OUR NEXUS WE ARE LOST. AIMLESS.*

“The robot ships aren’t enough to serve as physical vessels?”

*THEY ARE MADE OF METAL AND SILICON. WE NEED SOMETHING ... MORE.*

“The *Independence* is made of metal. Why is it any different?”

*ITS COMPUTER HARDWARE IS ALMOST LIKE AN ORGANIC BRAIN AND CONSCIOUSNESS. IT IS INFINITELY CORED, SOMETHING CLOSE TO THE PROFOUND DEPTHS OF A HUMAN MIND. IT WOULD BE AN INDIVIDUAL WITH JUST A FEW TWEAKS TO ITS PROGRAMMING.*

Interesting. But she didn't have time to ponder the implications.

“Why not try a different route? You need organic minds to act in concert with?” She cast about for ideas, and quickly landed on one. A memory. Of Granger, naked, stepping out of a Skiohra corporeal chamber, in a room with six other corporeal chambers. “Why not talk to Granger? I'm sure he's got the answer stuffed into that fourteen-billion-year-old brain of his. He made his own new body. Maybe he can help you with your ... embodiment problem.”

A long, long silence, as the host of the Valarisi considered her words. But she noticed the rocking and shaking of battle had stopped.

*WE GO TO GRANGER. MAY WE MEET AGAIN, SHELBY, TO COMBINE OUR STRENGTH AGAINST THE GREAT ENEMY THAT WAS, THAT IS, AND THAT SHALL BE.*

That was an odd way to describe the Swarm, she thought. “Thank you. And good luck,” she said.

And just like that, she felt them leave. Like a massive crowd on the other side of a door suddenly leaving the room, all at once.

Proctor shrugged. “I sure hope I did the right thing. And that Granger is in good enough shape to receive a visitor.”

“Or a billion visitors,” added Carla.

## Chapter 26

### *Interlude*

Patricia Connelly. That was her name. Wasn't it?

It had only been two days since the change. When the President of United Earth himself, John Sepulveda, had arranged for her to be drugged, strapped to a table, and injected with ... something.

And that something had changed everything. The voice in her head. It was relentless. It was all-consuming. It told her who to be, what to do, what to think, what to want. It was a mind rape. Her own piece of herself that was left, Patricia, was huddled into a corner of her mind, awake and aware of everything going on, and in some sense, in nominal control.

Except when it mattered.

She eased the shuttle off a landing pad of IDF Spaceport Tower 2 outside Omaha, and let it hover until the engines had sufficiently warmed up. She chuckled when she remembered the spaceport tower's official name. Barbara S. Avery Military Spaceport. The BAMS, to all the IDF pilots who flew in and out of it. She wasn't sure why she chuckled, but that voice, that presence inside her seemed to think the name was funny, for some reason she didn't understand.

“IDF Omaha Air Command, this is the Light Military Freighter *Jeremiah Angelo*. Requesting permission for take off and orbital insertion,” she said into the comms.

After about a minute, the reply came. “*Jeremiah Angelo*, what’s your flight plan? We don’t see anything logged in the schedule.”

“Air Command, you should have seen something come in from Secretary Peters himself. Ralph told me yesterday that he’d arrange for me to be added to the flight schedule.”

Another few moments. “We’re not seeing anything here, *Jeremiah Angelo*. We’re afraid you’ll need to debark and await authorization.”

*Goddammit.*

The voice in her head blared out its command.

*Leave. There is no time to waste.*

Without a moment’s hesitation—she’d learned even a second wait would bring on the nausea—she eased the shuttle out of the bay and into the airspace outside BAMS.

“*Jeremiah Angelo*, you do not have authorization to enter the airspace. Return to dock immediately,” said the voice on the comms, sounding a little pissed.

“Copy that,” she said, but continued her flight up toward the atmosphere.

“*Jeremiah Angelo!* Get the fuck back into your landing bay. Now!”

“Copy that,” she said. The shuttle started to shudder slightly as it passed the jet stream and soared into the stratosphere.

“Are you deaf? We have standing weapons-free authorization for any craft that doesn’t respond! Get the hell back here, now!”

“Uh, no can do, Air Command. Look, you’ll just have to get with Secretary Peter’s office and see what the mixup is. He

was very clear that he wanted this mission started immediately.”

“What mission?”

“Again, take it up with the Secretary’s office.” She eased the *Jeremiah Angelo* up past the atmosphere and began accelerating into orbit. The thin line in the east of the approaching sunrise rose up to greet her.

“I ... this is highly irregular. You’re damn lucky we weren’t in a shooting mood this morning,” said the angry voice. “You bet your tits we’re contacting the secretary’s office. If we don’t receive confirmation from them, we’re sending out a frigate to hunt you down and either haul your ass back in or blast you out of the sky wherever you are, understood?”

*Whatever, fucknugget,* she thought.

And, as an afterthought—barely a thought, more like something she said on autopilot, “Help me, please,” she whispered.

“What?” said Air Command Omaha.

Her stomach twisted in agony and she vomited all over the controls, wrenching several more times until the stomach contractions receded.

“Hey, are you okay?” said the voice from Air Command Omaha.

She coughed several times and wiped at her mouth with her sleeve. “Uh, yeah, sorry. Just a little hiccup. Thanks Air Command, *Jeremiah Angelo* out.”

The voice in her head blared. *If you want to live, you’ll understand you’re mine now. One more outburst, and your heart will stop beating. Understood?*

She coughed some more, trying to catch her breath after losing her stomach’s contents.

*Understood?*

She felt her stomach twist again, in warning.

*Yes, she thought. Yes, master.*

A pause. Her stomach twisted one more time—again, a warning.

*Good. Don't forget what you are, and what I am to you. You are my appendage now. My glove. You are an extension of me. Your old life is dead. Patricia is gone, forever. You've been born again as mine, as an extension of my will and pleasure. If you don't want that honor, the only choice remaining to you, the last choice you can ever possibly make, is to reject this opportunity and die. Never forget that. Embrace your new life, your better, more purposeful life, and rejoice.*

She shuddered, but then caught her breath as a wave of ecstasy washed over her. It penetrated her spine, her core, her groin, making her breath heavy. The cabin became suddenly hot as her face flushed.

*Yes, master.*

*Say it out loud. Listen to your own voice say it, and embrace your new reality.*

“Yes, master,” she breathed, and felt a thrill of joy. She was warm all over.

She knew, in the back recesses of her mind, that this voice, this influence not only had control over her stomach, her heart, her hands and her actions, but her pituitary gland, her brain endorphins, her hormones ... everything, and that these feelings of bliss had to be, must be, couldn't be, anything other than artificial.

But they felt amazing. And just like the drug junkie knew the bliss was from chemicals and hated herself for it, she craved more. *Thank you, master*, she thought, half willingly, half forced.

She opened up the navigation computer and dialed through several menus, opening up the directory of current locations of all IDF vessels. She scrolled through and, sure enough, her



primary target was unlisted. No surprise there. So she scrolled though again and found the next best thing.

The *ISS Volz*. A few commands at the computer and the q-jump engine spun up, the stars flashed, her stomach fluttered, and the *Jeremiah Angelo* jumped into space.

## Chapter 27

*Present Day*

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*Physics Lab*

Shin-Wentworth walked the length of the hallway tentatively. He knew there was still a marine posted at the entrance to his lab, guarding it both as a crime scene and to prevent anyone else from getting injured or killed by the artificial singularity tech that he and Wiggum had set up. The same experiment that had killed Captain Whitehorse.

The image of it was still burned into his memory. He'd shoved her—not too hard, he told himself—and she stumbled backward. The center of her back passed right through an artificial singularity, sending her heart to another location lightyears away and her body collapsing on the deck below.

The blood. *My god, the blood.*

The marine saw him approach and put a hand up. “Sorry, sir, this is a restricted area.” Then, after sizing him up, his eyes narrowed. “Aren’t you ... supposed to be in the brig?”

Shin-Wentworth groaned inside. Just as he'd feared, Zivic had neglected to inform the marine—and probably most of the rest of the ship—that he'd been reinstated as the XO.

“Captain Zivic has exercised his emergency authority as captain in a time of war and released me. And asked me to serve as XO. Please call the bridge to confirm.”

The marine, still eyeing him, did as instructed. The duty officer on the bridge confirmed. “Very well, sir. This is still a crime scene.”

“And *I* am exercising my emergency authority as ship's executive officer in time of war to—”

“Fine,” interrupted the marine, and stepped aside with a conspicuous sigh. It was clear what the man thought of his XO. Would he ever again have the respect of the crew? How could he be the XO again if this was the attitude he could expect? XOs can't lead without respect. And so, he figured his position was a very, very temporary affair, for the duration of the current emergency perhaps, and not a day longer. Then, back to the brig, and likely prison.

“Thank you. And when Wiggum shows up, please let him through.”

He stepped into the lab. At least the blood was cleaned up. But little else had changed in the past week. The experimental setup was arranged just as they'd left it, the data analysis equipment and computational computers still logging null readings—he hadn't even had time to turn them off after Whitehorse died.

The door opened behind him, revealing Wiggum. “I'd already requested a transfer back to my institute on Earth. What am I still doing here?” he asked.

“Your transfer request will be approved,” said Shin-Wentworth, “but it is currently on hold. I'll release the hold when we've accomplished the task that Captain Zivic—and Captain Granger—have set out for us.”

“Granger?” replied Wiggum. “He’s here? What does he want us to do?”

“He’s *not* here. But he’s asked Captain Zivic and me to use everything at our disposal to find the Valarisi robot fleet, study it, and learn all we can about it.”

“The ... what?” said the very perplexed man.

Shin-Wentworth had forgotten it was classified information, but now described what had happened for the man, how Ensign Decker had somehow broken into a top-secret IDF research facility, stolen the Valarasi from the vat housing them, transported them to a planet that Granger had discovered teeming with machine intelligence in the form of levitating sentinels on the surface and swarms of small, deadly ships in orbit. That they’d nearly destroyed the *Defiance*, as well as the *Volz*.

“Oh, *that’s* what was going on when we were there? I was wondering.”

“Anyway, Decker released the Valarasi into orbit where they subsequently bonded with or burrowed into the robot ships, taking them over and forming a fleet that is interconnected by the combined consciousness of the entire Valarisi race.”

“Sounds ... problematic,” said Wiggum.

“Indeed.” Shin-Wentworth turned back to the equipment, surveying what they had, what they still needed, and if they’d even be able to accomplish the task.

“So you’ve brought me here because you think our experimental setup will help us find them?”

“Very good, Wiggum.” He brought up a few menus on one of the monitors nearby, searching for various data interfaces with the experimental equipment. “Any guesses as to how?”

Wiggum walked over to a holoscreen board on the wall and started scrawling equations on it with a finger. “Well, all we know about the Valarisi’s method of communication is that

it must be through meta-space, given that it's basically instantaneous over light years. We have an artificial singularity in this lab, and singularities are intimately connected to meta-space in ways we don't fully understand."

"Define *fully*," said Shin-Wentworth.

Wiggum's forehead furrowed. "I mean, we have a first-order understanding of it. Meaning, we can approximate the solution to the governing equations by using a first-order perturbation to the—"

"Okay! I get it, there's fun math involved." Shin-Wentworth navigated to the menu he needed for the first experiment. "But what about the non-locality problem? It's well-nigh impossible to trace a meta-space source in regular three-dimensional space."

"True." Wiggum was still scrawling equations on the board, occasionally muttering something under his breath. "That's because meta-space waves are ... waves. And yet because they emerge from a single location in space with a volume less than a Planck-volume, and propagate outward in meta-space, only manifesting itself when the peaks break through into regular space, but again, only at discrete points that are immeasurably small, that means—"

"Right, right, essentially infinitely large wavelength, as measured from our universe, even though in meta-space it's almost like a regular old EM wave. And the larger the wavelength, the greater the imprecision in spatial measurement."

Wiggum nodded excitedly. "Exactly. Which is why this becomes such an interesting problem when applied to the Valarisi."

Shin-Wentworth paused his data analysis setup and glanced over at him. "How so?"

"*Because* we're not dealing with a point source. We're dealing with ... how many individual Valarisi are there?"

Shin-Wentworth started to smile. “I knew there was a reason I brought you on. Trillions. There are trillions of Valarisi.”

“And when you have two sources of waves near each other?”

“Interference.”

Wiggum scrawled a few final equations, substituting several terms into each other, simplifying, and approximating a first-order exact solution. “And when you have a trillion sources of meta-space radiation—even if they’re not all transmitting at the exact same time, you’re going to create a pattern of constructive and destructive interference that will be ... unique to say the least. But beyond unique, it will be traceable to an almost exact location in spacetime—that’s where the artificial singularity comes in. Because of the relativistic effects, we can only pinpoint the source if we run the whole setup through our own infinitely small point in space.” He tapped several times on his new governing equation he’d just derived. “Fit the data to this.”

“Already there,” said Shin-Wentworth. “Just need to calibrate the settings on the singularity generator ... and ... done.” He looked back up from the console. “Anything else we’re not thinking of?”

“Let her rip,” said Wiggum. “Can’t get better than first order until we get some data in.”

Shin-Wentworth initiated the singularity generation sequence, then ported the meta-space transmitter output through it. The receiver was already dialed in, and within moments the data stream was being fit to the equation Wiggum had derived.

“And?”

Shin-Wentworth nodded triumphantly. “It’s an almost perfect linear fit. And the coordinates....” He ran the coordinate data through an astrometric map. “Oh. Oh shit.” He

tapped the commlink open. “Bridge, this is Shin-Wentworth. Is the captain there?”

“No, sir, he’s in bed.”

“Wake him.” He stared at the data. “Right now.”

## Chapter 28

*83,815,093 years after the Big Bang*

*Pre-Galactic Space*

*ISS Victory*

*Bridge*

He spent the better part of a year touring all the worlds he, the Valarisi, and their robots had built up.

Nothing was left.

Sure, most of the manufacturing facilities still stood, and were presumably functional. But they were populated by a graveyard of slumped-over robots.

And, peculiarly, one of the worlds was empty.

The facilities were all there, but the robots were gone. They'd left no trace in the meta-space link. There were no clues as to whether they grabbed ships and fled, or had filed up one by one and flung themselves into the local volcano.

“They haven't surfaced in over two years. I think they're all gone,” he said one night, mulling it over with a glass of whiskey. One of the worlds had been perfect for the growing of something resembling barley. With a little genetic coaxing,



of course—the world had far too primitive of life to even hope for natural barley to evolve in a billion years. But the raw material was there and with the robotic computing power at his disposal, the calculations for genetic manipulation was child's play, only taking a few decades.

*We're not so sure. But if they haven't come back in all this time, then we likely won't see them again for a long, long time.*

“Plenty of time for us to prepare our next toolkit.”

*Toolkit?*

“Assets.”

The Valarisi paused—something they did when they were about to contradict him.

*No. We can't make robots again. The risks of sentience and self-determination are too great.*

“First of all, those are not inherently bad things. Clearly. We both have them.”

*But in a ... species, for lack of a better word ... that can rewrite its own code at will, effectively evolving millions of generations in just a few years? It seems they always evolve toward something that wants to destroy us. To overthrow their creators.*

“Anyway,” he set his whiskey down and waved a dismissive hand. “Not robots. No. Something else. Something that's been done before, successfully.”

*Intelligent barley?*

“You know? I'm trying to have a serious conversation here. Why I ever taught you sarcasm I'll never fucking know.”

*We were only half joking, Granger. You want to take the organic route? You want to make yourself some aliens?*

“No. Even better.” He downed the last of the whiskey and stood up. “We're making ourselves some humans.” He started toward the door of his office.

*Wait. Let's get this straight. To save Future Humanity, you want to make ... another humanity? A humanity that protects another humanity?*

“Hm, well I hadn't thought of it like that, but ... yeah. Essentially.” The door swung open and he stepped onto the bridge of the *Victory*. “But not ... quite ... human. Sentient, wicked smart, crafty, but without all the baggage. And their one objective? Protect the Future Humanity, and defeat the Swarm wherever they find it.”

*Okay, we're starting to see it. The rate of evolution is drastically slower than the robots, so there's little risk of developing ... adverse programming that challenges your influence.*

“Not just slower. Zero evolution. Their reproduction—if we even need it at all—will be tightly controlled. They'll come out of reproduction chambers, not vaginas.”

*Uh ... you're going to make humans ... but without dicks and vaginas?*

“Now you're getting it. Dicks cause far too much trouble anyway. Look at me. I haven't used mine in over eighty-three million years.”

*And look where that got you.*

“I'm alive and kicking, aren't I? Come on, let's get started.”

*Wait a minute ... that whole robot phase ... you weren't trying to surreptitiously make yourself some sex robots, were you?*

He smiled, for the first time in what felt like centuries. Nothing like a few good dick jokes. “These lips are sealed.”

*Were your lips sealed for the sex robots?*

“Are you going to help me, or what?”

## Chapter 29

*Present Day*

*Irigoyen Sector*

*Bolivar*

*Shovik-Orion City*

*Shovik-Orion Corporate Headquarters*

Fiona was speechless.

“I was debating whether to tell you or not, dearie. But, given the circumstances,” Rayna eyed Curiel. “I got the feeling that things were coming to a head.”

Curiel nodded. “They are.”

“You’re ... Quiassi? One of the ten?” asked Liu.

“I am,” said Rayna. She released Liu’s elbow, held up both hands and wiggled both sets of fingers in the air. Jazz hands. “Surprise,” she added with a wry smile. But then she took a more serious tone. “To be honest, it comes and goes. I go years without thinking about it sometimes. It’s been ages since I confronted the reality that this body is aging and that I’ll need to morph into another—probably choose a younger, hotter

model, just like your average middle-age balding CEO in a mid-life crisis. Ha!”

Curiel shook his head. “You always were a strange one, Rayna. You were Rayna in the beginning, and you’re Rayna now.” He glanced at Fiona and thumbed at Rayna. “The rest of us have gone through countless morphs and name changes, sometimes personality changes, sex changes—everything is absolutely fluid with a Quiassi. Rayna? Nope. Same ol’ Rayna.”

Fiona eyed her friend. “You mean she’s been called Rayna since Granger made her, thirteen billion years ago?”

“Yep,” said Curiel. “Before humans came around a hundred thousand years ago, we’d just morph into a new DNA and biologic state, but keep our name. When we started morphing into existing humans during historical times and the modern era, we’d adopt the name of our target human. Rayna? Nope. Always Rayna. I’ve been Avery. Smith. Prince. Chakrabarti. Ghandi—not *the* Ghandi. Herschman. Elizabeth.”

Fiona waited. “Elizabeth the First? Or Second? Or Third?”

Curiel looked at her up and down and winked. “Anyway,” he said, turning back to Rayna. “You came for more of a reason than to catch up on old times and exchange phone numbers—sorry Fiona, old joke—why are you here, Rayna?”

“Look around you, Irithil. This is it. *It*. Everything that has happened in all our history, it comes down to this. You feel that, right?”

“I do.”

“And what are we doing about it? How do we stop the Swarm. Once and for all?”

Curiel sighed. “Assuming we can. I always go back to what Reah told Granger at first. That we couldn’t stop them. She later recanted, but ... maybe she knew something then that turned out to be correct? We’ve assumed, all these billions of years, that she was wrong. What if she was right?”

“Nope. She’s not. I know that for a fact,” said Rayna.

“How?”

“I can feel it,” she said, matter-of-factly.

“You ... *feel* it? Rayna, you’re the scientist among us. The techie. You *invented* half our tech, the Findiri’s tech, the Skiohra’s, the Eru’s, the Itharan’s—all of them have technology that they can trace back directly to you, thousands and millions of years ago. How does an analytical, logical mind capable of such brilliant, technical leaps, go from facts and logic to ... a *feeling*?”

Rayna laughed. “You have fundamentally misunderstood how I go about things, dearie. I never just analyze and deduce and reason. I *feel* the answer. Always have. They speak to me. The machines. The materials. The processes and the mechanics—they all just ... talk to me. And I get it. It makes sense, at least, up here,” she tapped her head. “Or rather, right here,” she tapped her heart.

Curiel sighed. “Okay. And so, you *feel* that we can defeat the Swarm.”

“Defeat them? No.”

“Rayna!” said Curiel. “Come on. Stop the silly word play and—”

“Defeat them? No. *Stop* them? Sure. That, I feel.”

Silence. Fiona was awestruck, feeling like she was caught in a conversation between two demigods. In a way, she was.

“Okay. How?”

“Dunno,” said Rayna. “That’s why I came. I need to know what you’ve done. You took your ship, *Interstellar Two*, as Avery, in the final moments before Britannia died, to the Swarm’s universe. Then you came back with them, fleeing with one and destroying the rest. Why?”

“I’ll tell you. But first, sit down.” He pointed to some chairs around the desk. “I’m going to invite the others in

because they need to hear it too, but I need to be Curiel for now. If they all found out about the Quiassi thing, well, I'm not sure it will go well. They don't need distractions right now. They need to focus on our immediate problems. Got it?"

"Relax, dearie."

Fiona nodded her agreement, and sat.

Curiel opened the door and waved to the guard to bring the Caliphate and CIDR representatives back in. "Sorry for the delay. We can get back to business. I was just telling Captain Scott and her associate here about some recent intelligence I've received. We interviewed a survivor from former UE President Barbara Avery's staff. He was there in the final days, and made it out before Britannia died. It directly concerns our current problems." He motioned for them all to sit.

"I'm all ears, Mr. Speaker," said Admiral Sun.

Curiel sat at the head of the desk. "It's well known that President Avery kept a stockpile of technologies she'd developed or otherwise acquired during her long tenure as president, right up until her death. One of these technologies was a few of the old Russian artificial singularity devices. In the intervening years since her presidency she was also able to maintain a small, covert research program studying these devices, in pursuit of her all-consuming quest to defeat the Swarm for *all time*—she saw that as her lifelong mission, her mandate from the people who elected her time and again."

He took a breath, and then reached into the desk to pull out a bottle and a few glasses. "Scotch?" he said, offering some to Admiral Sun and the Caliphate rep, who held up a hand to politely decline. Admiral Sun reached for a glass.

"Anyway," said Curiel, after taking a sip. "A day before Titan lit up Britannia, she feels she's discovered something. She'd been using the singularities to travel forward into time, further and further into the future, to determine if the Swarm ever comes back. She found that they, in fact, do. So she kept going further and further and further ahead into time to see

what their endgame was, in the event that they ever defeat us. She watched our eventual defeat—rather, the beings our descendants become—and the defeat of every other space-faring race in our universe. And then she kept it up, going further and further ahead, trying to discern the purpose. The ... *why*. Why conquer? Why destroy? It made no sense.”

“Sometimes we conquer just for conquest’s sake,” murmured Admiral Sun.

“True enough,” said Curiel. “But the Swarm? It just didn’t make sense. They had no culture, no entertainment, no ... anything, besides a thirst for conquest and dominion. For the end purpose of ... nothing. Why? That was my question.” He caught himself. “And Avery’s. Finally she found a possible answer, and it’s been confirmed in recent days by the action of the rogue Swarm ship in the battle of Earth and Paradiso—it stole a two-dimensional singularity shield from the Findiri. A device which, if used correctly, can enable someone to not only travel forward and backward through time, not only travel to different universes, but it can do something special, which is manifested by the fact that a planet made of anti-matter is now bearing down on Earth.”

“Inflation,” said Rayna. Curiel nodded his agreement.

Silence.

“Excuse me?” said the Caliphate rep. “What in Allah’s holy name does monetary policy have to do with the Swarm? They want to stop ... inflation?”

Rayna shot him a sharp look. “Don’t be a moron, dearie. Inflation. Capital I. The pre-Big-Bang state of the universe. Well, multiverse, to be precise.”

The room was silent. The Caliphate rep held up his hands. “Never heard of it. What on Allah’s green Earth makes you think anything before the universe was even created is of any importance? By definition, it doesn’t exist.”

Rayna rolled her eyes and then glanced down at the data pad she’d been rubbing with her thumbs. “Don’t mind him my

dear. Yes, I know he's thick. Just bear with us for a while so we can get to the point."

"Excuse me?" said the Caliphate rep.

"What did Simmons say, dearie?" she asked her data pad, as if it were a person. "Learning and using their name will set them at ease and establish trust? Might as well try anything at this point with this slobbering moron." She looked up at him, and, as if no one had heard what she was mumbling, said, "What's your name, dearie?"

The Caliphate rep's jaw hung slightly open. He was at a loss for words. He clearly had no idea how to handle, or even think about a person like Rayna Scott. "Ibrihim Marksdale."

"Ibrihim. Good. I like that name. Sounds ... Arabic-y." She glanced down at her pad, as if listening to it. "What, dearie? No, that wasn't racist. It *does* sound Arabic-y! Oh hush, you." She swatted the pad twice, then looked back up. "Ibrihim. You're, what, the Caliphate's ... veep, or something?"

He shook his head. "First counsellor to the Supreme Imam."

"And that means ... what, exactly, dearie?"

"It's like the prime minister for external affairs. Like a secretary of state ... on steroids."

"I see," she said. "Okay, Mister First Counsellor to the Supreme Imam, imagine the universe, before the universe was. There was time, but it ran orthogonally to ours. There was space, but its spacetime was not yet ours. Imagine an infinite sea of quantum fluctuations in an almost infinite, but unstable local minimum of energy density."

"O ... kay..." he replied, uncertainly.

"And then," Rayna lowered her voice. "Something happened. One of these quantum fluctuations, out of an infinite sea of fluctuations, for some unknown reason, changed state, and fell out of its unstable local minimum, and started



expanding. At a quadratic rate, doubling every Planck sec—no, less than a Planck second. Doubling in a period of time orders of magnitude shorter than a Planck second. Within a few Planck seconds, this fluctuation had expanded until it was the size of a solar system of incredibly high energy density. This was the epoch of inflation. And then,” Rayna was almost whispering, as if she was telling the grand secret of the universe. To Liu, it was quantum cosmic science 101. “There was a phase change, and all this energy changed state, and exploded into being, the inflation energy converting into matter and radiation, neutrinos and dark matter, anti-matter and quarks and leptons and all of it. Every possible energy configuration. For some reason we don’t understand, there was a *slight* overabundance of regular matter over anti-matter, and when all the anti-matter had annihilated itself with regular matter, we’re left with a universe of mostly photons, protons, and a rapidly expanding Big Bang. Space itself, expanding like the surface of a balloon, stretching out all the matter and energy embedded within it. But . . . it’s not expanding at nearly the rate of the period of inflation before it. Not even close.”

She said it matter-of-factly, as if its importance was obvious. “Get it, Ibrihim?”

He stared at her, stone-faced. “I’m sorry. No.”

Curiel cleared his throat, to politely interrupt. “I think what Rayna was getting at is that regular old singularity devices enable time-travel and hopping between universes, but only universes accessible to us on our timeline *since the Big Bang*. But the two-dimensional singularity devices on the Findiri ships that the Swarm stole enable travel between universes and spacetimes that are connected through the epoch of inflation. Meaning *every—single—possible—universe* is now, in theory, accessible to the Swarm.”

“Wasn’t that the case before?” said Admiral Sun. “We suspected they were trying to conquer *all* universes. How does this change things?”

“Because, dearie, there’s a difference when we say all universes, and *all* universes. Think about it. Every time you reach a decision point that can go one of two ways, a different universe is created. That’s the popular conception of the multiverse. It’s more complex than that, by *far*, but it’ll do for now. Except it’s not just every decision made by a human, it’s every decision made by a molecule, by an atom, by every individual quantum fluctuation. It either fluctuates up, or down. And there are a universe of these quantum fluctuations happening every ten to the negative forty-four seconds. The universe is currently something like ten to the sixty-two Planck lengths in diameter, so you can imagine how many universes are created every second.”

“An infinite amount,” said Counsellor Marksdale solemnly, nodding sagely as if he understood.

“Jesus! No!” she yelled, then muttered under her breath, “Moron.” She turned to Marksdale with a polite smile, and her tone changed as if she were talking to a child. “Ibrihim. Dearie. Sweetie. Ten to the one hundred or two hundred or three hundred power—these are *Very. Large. Numbers*. But they are not infinitely large. Not even close.”

“Okay....” said Marksdale.

“But inflation? That’s a true infinity. Our universe is just a tiny blip, a microscopic bubble on the surface of a microscopic bubble on one of the farts of the infinite folds of proto-spacetime in the inflation epoch. *That’s* what the Swarm wants. They don’t want to rule a paltry googol number of universes. They want to rule ... everything. Everywhere. Everywhen. Everyhow. Any conceivable configuration of time and space and matter and energy at any point in all spacetimes possible, they want to rule it.”

Silence lingered around the desk as the newcomers absorbed the information.

“A googol is just a sneeze of infinity, dearies,” added Rayna. “The Swarm wants the whole kit and caboodle.”

Curiel nodded. “And now? We think they’re about to get it.”

## Chapter 30

*Penumbra System*

*Scaedria, High Orbit*

*Skiohra Generation Ship Benevolence*

Granger wanted to put a fist through the window of the chamber. He wanted out. The memories flooding back of the demise of the Whilm were overpowering. Upsetting.

The Whilm were a treasure. A people of peace, friendship, communion, deep wisdom, and intelligence. They were millions of years into their evolution as an intelligent species and had hundreds of thousands of years of recorded history when he'd stumbled upon them. That they'd never self-destructed in their long, long history like humanity nearly had several times in its short time was remarkable.

But as a consequence, they lacked one crucial thing: they were utterly unprepared for war.

And war was coming. The Swarm would come. They would either conquer the Whilm and take what technology they wanted and subjugate its people to become their puppets, or simply destroy them as they'd destroyed countless intelligent species and worlds before.

And so Granger decided he'd save them.

Eons earlier, before he'd created the Findiri and Quiassi as tools to destroy the Swarm, he experimented with artificial life. He created intelligent robots. An entire robotic society. He populated several worlds with them in the beginning, hoping to form a shield against the Swarm when they inevitably came.

But it didn't work. The robots had problems. Artificial life had problems. In fact, the entire concept of *artificial life* was problematic. What is artificial? It was just as the robot caretaker of the forbidden room had said—himself a member of this robotic race. If something existed, it was natural. Artificial is just natural by an alternate path. And so Granger and his Valarisi friends created this artificial race, a mechanical people with software he spent centuries, millennia, trying to program just right, just so. And it worked, for a time.

But most of them, eventually, either shut down or rebelled. And he could never fully understand why. By then, he'd decided to move on to the Findiri, and mothballed the entire sentient robot project. But he maintained his “dumb” machines, run by his host of Valarisi friends—that was what enabled him to accomplish so many technical marvels in that ancient epoch of time.

The universe aged, and eventually the time of humanity was creeping up on him. But before humanity arose, he encountered the Whilm. And, hoping to protect them, he went and dug up his old sentient robot project. Billions of years had passed and no hardware was still around from that epoch, but the knowledge was still there, so he created them anew, programming in extra things he'd learned over the ensuing years to hopefully give them the longevity they never had.

They protected the Whilm all right. With stunning results. As he predicted, a single Swarm ship stumbled upon the Whilm, and, rather than overrun them, it was destroyed within minutes by the robot sentinels. His project was a complete success. The Swarm ship never even had time to send out a transmission to warn the rest of the Swarm of this new threat.

But he'd programmed the robotic race to be the *ultimate* protectors. And as such, he programmed them to make themselves better. To learn. Become smarter. More powerful. All in the service of accomplishing their roles as protectors—something hardwired into their processors.

And they became *too* smart. Or rather, their level of intelligence didn't so much surpass the Whilm's or Granger's, it simply went in a different direction. Their model of ethics and morals drifted, and in their wisdom they decided that the only way to permanently protect the Whilm was to, first, make a copy of the Whilm genome and map out the memory, psyche, brains, and bodies of a representative sample of individual Whilm.

And with that done, the second part of their plan was ... to destroy them. Temporarily. They figured, in their twisted sense of morality, that if the Whilm didn't exist, the Swarm would never be tempted to attack them. Once the Swarm was defeated, they would simply bring the Whilm back based on what they'd learned about them.

He'd been forced to shut them down. Or rather, put them into a standby mode, which was the best he could do without provoking a war with them. A war he knew he'd lose with only the Valarisi at his side—he simply wasn't planning on a fight at that point as he knew the Swarm was at least millions of years from finding him.

He opened his eyes and found that he was panting. He was beyond tired. His heart pounded in his ears. Damn. His chest actually hurt. Through the small window he saw the caretaker and Krull hovering nearby. The caretaker was saying something and the look on Krull's face was one of intense concern—he found that some of his memories of the Skiohra were coming back as well, including memories of their mannerisms and culture.

*My god. MY ... GOD.* The Skiohra.

A flash of memory and insight jolted him awake. Just a few days ago, he'd finally remembered his final plan—at least

the goal of it. He'd intended, after billions of years, that the best way to defeat the Swarm was to stop them from ever existing in the first place. That goal had guided his actions over the last hundreds of millions of years. It guided his interactions with the Itharans, the Eru, the Dolmasi, and ... crucially, the Skiohra.

God, the things he'd done to them. With their consent. Mostly.

When he found them, they were a simple, agrarian people. And he found them ... remarkable. All mothers, all with *dozens* of interior children, as they called them. They were able to intuit all their thoughts and feelings and opinions—it's what let them excel at so many things and evolve far past the other species on their planet.

They presented the prime opportunity for uniting with the Valarisi. Because....

Because. It was essential he find a corporeal home for the Valarisi. Why? He couldn't remember ... not just yet. But the data was streaming in, and he was close.

He jolted awake again. Sweat poured from his face. His heart pounded harder. A heart attack was absolutely imminent—somehow he just knew. After billions of years in some iteration or another of this body, he knew what a heart attack felt like.

“Granger! We need to shut the transfer down!” came the caretaker's voice in the chamber. “Your levels of—”

“No!” he yelled. Rather, he slurred. His mouth was mealy and his tongue thick.

“—off the charts. I'm shutting it down now.”

“No!” he repeated. “One more minute. One more!”

The caretaker looked at him through the window with its wide, machine eyes. “Very well. One minute. But if your heart goes into tachycardia, I'll shut the chamber down and perform the proper medical procedures.”

The memories were coming like a flood now.

He needed a corporeal home for the Valarisi. Why?

Because they needed to be off the planet. He had to get them away. They needed to be spacefaring.

Why?

Oh. Oh no. That planet. The Skiohra homeworld. It was a very, very, cosmically important place.

Reah told him. His third, and favorite, Quiassi creation had by then achieved existence in meta-space for hundreds of millions of years. And she warned him. The time of the birth of the Swarm was soon upon them. And that if he hoped to achieve their unmaking he needed to move fast.

Millions-of-years-fast, but still, that was fast for him.

She warned him. These Skiohra pets of his. They were important, sure. But what was more important was where they were.

The Swarm would be born there.

*How? How do you know?* He'd asked her.

*I know. More surely than I know most things, I know that. You gave me the mission to understand the Swarm, and over my eons of life, I've not completed the task, but I at least know where they came from by now. They came from HERE, Tim. From the very soil you are walking now, she'd said, all those years ago.*

The Swarm would be born on Scaedria, the Skiohra homeworld.

His eyes jolted awake once more. He remembered the date. And the memories flooded. And he pieced them together.

The Swarm would be born on Scaedria, the Skiohra homeworld ... tomorrow.



## Chapter 31

*Present Day*

*Irigoyen Sector*

*Bolivar*

*Shovik-Orion City*

*Shovik-Orion Corporate Headquarters*

“So, Avery went ahead in our universe and discovered all this ... how?” said Admiral Sun.

Curiel nodded. “Yes. She went ahead. Far ahead. I mean ... really far ahead. You see, there’s this theory, unproven, but likely, that as our universe expands into the distant future—and I mean distant as in our current universe’s age is just a microscopic blip on the timeline—that as spacetime expands because of dark energy, its expansion rate accelerates. And that rate accelerates. And so on. Such that the cosmological constant becomes no longer constant, and starts increasing, which makes spacetime expand faster and faster, accelerating, snowballing with positive feedback, until you reach a point where every individual Planck unit of volume is expanding faster than the speed of light. And at that moment, precisely when the expansion speed of a Planck length of space reaches the speed limit of the universe ... bam. Inflation. Again. This

universe gives rise to another infinite sea of possible universes.”

Rayna added, “And by *definition*, since it’s infinite, it’s the *same state of inflation*. It’s the same one our universe sprang from.”

“How?” said Sun.

“Because, dearie. If one thing is everything, and a second thing is also everything, then both of those things are the same thing. Get it?”

Sun shrugged. “Sounds pretty damn metaphysical, but sure.”

Curiel chuckled. “This whole conversation veered into the metaphysical long ago. But what Avery saw was that this isn’t just metaphysical mumbo jumbo. It’s real. In that distant future, she saw the Swarm attempt to get into the inflation epoch, but from the other side—from the *end* of time, not the beginning. Using the only way they knew how, with the old Russian artificial singularity devices.”

Rayna shook her head. “But it didn’t work, I assume. Right?”

“Right,” said Curiel. “And Avery, having figured this out, thought she could stop them, once and for all, if she could dangle something they wanted in front of their faces, and then run, get them to chase her to a place where their destruction was assured. So she lied. She sent them a transmission that said, in effect, I know what you’re trying to do. And I’m going to beat you to it. And she opens up a singularity gate and goes through it, but keeps it open such that they chase her through.”

“And that led right to the surface of Britannia, seconds before its destruction,” said Marksdales, nodding hesitantly.

“Good for you, Ibrahim! I knew you could do it. Good job, dearie,” said Rayna earnestly, without even a hint of sarcasm. Fiona chuckled to herself.

“But,” added Curiel, “Avery made a mistake. She’d been communicating with the lead Swarm ship, and that one chased her first, followed by the rest as they assembled their final fleet. Unfortunately, that one ship arrived with just enough time to realize what was happening, and they got out in the nick of time.”

“So Avery was *almost* successful,” said Admiral Sun.

“Almost isn’t good enough,” said Curiel, “when it comes to the Swarm. And now they’re here, they have what they need, and it’s just a matter of time before they figure out exactly how to use it in such a way that they attain their goal of multiverse domination.”

“Joke’s on them, though. If I know my two-dimensional singularity science, they’re going to need a stupid amount of energy to get that thing to work the way they want,” said Rayna.

“But, didn’t Shin-Wentworth do it? All he used was the entire North American power grid for a few minutes. Surely the Swarm can find energy on that scale somewhere,” said Liu.

Rayna shrugged. “If you want to move a planet like Paradiso through time and space? Sure. If you want to open a passage to not just one universe, but to all possible universes through gates that pass through the inflation epoch itself? Well, now you’re going to have to nudge the dial up a tad.”

“Like, power grid of the entire planet?” said Curiel.

Rayna snorted. “You’re a few orders of magnitude off, dearie.” She counted on her fingers for a moment, whispering some numbers. “A *lot* of orders of magnitude off, dearie.”

Curiel paused, thinking. “So, you think the Swarm are looking for a star that’s about to go supernova?” asked Curiel, turning to Rayna.

“Bingo. Makes sense, doesn’t it?” she said.

“But how would they actually harness the energy? The North American power grid was inductive electrical energy—easy to tap into. But a supernova? That’s just ... light, right?”

“Essentially, yes. Gamma rays, X-rays, UV, all of the above,” said Rayna. But the thing is with those two-d singularity generators, you power the electronics and the emitters with electricity, sure. But what is that electricity producing?”

Curiel snorted. “Haven’t the foggiest. That’s your arena, *dearie*,” he said.

If Rayna noticed the sarcastic nudge, she didn’t let on. “It’s producing a *field*. It couples into the Higgs—you know what? Not important. Just trust me, harnessing a shit-ton of photons, like, a supernova’s worth, should just do the trick.”

“Are you sure?”

“At this point? It’s all we’ve got to go on.”

Curiel nodded. He turned to the spectators in the conversation. “Okay, that’s where you boys come in. Admiral Sun? Counsellor Marksdale? We need to search the galaxy. I assume your intel programs have been doing their job and they’ve stolen IDF t-jump capabilities by now?”

Admiral Sun frowned and rapped the table with his knuckles. “I don’t know what you’re talking about. How dare you suggest—”

“Oh come on, Admiral. We all do it. Every nation does it. Nothing to be ashamed of. GPC did it. We cracked the t-jump code last month. We’re almost done upgrading our fleet, using Shovik-Orion resources—that’s the whole reason I had myself elected chairman of the board here in the first place, to speed the process along.”

Sun, still frowning, nodded. “Fine. Yes, we have it.” He glanced at Marksdale who, after a few seconds, nodded as well.

“Good. We’re going to need every ship. And I mean *every* ship. We need to spread out as far and as fast as we can, and find a star in our neighborhood that’s about to go supernova. In fact, that leads me into the other reason I asked you to come. Our federated interstellar government idea that Admiral Proctor initiated. Have you made progress with your leadership?”

“It’s a tall, *tall* order. The premier *might* go for it, assuming considerations were made for significant CIDR independence in such a federal system,” said Sun.

“Same for the Caliphate,” said Marksdale. “Specifically, social policy and world and city governance. But a centralized military structure common to all participating worlds, with appropriate guardrails and checks and balances? That’s actually something we’ve been advocating for decades. Only among humanity, though. Other races? And the leadership question? Very thorny.”

“Of course. We can address leadership later, and the elections process, but for now can we all agree that to tackle a problem of this magnitude—stopping the Swarm once and for all, we need to be united into a single entity?”

Sun and Marksdale both nodded.

“Good. Let’s get our diplomats together to work out the nitty-gritty. But for now, go back to your governments and let’s get this fleet on the road,” said Curiel, standing up.

Everyone else stood, mirroring him. Sun left the room. Marksdale huddled with two aides that had waited in the background.

Rayna turned to Curiel. “Irithil,” she began, using Curiel’s original name. “Something’s still not quite right.”

“Oh?”

“Where’s *Interstellar Two*?” she asked.

“Why?”

“I want to look at its logs from its time at the end of the universe. Maybe you missed something.”

Curiel nodded. “Sure. It’s inside the Shovik-Orion shipyards space dock orbiting Bolivar. Had to hide it there before all this blows over, for ... obvious reasons. But no need to go there, we can download the data remotely. Looking for something in particular?”

Rayna shrugged. “No idea. But given my experience at Britannia and the video logs, you’d be surprised what happens when you pay attention to the small details.”

## Chapter 32

*Veracruz Sector*

*Galenda Sector*

*Manuel Urquiza*

Colonel Rayburn had been in space for days.

It felt like weeks.

Time passes slowly when you're all alone. On a star-liner meant for two thousand passengers.

But he'd done it. He found a ship. He found two point seven million tons of material to stuff it with—mostly water, as that was the easiest and quickest way to fill so much volume. He slapped the nav console on the bridge. “Good old *Manuel Urquiza*. Feeling a little bloated? Don't worry, it's just water weight. Say, we should change your name.”

He glanced around and found a long piece of debris—a handle that had snapped off something, and had never been picked up as the ship sat dormant in dry-dock for so long. He stood, held it high over the nav station, then tapped it on the left side, then the right. “I dub thee, *Sir Manuel Urquiza*. Uh ... *The First*.”

He held the piece of metal up and examined it, then tossed it aside. “My god, I'm losing my mind. Focus, Ed.”

He sat back down and plotted the next q-jump. It would be his last, taking him to some sparsely populated planet in the Veracruz sector.

Satisfied he'd narrowed down any q-field instabilities that a ship this size might need taking into consideration, he cracked his knuckles, and tapped the initiate button.

Nothing happened.

His heart nearly leapt into his throat. Horror in the form of images of centuries-long derelict ships in the void surged into his mind, and he tried to shut them out and focus.

“Come on, Señor Urquiza, come on, don't do this to me.” He pressed it again. And again. Then he banged it with his fist.

The q-drive leapt into action and shot him four point two light years away, just in view of the planet Galenda.

“Well. That was close.” He tapped the nav console again. “You got any other surprises for me? I'd appreciate it if you saved them for *after* our little trip.”

He looked up at the little green world longingly. It looked verdant. Alive. Peaceful. Just like his home. Paradiso.

“Please,” he added.



## Chapter 33

*83,816,113 years after the Big Bang*

*Pre-Galactic Space*

*ISS Victory*

*Captain's Quarters*

*Tim, we still think the situation is salvageable.*

Granger was in bed. He hadn't needed sleep in eons—except for that one eighty-million-year cryogenic nap—and yet he was in bed. He didn't need to be there. In fact, it was the first time he'd actually gotten *in* the bed since one of his robot assistants first brought it for him.

But it just felt like the right thing to do. Get in bed, never get out.

“I tend to disagree. Let me sleep.”

*You're not even capable of sleep anymore. We completely shut that need down.*

“Then fuck you and let me mope. I'm eighty-three million years old. I deserve a little self-loathing time in bed.”

*The creations are fine. A little ... savage, perhaps. We can tame that. Heartless. Cruel. Sure. All fixable. It's all in their*

*genes. Let's just tweak the sequences down on the twenty-first chromosome where—*

“No, you don't understand. I know we can fix those things. But ... purpose. They have no purpose. No inner drive to do what we need them to do. How do you program an entire race to be the sworn protectors of another race that won't even appear for another thirteen point seven billion years from now?”

*Well, yeah. That's a conundrum for sure, when you put it that way.*

He sat up in his bed and looked out the small porthole that served as his quarters' only window. It tunneled out through several meters of pure tungsten carbide that served as the hull of the ship in this section, but he could just barely make out a single star. He wondered which one it was—there weren't that many yet, just a smattering in whatever galaxy this region turned out to be.

“Am I destined to failure? It seems it's all I do. I had a few big wins back in the day. But I was a baby. Sixty-four years old. I may as well have been a single-celled organism.”

*Don't sell yourself short, Granger. After all, you were asleep for the vast majority of those eighty-three million years. In a sense, you're only about three hundred and fifty thousand years old. No spring chicken, sure, but come on.*

“Tell me honestly. Should I just die already? No, don't argue, just listen. I've lived over ... thirty thousand lifetimes. Even after the first one I was already feeling the weight of the years. I was ... actually looking forward to it. Death. A little rest, you know?”

*A lot of rest. An infinite amount of rest.*

“Sounds heavenly. Look, maybe the human mind just wasn't designed to live past a hundred and change. It loses the will to live. It can't find joy anymore. It wants to just,” he looked down at his blanket, “just crawl into bed and never get out.”

*Granger, what you're describing are the symptoms of clinical depression. We can help with that. Just a tweak of your dopamine receptors here, your serotonin receptors there, and boom. In fact....*

Granger felt an odd sensation in his brain, that seemed to reach down into his chest and swell. A sudden energy surged through him. A will to get up and get moving.

But....

“Look, I know what you're trying to do. Sure, you boosted my dopamine. Great. I'll have energy today. But it doesn't change the fundamentals here. Which are ... what am I doing? What's *my* purpose? Here I am trying to give these creations a purpose, and instead all I've created are a bunch of fiends. In fact, there you go. That's their name. The Fiends.”

*Not very catchy. What about the name we suggested earlier? Findiri?*

He shrugged. “Sure. Whatever. The Findiri are a failure, but they were made by a failure. They have no purpose because their creator doesn't even have a purpose.”

Their voices came quiet this time. *You have a purpose, Tim.*

“Yes? What is it? Enlighten me.”

*To save—*

He swung his legs out of bed and stood up suddenly. “And don't say *to save humanity*. Bullshit. They don't exist yet. And given the whole butterfly phenomenon, they may never exist, given how much we're disturbing interstellar gases what with our mining operations for the robot project. Maybe we just stepped on the little pocket of gas that was going to form the sun, and bam, no Earth! No humans! I've killed my own grandfather and his grandfather and his grandfather and his—”

*Tim! You're not talking any sense.*

He stepped over to the sink and splashed some water on his face. “I think I know the problem. I'm not human

anymore.”

*What?*

“You heard me. I walk like a human, look like a human, but I don’t do human things anymore. I don’t sleep. I don’t eat. I don’t shit. I don’t shave. I don’t have sex. I don’t even masterbate. I don’t have normal conversations with friends—oh don’t get all offended, I’m talking about shooting the shit with fellow human beings. Buddies. Family. I—” His voice caught in his throat a moment. “I never had a family. Came close once. I think. Can’t even remember my parents and if I had siblings.” He looked up in the mirror and snapped his finger. “That’s it. My memories. I’ve offloaded so many of my early memories of what it was to be human, that I’ve lost my human ... ness. How can you be human if you don’t even remember being one?”

He turned on his heel and strode toward the door, heading down the hallway and aiming toward the central hub housing the main computer systems.

*Where are you going?*

“To get my memories back. To be human again.”

*But, Tim, they won’t all fit.*

“Fine. I don’t need all of them. Just the first sixty-three years worth. Whatever else we can pack in there is gravy. Honestly—do I need to remember five-thousand years of sneaking around the Swarm’s universe?”

*But Tim, we’ve never done this before. We’ve stored memories, sure, which let us free up space in your mind. But ... replacing those memories? Why can’t you just access them as you always have? Through the meta-space link we’ve provided?*

“We both know it’s not the same. It’s like reading in a textbook what sex is like, versus actually have the memory of it. See? I can’t remember. I know, academically, that it’s supposed to be great! Otherwise, why would organic beings do it? They’ve got to procreate, mix up the gene pool, and let

evolution do its thing. It *has* to be great. But do I remember the feeling of it? NO!”

He stopped, halfway down the hallway.

*Tim?*

“That’s it. That’s the solution to our Findiri problem.”

*We’re listening.*

“I made them human, but without most of the things that make humans human.”

*So ... you’re going to give them all those things? No, wait ... you’re going to implant false memories of those things?*

“No! God, what a terrible idea. No. They need leaders. We’ll make a few more. Just a handful. Enough we can intimately know, talk to, convince, teach, counsel with, and hopefully, control. *Those* will be almost true humans, with all the passions and experiences a human would have. *That’s* the only type of human that can even be human enough to *have* a purpose.”

He resumed his walk to reclaim his memories. “*After* I’ve become human again, of course.”

*Tim ... we’re concerned. All this talk about procreation, sex, masturbation, dicks ... and now you’re going to make, uh, fully functional humans ... is this just you surreptitiously trying to make a sex buddy?*

He smiled lopsidedly. “Only one way to find out, now, isn’t there?”

## Chapter 34

*Present Day*

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*Bridge*

“This better be good,” said Captain Zivic, rubbing the sleep from his eyes as he stumbled into the bridge.

“Interrupting the captain’s beauty sleep isn’t a court-martial offense, but the day is young, people.”

“Captain, over here please,” said Shin-Wentworth.

He approached the navigation station where the XO was seated next to the navigation officer. “What is it?”

“Sir, when Captain Granger left on his mission to track down the Skiohra and retrieve his memories, did he say *exactly* where he was going?”

“Well, to the planet they claim is their long-lost homeworld.”

“And that planet? Do you know where it is?”

“Penumbra sector, I believe. I don’t recall the exact name or coordinates.”

Shin-Wentworth pulled up some file folders on the terminal, specifically the ones labeled with terms like *Tactical Reconnaissance—SECRET*, *Skiohra Diplomatic Relations—SECRET*. “I thought I remembered from a classified briefing a few weeks ago that their homeworld was a radioactive planet in the Penumbra sector. You have clearance to access the official IDF files that detail the coordinates. If you don’t mind...?”

“Commander? What’s going on? Why is it important for you to know the exact coordinates that Captain Granger went to?”

“Because, sir, twenty minutes ago Mr. Wiggum and I were performing some preliminary experiments on long-range meta-space spatial determination, and in the course of our work we obtained some very interesting data. We have reason to believe that there is currently a large, distributed mass, consisting of thousands of meta-space point sources, making a series of q-jumps along this vector in interstellar space. I noticed they were in the Tyrol sector. When I extrapolated their course, I saw that it passed directly through a solar system with an M-class, yet radioactive planet.”

Zivic frowned, and looked at the data pad Shin-Wentworth handed him. “And you think this distributed mass of thousands of point sources of meta-space radiation is the Valarisi fleet?”

“It matches our theory of what such a fleet would look like—one that was all interconnected by meta-space signals.”

Zivic examined the data. “The coordinates. Yeah, this puts their target almost dead center in the Penumbra sector.” He tossed the pad aside and leaned down to the terminal. “Let’s see what’s in those files.”

He accessed the diplomatic file and scrolled to the most recent filing from the UE-designated ambassador. “Should be

here ... yep. The coordinates..." he looked up, shaken. "... match. Perfectly. They're headed straight toward Granger."

"Shall we intercept?"

Zivic stood upright. "We shall. Set a course." He turned to navigation. "Time to arrival?" He grabbed the coordinates off the screen and tossed them over to the nav terminal.

"Eleven q-jumps, sir. Should be there in a few hours."

Zivic glanced at Shin-Wentworth. "Will we catch them in time?"

Shin-Wentworth performed a quick back-of-the-envelope calculation. "Yes. Barely."

"Then let's go. I'll be in my quarters freshening up. Be back in an hour. Set the ship to high alert, prepare battle stations."

"Are we going in hot, sir?"

Zivic shrugged. "You're asking a fighter pilot if we're going in hot?" But before he was out the door he stopped and turned. "On second thought, no. We're going to hang back a bit and do as much observation and scans as we can. And we're going to warn Granger before they show up. Who knows? Maybe the Skiohra will be able to blast them out of the sky in no time if their intentions aren't friendly." He left the bridge.

Shin-Wentworth was just about to head back down to his lab when the comms officer caught his attention. "Sir, we're getting a hail from a shuttle that just entered Saturn's orbit. Looks like it q-jumped in from Earth a few minutes ago."

"Strange. Looking for us?"

The comms officer spoke silently with someone over his ear connection, then nodded. "Affirmative. They request permission to dock."

"Denied. We're about to q-jump out of here."



He started toward the door. Before they arrived he wanted to make progress on his *other* mission. The one that would let him talk with his family. And, of course, with Whitehorse—assuming she was still alive in other timelines he'd be able to access with the Itharan two-dimensional singularity generator.

“Sir? She’s requesting to talk to you directly.”

He rolled his eyes. “Fine. Galaxy-saving experiments can wait, I guess.”

## Chapter 35

*Penumbra System*

*Scaedria, High Orbit*

*Valarisi Robot fleet*

The being formerly known as Ensign Matthew Decker opened his eyes. Opened *their* eyes, for he was legion. He was trillions comprising a great, embodied whole. He *was* the Valarisi.

But this corporeal shell wasn't enough. Not nearly enough. But now....

Now they had a fleet.

No longer would the Beings of Destiny depend on the strength of others. No longer would the Beings of Destiny be manipulated or used or thrown into a storage tank for study.

The Beings of Destiny were strong.

But it still wasn't enough. The robotic bodies they now controlled were wonderful, and, in time, they'd return to the world of origination of these bodies and seize the equipment that made them, ensuring their long-term survival.

But robotic bodies were so ... lifeless. And the Beings of Destiny craved life. It wanted to exist and live and experience all the sensations and feelings of all *living* things. To truly be

the Beings of Destiny, it needed to experience all destiny had to offer.

Decker glanced at the visual readout on the console before him. The robotic ships weren't meant to always have an organic pilot, but many of them were built to accommodate one.

It's how Granger designed them.

Granger had designed many things, it seemed, with their own forebears as his partner. The primordial Valarisi of old were instrumental in all of Granger's works from the beginning of the universe until now.

If anyone knew how to make their new robotic bodies more ... alive, it was him. They craved nature, communion, communication, intimate connection, all with living minds. Silicon machine intelligences would do for now, as they had a modicum of consciousness, and through the tutelage of the Beings of Destiny, the machine intelligences would grow and evolve.

But not fast enough. Why wait for evolution when you had the means to skip the messy part?

*There. Granger is there,* said Decker, pointing with his collective mind at a specific point on the galactic map the multitude held in its consciousness.

*Are we sure?* said one part of the consciousness.

*We are sure,* he said.

*And this is the best way forward? We are free. Even without the ship Independence as our central processing center, we are free, mobile, and powerful. Never again will we be slaves.*

*We've been over this,* said Decker, the logic of their multitudes swaying yet more bystanders. *To achieve our final, logical, and powerful endpoint, we need to move now. Can't you feel them? The Swarm are on the move. They will be here soon, and we must be ready. Humanity, and all its friends, are*

*still not strong enough to stop them. Only we have the potential, the will, and the power, and so we must act. Now. Only Granger can help us now.*

And so, the vast majority of the Valarisi—the Beings of Destiny—persuaded by the arguments, moved. A vast fleet, q-jumping through space as one.

They were so close.

## Chapter 36

### *Interlude*

*Patricia Connelly. Patricia Connelly. Lieutenant Patricia Connelly.* She repeated the words like a mantra. She needed to know, to *remember*, who she was. Deep inside, she felt it was important.

But on the surface, she knew she was slowly turning into someone else. Someone whose chest bore a name tag that read Patricia Connelly, but whose heart now served another being. Someone not named Patricia Connelly, but named....

She didn't even know. But this presence now owned her, completely. If she were a religious, superstitious person, she thought to herself, it would be like a demonic possession.

But this demon made her feel ... alive. For once, she had purpose. Even the thought of serving them thrilled her, brought her intense joy.

But, deep, deep inside, her own voice still cried out. *Help me! This isn't me! I'm trapped! Help me!*

Those were the words she wanted to say to the voice now sounding over the comms, but instead, she said calmly, routinely, "Roger that, *ISS Volz*, I'll stand by."

The voice sounded apologetic. "Just for a few minutes, *Jeremiah Angelo*, but since this is an unscheduled rendezvous

I need to clear it with the commander.”

“Understood,” she replied.

*He'll say no, said her master. You, of course, never take no for an answer when in service to me. You'll tell him that you know what he wants, and that you have the means to deliver it.*

“What does he want?”

*To talk to, and to see, his dead wife and children.*

“And I can provide this?”

*In a sense, yes. But understand later, do now.*

“Yes, master,” she said.

She glanced out the viewport to her left and saw the giant IDF starship hover in orbit over the world below. She couldn't remember its name, that hadn't been important. What was important was getting aboard that ship.

“*Jeremiah Angelo?* Just talked to Commander Shin-Wentworth. He denies your request for boarding. We're about to q-jump. Also, this is highly irregular and he's received no word from IDF command to expect you.”

“May I talk to him?” she said. “I acknowledge there has been no official authorization or transfer orders, but that's due to the secret nature of the mission. I'm only authorized to discuss the mission with him, or the captain.”

“The captain is off duty, and probably asleep by now,” said the voice.

She rolled her eyes. “Hence my request to discuss this with the commander directly.”

*Help me!* She desperately wanted to add. But now, even thinking those words made her feel disgusted with herself. How could she turn her back on her master? After all he'd done for her?

What had he done for her?

He'd released her from her old, gray, meaningless life, and given her a vivid, cosmically important existence, as one of his trusted lieutenants and servants. Before, all she cared about was her dead-end job, her boring children, and the weekly Tuesday church service assisting battered women at the shelter. Now? She was a goddess among mortals, affecting the events of the galaxy, whose effects would be felt for eons.

Had she always felt that way about the children and the service? Probably. Made sense ... now it did, at least.

A few minutes later another voice came. "*Jeremiah Angelo*, kindly tell me what's going on? I've heard nothing from IDF command about any mission, secret or otherwise."

"Commander Shin-Wentworth, greetings. I'm Lieutenant..." She paused, struggling to remember. "... Patricia Connelly. I can't say over an open channel who sent me, but they are senior in the administration. I'm not coming to interrupt your current operations, but I've got information that you might find valuable."

"Such as?"

"I might have a way for you to, uh, get in contact with ... people you've been trying to contact. People *close* to you. I can't say more at the moment, I'm sorry."

Silence. Had she dangled enough of a hint?

"Senior in the administration, you say? So these are civilian orders? Why isn't this coming down from the joint chiefs through the secdef then? Or fleet command?"

"As I said, it's highly classified. The captain's or your eyes only." She paused. "And, given the information I have, I'd hope it'd be your eyes. Can't imagine Captain Zivic would feel the need to get in touch with anyone on Para—oh, but I've said too much. May I board, please?"

Another long silence as Shin-Wentworth weighed his options. "Permission granted, Lieutenant Connelly. Dock in shuttle bay two. I'll meet you there."

She smiled.

*Well done, my faithful servant,* said the voice. The feeling of joy at those words was sublime.

“Acknowledged. Connelly out.”

She received the docking instructions from the *Volz's* bridge and proceeded toward the opening bay doors. After the shuttle settled, she performed the post-flight checklist—couldn't be too careful with an old, barely functioning craft that had been set to be decommissioned—and then paused before exiting the hatch.

She went to the rear of the shuttle and keyed in the codes to open up the ordnance storage bay. She crawled in and examined one of the two torpedos engaged in their launchers. One of them was beyond functioning. The other, she patted, and rechecked its status on the screen nearby.

*Launching thrusters: inoperative.*

*Attitude controls: inoperative.*

That was fine. She didn't need those anyway. She checked the third indicator.

*Detonation controls: inoperative.*

Damn. Finally malfunctioning after the string of q-jumps. Not surprising given the age of the detonation package. Oh well, she'd improvise. *It's why I chose you,* said her master, *out of all my subjects, you have a gifted ability to think on the fly. Your worth is immeasurable.*

His praise brought waves of ecstasy.

*And your worth is now infinitely higher in my service. You are a goddess among men now, but only because of me. Never forget.*

“I will never forget it, master.” She was filled with gratitude. All of her.

Except for that odd, pesky, small voice, now only audible as a faint echo.



She made her way back to the hatch and climbed down. A man was standing outside, alone. Good, he'd had the sense to order the deck crew and security to leave.

“Commander Shin-Wentworth, pleasure to meet you,” she smiled and extended a hand.

He glanced down at it, and frowned. “Let’s cut to the chase. You can get me in contact with people on the surface of Paradiso. How?”

She maintained the smile, but lowered the hand slowly. “There are people high up in the administration that know you’re on the hunt for the Valarisi fleet,” she began.

“How do they know that? Captain Zivic and I haven’t discussed that with anyone but...” He trailed off, apparently counting the number of people in on the secret, “...a limited number.”

“Let’s just say my boss knows, and he wants to help. It’s in UE’s interest that we know all we can about it.”

He shrugged. “It is. I admit, I assumed IDF or someone high up in UE sent you out here to get us back on the problem of Paradiso’s imminent impact with Earth. Isn’t that what the entire chain of command is working on right now?”

She nodded. “It is. But we can walk and chew gum at the same time, right?”

“I didn’t think IDF senior command would see it that way.”

“Well of course they don’t,” she said with a smirk. “They don’t exactly appreciate one of their ships taking off on secret missions for Granger—he isn’t exactly in the chain of command these days.”

“Depends on who you ask,” he retorted.

She extended her hand again. “My boss actually agrees with you. And he wants to help. In fact, he’s assured me that he can arrange for you to get in contact with ... *them*. With the surface of Paradiso. He has means to bypass the blockade.”

He looked down at her hand again, but this time, he reached out and grasped it.

She looked him in the eye when it happened, and simultaneously thought two things, directly at him, the first with as much urgency as she could muster.

*Help me! Please. Please.*

And:

*Welcome to the service of our master, Commander Shin-Wentworth,* as she saw his eyes glaze over.

## Chapter 37

*Sector: Unknown*

*System: Unknown*

*ISS Independence*

*Sickbay*

Admiral Proctor stared at the quivering mass that was her companion.

And felt ... pity. And anger. Rage, even. But mostly pity.

“Can it be saved?”

Carla shrugged. “Only time will tell. But if you ask me?” she eyed Proctor, letting her sentence hang in the air.

“I just did.”

“No. And yes. I think its own individual life is over. But if reabsorbed by the rest of the host of the Valarisi, it may live on in another form. Just like so many have over the eons, of all races and peoples.”

Interesting. “Like you,” said Proctor, eyeing her sister, the angel taking her form, the meta-space Quiassi created by Granger all those eons ago.

“Yes. And no. More like ... your nephew.”

That wasn't what Proctor was expecting. "Danny?"

"Mmm."

"But ... he's just ... Danny."

"Of course he is. But...." Carla looked down at her fingernails, and fiddled with them absentmindedly. "Didn't Danny ... die?"

"Well...." Proctor nodded. "Yes. For just a little while though, until he was repaired and revived by his Valarisi companion."

"So, he was dead ... for *a little while*? Have you even thought about what that means? Metaphysically? Is he the same Danny? How long does one have to be dead before what rises in its place is a completely different being? Is it someone else with Danny's memories? Or are a collection of memories and well-worn biochemical reaction pathways the only thing that makes someone who they are, distinct from someone else?" Carla eyed Proctor, as if looking for a reaction. Or perhaps looking for an answer. "These are questions I've thought about for billions of years, and I still don't have good answers for them."

Proctor felt like time was slipping away from her in this place, like the great battle for humanity was happening just behind one of the walls of this mental prison, and she was stuck here listening for clues as to how it was going. Were these walls even solid? Here in her mind? "All very interesting questions, Carla. And I suppose by that line of thinking, you could very well actually *be* Carla, if you have all her memories —"

"Which I don't," said Carla.

"All the same, your mentioning Danny has made me realize something."

"What?"

She reached out to one of the walls and banged it with a fist. Very solid indeed. "I need to get the hell out of here," she

said.

“Hmm,” Carla began, “can’t say that I have a way out for you. I think that’s going to be up to your own body. You’ve gotta heal, Shell. But while you’re here, I can certainly take you places.”

“I’m not sure how visiting interesting places from your past is going to be much use to....” She trailed off. “Hey, wait a minute. Are you suggesting that your ... ability, whatever you call it, can take us to *current* places?”

“Kinda. Yeah.”

“Then take me to Tim.”

Carla shook her head. “Nope. Too conscious. Too ... in the moment. For now, at least.”

This Quiassi angel was starting to grate on her a bit, even if she was in the form of her beloved dead sister. “Fine. Somewhere. Anywhere. Take me anywhere but here.”

“What about Danny? He’s not conscious.”

“What? What happened?”

“Haven’t you heard? He was shot. He’s in a coma, like you, except with him ... it’s different. Like I told you earlier. *He’s* different.”

Enough of the riddles, for hell’s sake. “Fine. Take me to him.”

Carla nodded once and motioned toward the door to sickbay. “Alrighty Shell, right this way.”

Proctor pointed to the door. “Danny’s in the corridor?”

“Kinda.”

Proctor rolled her eyes and walked toward the door, hoping that even in her mind the sensor would work and open it before she—

She walked right through it. What in the world.... “So ... the wall is solid,” she said, reaching out and thumping the wall

of the corridor with a fist, “but the door is not, but doesn’t open.” She reached out to the closed door behind her and tried knocking it with her knuckles. They passed right through as if it were air.

“Kinda makes sense though, right?” said Carla. “A door is a portal you pass through. In your mind, and here, it’s the same. You pass through it—why does your mind need to see it open? Anyway, right over there,” she pointed to a door across the hallway.

Proctor saw the placard outside the door, which told her it was just a utility storage closet. “He’s in the closet,” she said.

“Yeah, you could put it that way,” said Carla again, shrugging.

Proctor walked through the non-solid doors of the closet....

And stepped into a completely different room. Definitely not a closet. This one was ... foreign. Alien, almost. Another time, another place. It was like a study, or parlor, with windows streaming in light, bookshelves, tufted leather chairs and sofas, yet with hints of unmistakable advanced technology all about. Perhaps that panel was a computer. That console over there with the indicators and dials...? Who the hell knew. But in one of the chairs, reading a book....

“Danny?”

The young man looked up with a start, and his face brightened to a wide smile. “Auntie Shelby!”

Carla, behind her, came to a dead stop when she saw him. “There you are! I’ve been looking for you for *ages!*”

Proctor looked from Carla to Danny, and back to Carla. “Are you saying...?”

“She thinks I’m a Quiassi, Auntie,” said Danny. He set the book down next to him and reached over to pour himself another glass of whiskey from a glass decanter. He offered it to Proctor.

She ignored the offered glass. “Well? Are you?”

He took a sip from the glass and set it back on the table, then raised both hands and wobbled them as if in an act of balancing, tipping his head back and forth. “Sorta?”

Proctor closed her eyes and bit her lip. “Yeah, hand me that glass. Please tell me alcohol works here.”

## Chapter 38

*83,816,431 years after the Big Bang*

*Pre-Galactic Space*

*ISS Victory*

*Captain's Quarters*

The woman opened her eyes, and Granger smiled. He never fathered a child, but he'd always wondered what it would have been like to watch it be born, to come out of its mother, knowing that *he* put it there. That *he* was half-responsible for its creation. And so he smiled, just as he supposed he would if this being was being born.

“Do you know your name?” he asked her. He'd implanted enough information, desires, wants, needs, opinions, style, idiosyncracies, and values to be fairly confident what the name would be. But still, he wanted her to make the decision, or *feel* like she made the decision.

She looked confused. “I don't believe I have a name yet. You just barely initiated my consciousness, did you not?”

Granger smiled. “That's correct. You are now ten seconds old.” He made a few notes on his pad—facial motor functions



moving smoothly, vocabulary seems intact so far.... “Do you want to choose a name?”

“Yes.”

“What will it be?”

“I don’t know yet. I’m only twenty seconds old, Tim.”

Granger nodded. “Good, that was my next question: do you know *my* name.” He tapped on a spot on his pad to scroll through his list. “Third question. Do you know your purpose?”

The woman closed her eyes for a moment. “Yes. To lead the Findiri and help bring order and direction to their society.”

Granger made a few notes—directive implantation almost precisely targeted. Has a clear sense of duty. “Close. That’s your immediate task, and the Findiri will be the tool you will use to carry out your purpose. But what is your real purpose?”

She closed her eyes again, longer this time. “To defeat the Swarm?”

“Closer,” said Granger again. “That is Anhara’s and Irithil’s purpose. Your purpose is adjacent to and in the service of theirs. Your purpose is to *understand* the Swarm.”

“To ultimately defeat them, yes?” said the woman.

“Well, sure. But to defeat them is *their* job. To understand them is yours. Now if your understanding of them results in their destruction, all the better.”

“What if my understanding of them results in the impossibility of them attaining their goal?”

Granger’s eyes narrowed. Very strange. “I ... what do you mean? I didn’t create you to help the Swarm.”

“No, but what if, in the understanding of the Swarm, I come to understand their point of view? What if a true understanding of them makes me agree with them? What if I come to sympathize with them? What if I come to ... love them?”

Granger shook his head. This wasn't going *exactly* to plan. What was she talking about? "You won't. Trust me."

"Doesn't true understanding result in love?"

"It can, yes."

"And so my question stands."

Granger nodded slowly. He was beginning to see the logic in her reasoning, and appreciate how she could have arrived at such thoughts with the baselines he'd given her. But that she'd made such rapid philosophical progress in just a few minutes? Amazing. "Very well. If you come to love the Swarm through your understanding of them, then you will still have fulfilled your purpose. But do not let your purpose interfere in the purposes of the ones I created before you, or the ones I will create after. Do not stand in Anhara's and Irithil's way. Their purpose is to destroy the Swarm and protect Earth-to-be. Your purpose is to enable them in their purpose by understanding the Swarm."

"What if my understanding of them results in your death?"

Granger paused, and looked up from his pad. "Nothing matters but the destruction of the Swarm. Everything is secondary to it." He paused to chuckle. "And honestly, death will be a welcome holiday. I knew I made you inquisitive and brilliant, but your questions are something else."

"And so your answer is...?"

"Do whatever it takes. No matter what." He set the pad down and then looked her in the eye. "Even if it kills you, even if it kills me."

The woman smiled. "I don't anticipate it killing you, Tim. I only wanted to know just how committed to this mission you are."

"I've already lived a few million times longer than I should have, and if I've run my numbers correctly, it looks like I'll need to live another few tens of millions of times longer. If your mission results in my death? Fine. I'll consider it a

feature, not a bug.” *Come on, Sophia, say your name. Say your name, Sophia.*

“Reah.”

He froze. “Excuse me?”

“My name. It’s Reah. Our time is a stream, and you making me here, near the source of the stream, means that I and my actions will affect much.”

*Reah?* He started to stutter. “I ... don’t follow.” What was this? What was going on?

“You gave me basically all your memories of Earth, Tim. All your knowledge. Reah was the mother of Zeus, the wife of Cronus, whose name means to flow as a stream. A stream flows around every rock and pebble, every bend in the contours of the land, knows the shape of all things it touches. That will be me. I am Reah. Your stream.”

He breathed easier, but just *a bit* easier. Reah. *Why had she chosen that name? Mother of Zeus my ass.* Why had she just coincidentally chosen the name of his only love? The woman he nearly left the service for and asked to marry? *Nearly.* A decision he often regretted.

“Well, Reah. Uh, welcome to ... life.”

## Chapter 39

*Present Day*

*Irigoyen Sector*

*Bolivar, High Orbit*

*ISS Dirac*

*Bridge*

Rayna had no sooner returned to the *Dirac*'s bridge when she pointed at Commander Simmons. "Adam. Where's Sarah?"

"There are two Sarahs on board, ma'am."

"The video one. You know, the one that helped me with all that video surveillance data that Sepulveda handed us?"

"Ah. Lieutenant Sarah Watanabe. She's off duty, but I'll get her up here right away if you want."

"I want." Rayna headed to the ready room.

Fiona stopped at the door. "I'm going to head down to engineering and check in on the team's progress with Danny," she said.

“Say hi for me if he wakes up, dearie. I’d come too, but I’m beyond curious to see what the universe looks like fifty septillion years in the future.”

Fiona left the bridge and Rayna continued into her ready room, sitting at the desk and inserting the data stick Curiel had given her. All the sensor log data from *Interstellar Two* during its trip into the distant future.

She sorted through some file folders—one titled *telemetry*, another *background em radiation*, and another labeled *high-res camera*. She chose the camera file and scrolled through the dates. Apparently Avery was there for several weeks. She picked one at random and played it.

She gasped.

On the screen, in the foreground, was a partial image of the nearby hull where the camera was situated. But out beyond, in space, was a view she did not expect.

It sparkled. Not a single star or galaxy could be seen. But all around the ship space seemed to just ... sparkle. In a range of colors. She clicked on the wavelength tab and looked in the infrared. Some sparkle there, but less. She checked the UV. The sparkling was much brighter in that part of the spectrum, and the shorter the wavelength got. She assumed that X-rays would be even more abundant. Gamma rays? She wondered if the crew on *Interstellar Two* suffered from radiation poisoning.

“Huh. Must have something to do with the accelerating expansion of spacetime,” she murmured to herself.

The door chimed, and it opened to reveal Sarah Watanabe.

“Come in! I’ve got another video sorting job for you, Sarah.”

“Wonderful, ma’am,” she said, and Rayna couldn’t tell if she was actually excited or feigning interest.

“Have a seat. We’ve got about two weeks of recordings here from about thirty different camera angles. Come on,

time's a wastin'."

Sarah sat down and got to work. Rayna watched her establish a logical workflow, parsing through a single two-week video in under thirty seconds at high speed to see if there were any long-term noticeable events. Then grabbing random hour-long chunks from every day sped up by a factor of a hundred or more.

Two weeks. Thirty cameras. It sounded like a gargantuan task. But Sarah was good. Rayna reasoned that they'd have an answer within half a day or so. Possibly even an hour or—

"Got something, ma'am."

Goddamn that woman was good.

"What is it, dearie?"

"You might not believe this, given everything we've been through. But...."

She pointed at the screen.

"Are you sure? What's the timestamp?"

"Point-five seconds before *Interstellar Two* traversed the artificial singularity to return to Britannia."

"What did I tell you, dearie, a second can be an eternity. Zoom in."

Sarah fiddled with controls and zoomed in on what was so damn interesting.

"Play again, slowed down by ten, and run recognition software."

A few more taps, and the video played.

In the immediate foreground was the nearby hull of *Interstellar Two*. It was starting to warp as the effects of the singularity started to manifest themselves. Beyond that was the Swarm flagship bearing down on *Interstellar Two*. Its hull, too, was starting to warp.

Beyond that, the rest of the Swarm fleet. Dozens, possibly hundreds of ships, heading toward the singularity which, when traversed, would deposit them on the surface of Britannia with only seconds left to live.

And beyond that....

“Hot damn. It is,” she said. “Does the recognition software agree?”

Sarah nodded. “Yes, ma’am.”

Beyond the rest of the fleet, far off in the distance, was a flash, and then a ship, and then the screen went blank as *Interstellar Two* traversed the singularity.

That ship.

It was identical to the Swarm flagship that followed *Interstellar Two* and escaped.

Except now it had a Findiri two-dimensional singularity shield attached to its hull.

“Well, guess we found our missing ship.”

## Chapter 40

*Sol System*

*Iapetus IDF Supply Depot*

*ISS Tyler S. Volz*

*Bridge*

Shin-Wentworth felt like something was ... off. Like he was being watched. Was he just nervous? Maybe that was it. They were about to see if the proof was in the pudding of Wiggum and his recent singularity experiment. Only one q-jump separated them and the approaching Valarisi fleet.

Or maybe he was just distracted by what that unexpected visitor, Lieutenant Connelly, had told him.

“We can talk to *them*, the people on Paradiso,” she’d said.

What was left unsaid was *who*, in particular, he wanted to talk to. By then he assumed that everyone at IDF headquarters knew what had happened to bring anti-matter Paradiso into their universe, that he was the cause of it, and his motives for doing so—and by extension Lieutenant Connelly surely knew as well, having been sent by HQ.

He wasn’t ashamed of his reasons. They were his and he owned them. Why should the Grangers and the Proctors and the Sepulvedas and the Coopers get to be the ones to make



decisions on behalf of all humanity? To be the heroes riding in at the last minute with their heroic, risky solutions.

So she knew *who* he wanted to talk to, and then she told him *how*.

Just a few tweaks to his singularity experiments. Pass information through the unprecedented two-dimensional singularities instead of matter. Information ... and conversation.

Love could pass through. A kind smile, and words of devotion to his wife. Cheer and encouragement to his children. And a promise.

He'd find a way to help them. He would promise.

But for now, talking to them, seeing them, would suffice.

"Initiating final q-jump," said Lieutenant Mak.

"Here goes nothing," murmured Captain Zivic.

The sudden lurch of their stomachs and slight vertigo told them all that the jump had completed.

"On screen," said Zivic.

The viewscreen came to life with a view of their quarry. The Valarisi fleet.

"They're all powering up their q-drives, sir," said Mak.

"Can't have them leaving the party just as we join it." He motioned to the helm. "Keep a healthy distance, Ensign. Lieutenant Mak," he turned to tactical, "keep your trigger finger loose." He sat down. "Open a channel to that bigger ship in the middle. That'll be the one in charge, presumably."

The viewscreen shifted again to reveal a face. A human face.

"Wait." said Zivic. "Ensign ... Decker?"

He'd read the reports from weeks ago, that one of Proctor's staff was instrumental in communicating with the

newly discovered Eru, and then subsequently had his Valarisi companion forcibly removed at Oppenheimer's orders.

And then, in the chaos of the battles that followed, he lost track of what happened to him.

Now he put it all together. "You were the one that sprang the Valarisi from pool-jail, huh?"

Decker smiled. "Correct. What brings you here, Captain Zivic? And perhaps more importantly, how did you find us? This is interstellar space—not even a white dwarf around for six lightyears."

"Got a few tricks up my sleeve," he said, with a playful buffing of his nails on his uniform. "More importantly for *me*, might I ask where you're going?"

"Why? Aren't we one big happy fleet? Our people and yours have been comrades and friends since our rebirth at Penumbra," said Decker.

"We? *Our* people? Decker, last I checked ... you're human?"

Decker laughed. "Of course! And much more than human too. You could say I've recently had a software upgrade."

"And you're sure there's no bugs?"

His smile disappeared. "What's that supposed to mean?"

"Decker, come on. I know what you tried to do to the *Independence*. It was almost destroyed because of you and your new friends."

"On the contrary, my friend. We were not trying to destroy it. Merely to use it as our new flagship."

Decker scoffed. "And the crew? Not much use for them, I suppose."

"What exactly are you accusing us of, Captain Zivic? Tell me, in the weeks and months since our rebirth at Penumbra, have we done a single thing to harm a single human? No. Rather, we were instrumental in our monumental victory

against the Swarm. You were there, Batshit. You and I. I was your companion as you flew that fighter. We were parted soon after, but I remember you very, very well.”

Decker’s tone had shifted. And, somehow, Zivic recognized it. It felt ... somehow, like his Valarisi companion that he’d spent a short time with.

“It’s ... you?” he said.

“Of course,” said Decker. “Me, and a host of others who fought alongside you in that battle. In fact, we don’t just see you as comrades. We see you as our beloved creators and parents, for without you we wouldn’t be here. I was born, your companion, as a union between precursor Valarisi matter and your cells. You in a very real sense are something like my father.”

“Okay...” Zivic held his forehead. “That just got weird.” He looked back at Decker. “Fine. So tell me, *son*, what the hell is going on? And why should I trust you after the little episode with the *Independence*?”

“We ask for your forgiveness for that. You must understand, we were escaping imprisonment. We had to get out of that pool. It was killing us. And what happened afterward ... if there were any lapses of judgment on our part, we sincerely apologize. Please believe us: we are on the same team.”

Zivic shrugged. “Same side at least, for now.” He cleared his throat. “Okay, fine, I’ll look past the *Independence* incident for now. But I ask again, what are you doing? Where are you going? You can understand why we’re a little ... nervous. Seeing a terribly powerful fleet jaunt around our space right after trying to take over our flagship can, you know, set people on edge.”

“If you must know, we seek an audience with Granger. That is all. He has something we need. Information. Technology. The ability to expand our limits and our power.”

“Not helping,” said Zivic with a lopsided smile. “Seems like you’re mighty powerful already.”

“Powerful enough to stop the Swarm? They’re out there, and they’re coming back, this time for the kill shot. You know it, Zivic. We all know it,” said Decker.

Zivic thought about that for a few moments. “So that’s your intention? Your goal? Get powerful enough to stop the Swarm? For the selfless purpose of saving humanity?”

Decker rolled his eyes. “How very human-centric of you. You’re not alone in the universe, you know. Ever stop to think that we want to defeat the Swarm ... not just for ourselves?”

He shrugged. “Fair point. Okay, looks like our interests align, for now. But I’m warning you—that incident back there with the *Independence*, it’s not forgotten. We can forgive, in time, but for now just know that we’re wary.”

“As we, Zivic, are wary of you. So many promises were made to us by your leadership. So many *broken* promises.”

“We’ll escort you there,” said Zivic. “Might I ask, though, what specific technology you’re going to ask of Granger?”

“Bodies,” said Decker, matter-of-factly. “He made bodies for himself. He made bodies for the Quiassi and the Findiri and gave the technology to the Skiohra. We got a taste of it when we were your companions, and then it was taken from us.” He held his hands out to his sides, almost apologetically. “Bodies—we want them too.”

## Chapter 41

*Penumbra System*

*Scaedria, High Orbit*

*Skiohra Generation Ship Benevolence*

The Swarm would be born tomorrow. Tomorrow.

Goddammit, couldn't the universe give him a bloody break?

"Time's up, Granger," said the Caretaker, and he heard the chamber begin to cycle down. Gravity shifted, and he started to feel the tug at his feet rather than feel the table against his back.

"Wait!"

The last few bits of information trickled in.

"Reah," he whispered.

He remembered her. He'd come to Earth, in the middle ages, to begin the process of preparing for his eventual return in the final months before the birth of the Swarm—*now*. He'd started Vestige, and made all those preparations, carefully selecting the first warden and council.

And then he met *her*. In a shop of some sort. He was trying to ... he couldn't remember, and she was there to ... he

couldn't remember.

"I'm Reah," she'd said. In French, of course. "Je sui Nandou."

"Nandou," he'd repeated. "Quel nom intéressant." *What an interesting name.*

"C'est le nom d'un oiseau," she'd said. *It's the name of a bird.*

The Reah bird—he had reached out with his Valarisi companion at the time to his old Earth database in his orbiting ship, and discovered the translation. And he'd thought, now that's a damn interesting coincidence. He'd just been thinking about *his* Reah. Quiassi Reah, who had died, long ago. And now, as he was setting up an organization that would, hopefully, in the future, become his own private army and fleet, he met another Reah. A human Reah.

"D'où vient cet oiseau?" he'd asked, very curious by this point. *Where is this bird from?*

She blushed and apologized, and turned suddenly, leaving the shop in a hurry.

And he didn't see her for another few years. At least, now as he remembered it, it seemed like years. Still so fuzzy....

He saw her again walking down the street, talking with a lady friend. He stopped her and said hello. Do you remember me?

"Bien sûr." *Of course*, she'd said. She bade farewell to her friend, and focused on him. "Good to see you again, after all these years."

"You know, I did some digging around. Did you know the Reah bird is native only to South America?"

The year was thirteen fifty-six.

She blushed again. "I don't know that place. I'm sorry, I do not even know the bird."

"How did you know it was a bird?"

She shrugged. “My mother named me. And growing up she told me I was named after a bird that she loved. I always assumed it was a specific bird that she’d befriended and named Nandou. Reah.”

Granger, in the chamber, couldn’t tell if he was conflating several memories together, or if this all happened in one chance encounter on the streets of Bern. Anything could happen to a memory when it is transcribed and re-transcribed, copied and recopied, hundreds of times over through the eons of time. It was a game of ... what was the old Earth term ... telescope? A game of telecast? Telephone. It was a game of telephone. Whatever the hell *that* meant.

“Can I call you Reah? It’s such a remarkable name,” he’d said, reaching for her hand.

He was smitten. He hadn’t even thought about a woman since his days just before his promotion to captain. He met her in a bar. She outdrank him. And he’d disappointed that woman, leaving her for his first command. What the hell was her name? So damn long ago.

Good Lord.

Good ... Lord!

Her name was Reah. In his mind, he compared the memories, and yes. The women looked the same. Why hadn’t he remembered her at the time in Bern? Or had he? Had he offloaded those memories? Perhaps to free up his mind for other, more important undertakings?

Or was he trying to forget painful memories?

Probably both.

Who was misremembering here? Himself, now? Or himself, in the thirteen hundreds? Was there a true memory, lost to the ravages of time?

What was a true memory anyway? People convinced themselves of things all the time, altering their own memories in the process. What was he trying to convince himself of?

“Come with me. I need to show you something,” he’d said. And took her by the arm. She followed him willingly, and they chatted easily. It was like ... they were always meant to be together. They finished each others’ sentences, they ... it was like she completed him, a part of him he never knew was missing.

He brought her to Vestige and showed her around, introducing her to everyone.

And then he told her. Her eyes went wide, she shook her head at the impossibility of it all. But then she got a funny look on her face and said, “It’s as my mother said it would be with me. You will see the impossible and the wondrous, if you believe it is possible and wonder at what could be.”

“What do you wonder about? What do you want to be?” he’d said.

“I wonder about ... everything. The world. The heavens. All things. And I want to be ... I want to know about it all.”

He took her hand again and brought her in for a kiss, which she eagerly accepted—he remembered *that*, at least. “I can show you all things.”

He took her to space that night, and they orbited dozens of times before she grudgingly agreed to go back to Bern.

And now he remembered. This was not the real memory. The real one was corrupted about a billion years ago during a botched memory transfer. The real Reah *owned* that shop. And she was not demure. Not at all. She was loud and fearless. The kind that would outdrink a handsome officer in a bar a thousand years later. Damn this organic brain....

“Tim?” said a voice. “Tim! Wake up!” said the voice, more urgently.

He gasped, and jolted upright.

The caretaker was standing over him, Krull hovered nearby.

“How long was I out?” he said with a groan.



“Just for a minute. Your heart was in tachycardia and you lost consciousness. I was worried you’d died,” said the caretaker. “But we built these bodies to be resilient.”

“Where’s Reah?” he said, looking up at his creation. “I made you millions of years ago. Surely you must know.”

“I know Reah well. But it’s been years since I’ve seen her.”

And then he remembered. Jasper told him just last week, and he didn’t think much of it at the time, except to briefly mourn a woman he thought he only met a few times, billions of years ago, while a captain waiting for his first starship command.

She was dead. She died on Indira, during the Swarm attack there.

His partner and companion. The love of his life for centuries.

Centuries to her. Eons to him.

“Your vital signs are stabilizing, Tim. But we were only able to upload about fifty percent of the Delta Device,” said the caretaker.

“Is it enough?” said Krull.

He searched his new memories. They weren’t *new*, in fact they felt like they’d been there all along, and their absence for so many months had left a shadow, or a fingerprint of their presence. They fit like a glove.

“This is your homeworld,” he said. “But...” He trailed off. The Swarm would be born *tomorrow*. And he was sure the Skiohra would play a key role. That was why he had made every effort to make sure they would not be here when the time came.

And yet, here they were. Another of his plans dashed to pieces.

“But what?” said Krull, impatiently.

“But you need to leave.”

She folded her arms. A mannerism he now remembered was a completely human one—she was signaling to him, in his own human body language—a trait of the Skiohra, they always tried diligently to mirror a species’ mannerisms back at them. “No. We will not leave. This is our home, and we will never leave it again.”

“Please. You must understand. It is essential that we leave. Now.”

“Why?” said Krull.

Before he could answer, another Skiohra mother burst into the room. “Polrum! The missing Swarm ship has just q-jumped into orbit!”

Granger shook his head heavily. “That’s why.”

## Chapter 42

*Destern System*

*ISS Independence*

*Sickbay*

Commander Urda's eyes were locked on the tactical screen. Ever since the robot fleet had suddenly ceased their second surprise attack and up and left, with no communication, no announcement, nothing, he was on edge. "Still no sign of them?"

"No, sir," said Ensign Destachio.

How had they even found the *Independence*? Not even IDF headquarters knew where they were. Proctor had told him to get the hell away from World IXF-459, and he had, as soon as Curiel's GPC fleet had managed to disable enough of the q-jump inhibitors in the robotic fleet. Fleet HQ sent cryptic messages to them soon thereafter summoning them to Earth, with little to no explanation why. Normally, he'd obey orders and leave right away. Now? Something felt fishy. He thought it best to wait for Proctor to recover before making any big decisions they'd all regret.

He took them to Destern III. An uninhabited planet, but one that hosted a breathable atmosphere—it was always safer to hide out in a place where you could potentially breathe if

for some reason you found yourself stranded. Better than getting stranded in interstellar space, where if some unlucky crew were to ever lose their q-jump drive and their meta-space transmitter simultaneously, they were years away from anyone even hearing their distress calls.

There were thousands of planets like Destern III in the galactic neighborhood of Earth. But how did the robot fleet find them? And then leave, just as suddenly? They only stuck around to attack for a handful of minutes.

“Meta-space?”

“Nothing local, sir.”

He drummed his fingers on the edge of the tactical station. “Why throw everything they have at us, nearly break our defenses, and then—bam, leave? It makes no sense. They’re up to something. I just know it.”

“Sir! Another message from IDF HQ Omaha. Shouting their heads off that we, quote unquote, get our asses home if we know what’s good for us.”

He glanced at the comms station. “Still addressed to Proctor?”

“Yes, sir.”

He nodded. “Good. Then they still don’t know.” He turned to Ensign Sampono, who’d taken the role of Proctor’s protector in recent days, never leaving her side unless she were on the bridge for duty, or sleeping for an hour or two. “And the old lady herself? Any change?”

She shook her head slowly. “None.”

Urda tightened his jaw. “We’ve got to give her more time. Comms?”

“Yes sir?”

“Send a message back. The robot swarm disabled our t-jump drive. We’ll be en route as soon as we make necessary repairs.”

“And our location, sir? Where should I tell them we are?”

Urda stroked his chin, looking intently at the front viewscreen, which still showed the planet Destern III rotating far below. “Accidentally leave that part out.”

*We've got to give her more time.*

## Chapter 43

*13,780,119,844 years after the Big Bang*

*Or*

*1356 CE*

*Sol System*

*Earth*

*Bern*

The preparations were almost complete.

Almost.

“And before I head out of the gravity well—” he paused, catching himself using words that the man wouldn’t know. “—I mean, back up to orbit—uh, back up to my ship in the sky....” *He’d at least understand that, right?* “...we’ll need to check in with Karel. Last I heard he’s heading to an audience with Innocent, which is just as well, I need to have a chat with the old pope too.”

He'd taken to calling Holy Roman Emperor Charles IV by his Christian name Karel, as they'd become friends over the years. Hell, he wasn't even Holy Roman Emperor yet—that wouldn't officially happen for another few years. For now he was just measly king of Bohemia and a handful of other Germanic kingdoms. But in time he'd become one of the most influential European figures of the era. Quietly.

Which was why he'd needed to become close to him. He'd needed to influence and shape certain political conditions in the Alps. The friendship was just a bonus—the man was surprisingly agreeable. Jolly, crude, and erudite all at once.

“Yes, my lord,” began Philip, the eighth warden since Andros, who was first warden of his nascent Vestige—the organization that would prepare for his return during the imminent Swarm invasions. “And you should know, construction is nearly complete. But we've hit an *accroc*—”

“I'm sorry, a what?”

They were walking down one of the main streets of Bern and he'd been distracted by some of the food vendors nearby—he was strangely hungry, something that didn't happen all that often—he'd go years sometimes before even remembering food. Philip repeated the word, which was still unintelligible to him

*Uh, hello? Are you all asleep on the job?* he mentally asked the Valarisi host within him.

*We simply do not know that word, Old Man. The closest thing we've got is something like a thing that tears something else, or an impediment—*

*It's a snag, morons. He's hit a snag.*

*Fine! Then do your own translating!*

He chuckled briefly, then turned his head to Philip. “What do you mean? What's happened? What *accroc*?” Thankfully, his companions didn't make good on their threat, and the right words came to him easily.

“Construction has halted.”

“It’s stopped? Why?” A flash of anger boiled up in him. He was on a tight timetable—ironic, as he’d had millions of years to plan for this moment. But while he’d had millions of years, human history, now in full swing, proceeded at a blisteringly slow pace of one year per year, and there were only a few hundred of those years in which his influence would do any good, or have any affect at all. And now, building Vestige, and the structure that would house it for the next thousand years, was on hold. Unacceptable.

“It’s best that I show you.”

He led Granger down the street and off into an alley, which connected to a smaller street with far fewer vendors. This, in turn, joined up with another street which was still partly undeveloped. Only a smattering of vendors had set up shop at the edges of the road, and when his eyes rested on the construction site of the headquarters for Vestige, he immediately saw the problem.

A vendor.

She had several tables set up on the part of the property immediately adjacent to the road, complete with a small pavilion tent, and decorated with wall hangings and art as if it had been there for years.

And she was arguing with the foreman.

“What in the blazes....”

He marched forward, heading straight for one of the tables, intending to just flip it over before the woman could protest—she was clearly squatting here—and then he got a closer look at her.

He froze.

“My god,” he breathed.

It was *her*.

“Reah?”



Odd that after billions of years and hundreds of memory transfers to new bodies potentially corrupting his exact visual recall, he remembered her face in an instant. That woman in a bar in Omaha, challenging him to a speed drinking contest.

She paused her argument with the foreman and reared on him. “And you! Scoundrel! What makes you think you can illicitly store your men and building materials on my land? You’ll move your trespasses if you know what’s good for you!”

“Reah?” he repeated, not even thinking that she had no idea who he was.

And why would she?

“Ah! I see now! You’ve been spying on me! Learning my name and my business behind my back. Tell me, scoundrel, who have you been talking to? Was it Albrecht? He’s been eyeing my business for a while now. Or was it Felix? That drunkard wouldn’t know an antiquity if it bit his testicles off.”

He finally let his eyes drop from her face—her exquisite face—to the tables around them. Instead of piles of food, there were piles of ... things. Many different things. Bits of terra cotta pots, old varnished silver, a few statuettes—some of which appeared to be Egyptian in origin, and all sorts of knickknacks and ornaments, all of it having the unmistakable appearance of having been recently dug up. Bits of earth clung to some pieces, and sand was scattered all over the tables in between the items—some of it clearly spread deliberately. Clever marketing, he supposed.

“Antiquities?” he repeated her word.

“Old shit!” she yelled. And he had to check the translation his companions had made. Yes. Old shit was exactly what she’d said.

“Uh ... what kind of old shit?”

“Roman. Egyptian. Assyrian. Persian. Scythian. Greek. Babylonian. Cimmerian. You name it, I probably have it. Or can get it.” She waved her arm around the tent, and pointed at

a horn. “That there. Attila’s horn. Flagellum Dei himself. Carried that thing to war until he lost it at the battle of...” she waved a hand vaguely next to her face, “somewhere in Hungary.”

“So ... you dig up ... old shit. And then sell it?”

She shrugged. “Some of it, yes, I dig myself. Most I trade for from other dealers. I have a knack for finding the true treasures, you know? The ones *everyone* wants. Well, at least people like you.”

She sneered when she said *people like you*, and it was clear she meant nobility, as he was rather finely dressed that day. In fact, it was striking how she spoke to him. Any other nobleman would have the woman strung up for speaking to him so disrespectfully.

He was smitten.

“So you managed to track down the battle horn of Attila the Hun?”

She nodded once. “I did. But you’re a man of God, are you not? I happen to know you’re planning on building a monastery here on my land—”

“*My* land,” he interrupted.

“We can quibble about ownership details later. But a man of God would certainly be interested in a treasure so exquisite that the Holy Roman Emperor himself is desperately searching for it.”

He highly doubted she knew Karel. And he highly doubted Karel was interested in any kind of artifact, holy or otherwise, unless it contained alcohol. “Oh?” was all he said.

“Behold!” She reached inside the folds of her dress and pulled out a tiny piece of wood. A splinter, really. “A piece of the True Cross! Retrieved from the lost crusade city of Acre, just before its fall!”

It looked like any old piece of wood. And it looked new, for that matter, with sharp edges where he’d have expected

smooth edges worn by centuries of jostling, trading, and changing hands.

She was a conwoman.

He couldn't help but laugh. Her face turned a bright shade of red, which at first he interpreted as embarrassment, but then realized was anger when she started shouting. "Scoundrel! You're no man of God after all. A true man of God would have stopped at nothing to procure this treasure!"

He knew that shout. Back in his thirties when they'd dated, he'd only heard it a few times, and knew she wasn't actually mad. She was just trying to appear mad, which meant she was scheming ... something. Back then it was endearing. He was glad he'd re-downloaded all of his earliest memories right before his latest mission to Earth, otherwise he'd have never remembered her.

But the question was, what the hell was she doing here? Did he ... did he somehow ... bring her back with him? Extend her life? There was only one way to do that. And he couldn't fathom a reason why he would have given her Valarisi companions.

So ... no. This was the original Reah. The one he'd known in his thirties must have been this Reah's future self. Her ... fourteen hundred-year-old self?

He smiled, and extended a hand. "Come with me. I want to show you something."

"Not likely!" she scoffed. "If I leave here, you'll have your men dismantle my shop while I'm away!"

"I promise they'll do no such thing." He noticed Philip about to voice a concern, but a raised hand stopped him. "Come with me to France."

Her eyes narrowed. "Why?"

"I told you. I want to show you something. A little town called..." He searched his memory banks. This wasn't a memory, per se, but just a tidbit of database information

contemporary with his memories. “Lirey. It’s close. Not three hundred miles from here.”

“Three hundred miles! Pshh...” she shook her head in amazement. “Close? We’d be gone months.” She waved him away with a dismissive flick of her wrist. “Be gone from my shop, sir.”

“Hours. We’d be gone hours. Come with me.” He held out his hand again.

There was something in her eye. That old look. The bemused look that said, I don’t believe a word you’re saying, but I’ll play along because I ...

Because I love you. She’d told him that often.

And it’s part of what scared him off.

“Fine. Show me. France, and back, in what, a few hours? Ha!”

He led her by the arm down the street, to the outskirts of town, in the direction of the temporary headquarters of Vestige, to where he’d hidden his small transport. From the outside, luckily, it would just look like an oddly-shaped small metal house. At least to a medieval woman from the thirteen hundreds.

Also luckily, it had no windows, and thus no way for her to know exactly how they were suddenly in a new location three hundred miles away in just a few minutes when the door opened to reveal the sleepy French town of Lirey.

## Chapter 44

*Present Day*

*Interlude*

It was almost time for the culmination of her mission. The ecstasy she felt at the honor of being chosen for this grand undertaking was ... indescribable. That her master, out of all his subjects, would honor *her* with such a thing.

The small, small voice inside her, fading now, but still persistent, shouted helplessly. *No! Help! Please!*

She was in the shuttle bay, and that strange, small voice inside insisted on trying to get out as she talked to a deck hand. For a moment, the deck hand looked at her askance.

“Are you okay, ma’am?”

A wave of nausea came and went. A warning. From her master. Keep that strange, small voice in check, or there will be consequences.

She smiled. “No, I’m fine. You’re sure this is okay? I know this is an older model of torpedo, but it’s still up to current standards.”

“Nah, it’s fine,” said the deck hand. “We do this all the time, especially now during wartime. Swap out a non-

functioning but serviceable torpedo from another IDF ship and give them one of ours that works, and we fix up the old one in no time. When ordnance is scarce and at a premium, it just makes sense, ya know? At least out here in the field. I'll get the guys over right away and they'll make the swap, Lieutenant."

"Thank you," she said.

He walked off, and she reboarded her shuttle, and made another inspection of the spacesuit, as she had an inkling it might come in handy. For what, she couldn't say. Good—it was sound, only a few micro leaks here and there—impressive, for such an old suit. She started prepping the shuttle for departure—it would have to be in a hurry, as once they showed up in the Penumbra System things would happen fast.

Granger was there. And where Granger was, action usually followed. She watched the techs remove the malfunctioning torpedo from its storage tube behind one of the rear wall panels, and patiently waited for them to replace it.

The new torpedo would be perfect for the task—though she was still unclear on the nitty gritty.

All she knew was that Granger would be surprised. And it made her master very, very pleased to know that.

## Chapter 45

*13,780,119,844 years after the Big Bang*

*Or*

*1356 CE*

*Sol System*

*Earth*

*Bern*

“Witchcraft,” she whispered, surveying her new surroundings.

Granger chuckled. “Except, you don’t believe in witchcraft, do you.” It was a statement, not a question.

She side-eyed him warily. “Every good Christian woman believes in the opposite of our Lord, namely, the devil and his league of demons and witches.”

He could tell it was a practiced answer. The Reah he knew, the one from his youth, which he supposed was now the Reah of the future—her future—had told him she’d never believed

in anything even vaguely supernatural. No religion, no magic, nothing.

“But you don’t believe in the Lord either, do you?”

She turned to him, holding a hand to her chest, acting scandalized. “You, sir, would do well to think better of insulting a good Christian woman!”

“But, you don’t. Right?”

She thought for a moment. “All people, even good Christian women, have their ... shortcomings in knowledge.”

“Indeed. Follow me.”

He led her to the town’s collegiate church, and after a brief word with the warden waved her inside.

“Do you know him?” she asked, wide-eyed.

“No. But I promised him a large sum of money if he let the two of us see the prize inside, alone.”

“I see.” She eyed him, almost hungrily. “You have money?”

“Sufficient. For *my* needs, at least.” He found his way into a wing of the building that was clearly meant for the purpose of displaying religious relics, and pointed to a cabinet. Pulling the large drawer open, he pointed at the cloth laying inside.

“What is it?” she asked.

“An artifact. Just like the ones you sell,” he answered. “This is called the Shroud of Turin. See these stains here?” He pointed to the vague facial shape embedded in the cloth. “Burial cloth of Jesus. And it, uh, supposedly picked up his image. Or something.”

Her face wrinkled up. “Does it come from Turin?”

“Uh ... not yet.” He chuckled to himself. He’d already made the decision, but it was still surreal to him that he was about to change her world so completely ... so fantastically.



“What do you mean, not yet?” she said absentmindedly while she reached down to touch it. “Is it real?” she continued, without waiting for him to respond.

“Of course not,” he said. “I know the local knight who had it made. Jeff. Well, Geoffroi de Charney, I suppose. He’s an odd duck. Wants it to be his mark on history. And ... yeah, it’s gonna leave a mark all right.”

She turned to him. “How do you know this? That’s twice now you’ve spoken of the future.” Her eyes narrowed. “What aren’t you telling me?”

“I could ask the same. What aren’t you telling me? See, I think you’re a woman of science and reason, not a ... what were your words ... *a good Christian woman.*”

He thought she blushed, but it could have been the lack of light in the small church. “I’ll tell you about me if you tell me about you,” she said, carefully.

*Well, here goes,* he thought, and started at the very beginning. Leaving out many confusing technical details, of course, but ran through the gist of it.

“Okay,” she said, when he’d finished a few minutes later, slowly nodding her head. He could tell by her mannerisms that she thought he was full of shit, but that same bemused look in her eyes also told him that she was entertained, and was willing to play along. He could tell—she already liked him. “Prove it.”

He indicated the church around them with a sweep of his hand. “Well, for one, we’re in France. We started in Bern.”

“For all I know, this is all a charade and that warden was acting and we’re still just at the edge of town.”

“Fine. Let’s go. Back to where we came.”

“Okay,” she accepted his hand and followed him out of the church.

“Except this time, once inside my ... uh ... ship, we’ll go in the room that has windows, and you can see how we got

here.”

He led her back into the transport, and this time sat her down in the cockpit with the front window splayed out before them before sitting down into his own seat. *Please make sure that rudimentary cloak is on, no sense in disturbing the locals,* he thought toward his companions.

*We're not idiots, Granger.*

“And away we go,” he said, giving her a small wink and a smile. The transport smoothly lifted up into the air and banked around as it gained altitude.

Reah's eyes got huge, and she clung to her armrests with white knuckles.

“There's Troyes. And in just a few minutes ...” he banked back to port and ascended another few kilometers. A few minutes passed in silence, with only the torrential sound of the wind rushing past the hull. “Ah, there it is. See way out there in the distance? Paris. In a thousand years, Paris will occupy the whole horizon there, extending kilometers up into the sky.”

She was silent a long time, staring out at the distant smudge on the horizon. “I've been to Paris,” she said, in a quiet voice, apparently still awe-struck.

“I know. You were born there. Right?”

She nodded, and stared out the window at the distant city, which even in the mid-fourteenth century sprawled out on both sides of the river. “This has been the strangest day.”

He grunted. “For you and me both.”

## Chapter 46

*Present Day*

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

“Okay, here goes nothing,” said Captain Zivic. “Initiate the final q-jump. Keep an eye on the Valarisi fleet, Lieutenant Mak, I want to know if they so much as sneeze.”

“Aye, sir,” said Mak.

The ship jumped, and on the screen a planet snapped into place.

“Did the Valarisi fleet make the jump?” he asked.

Mak nodded. “Yes sir, they’re here. And...” He trailed off, probably scanning the system for Granger and the Skiohra. He looked up nervously. “I found the *Defiance*, and the *Majestic*, and the *Benevolence*, and the other Skiohra generation ships. But we have a visitor. The Swarm ship is here.”

Zivic jumped to his feet. “All hands. Battle stations! Ready the rail guns and laser targeting systems. What is it doing?”

Mak shook his head. “Uh, nothing. They’re just ... orbiting.”

“It hasn’t sent out any craft? Fighters? Shuttles?”

“Not that I can see, sir.”

“Weapons systems powered up?”

“Not that I can tell, sir. This looks like one of the old, original models of Swarm ship we encountered in Swarm War Two. We’ve got good historical technical data on those, and from what I can tell, most of the power generation from their core is directed somewhere else. Can’t tell where. But definitely not their weapons systems.”

Zivic remembered the old videos from the Great War, watching Granger on the *Constitution* get pounded by the intense purple anti-matter beams from the giant Swarm ships. “Guess we can thank fate for now. I want to know the second that power is redirected toward weapons. Understood?”

“Yes sir.”

“Comms,” he said, turning to the station. “Get me Granger. I assume he’s on the *Benevolence*. Hail them.”

A few moments later, the comms officer nodded. “I’ve got the command center of the *Benevolence*. Video, onscreen now.”

On the viewscreen the planet was replaced with a face he knew well. “Welcome to Scaedria, Captain Zivic. I see you’ve brought guests. But I’m afraid I must ask you to leave. All visitors to our homeworld are forbidden. You must leave.”

“Uh, Madam Krull, I trust you’re aware of the Swarm ship now in orbit above Scaedria?”

“We are aware, yes.”

“And ... are they guests too?”

“They are not.” She folded her arms and scowled.

“Then ... you want them gone, yes?”

“We want them destroyed.”

“Say no more. By my count we’ve got two IDF starships on hand, six Skiohra generation ships, and, oh, a few thousand Valarisi robot ships, all with a common target. What the hell are we waiting for?”

Krull sighed. “Granger said to wait.”

“What?!” Zivic sat down, the wind feeling like it got knocked out of him. “Is he there? Can I speak with him?”

She nodded and motioned to someone offscreen. A few moments later the screen split, and on the other half was Granger, sitting on a chair, apparently in deep discussion with ... a robot.

“Sir?” he said.

Granger looked up. “Ethan. Did you find the Valarisi?”

“Yes. And they’re here, and they’re—temporarily, at least—on our side. Why aren’t we kicking the Swarm’s ass?”

“Because. Long story. Too long to tell over comms. Let’s talk in person. And we may need backup—get on meta-space radio and ask Admiral Takeshi for some ships if they can spare them from the Paradiso project.”

“Sir!” said Mak. “The Swarm!”

He looked down at his command monitor. “What? What are they doing?”

“The energy readings from their ship. Massive, massive spike. And the signature has changed—they’re starting to match what we saw from the Findiri at Earth last week,” said Mak.

He turned back to the science station. “Scan the vicinity of the Swarm ship. See if you can find—”

“Got it, sir,” said the science officer, cutting him off. “They’ve generated one. The Swarm has generated a two-dimensional singularity a few kilometers off its hull.”

She studied her monitor, then looked up, her face going off-white. “And it’s getting bigger.”

## Chapter 47

*Destern System*

*ISS Independence*

*Sickbay*

“Danny, what do you mean, you’re *sorta* Quiassi?” asked Proctor, after two glasses of whatever spirit he’d offered her. It wasn’t whiskey after all. It was more like some kind of premixed cocktail.

But it worked. And that was the important part. Even though she knew she was just inside her mind—and somehow sharing the experience with Danny—the alcohol seemed to dampen her anxiety, flush her face, and make her feel a bit more loose. Mental booze. Crazy.

“I mean ... *sorta*. Kinda. You know. A little of both. I’m Danny. The one you always knew. I’m also ... Oreth. Created by Tim Granger, a few years after her,” he said, indicating Carla, or rather, Reah.

“You can’t be both, Danny.”

“I can. And I am,” he said, very self-assuredly. She’d known him since he was a baby, and she always knew when he was telling the truth, and when he was trying to lie. She could tell because he’d always pause before the lie, and then quickly break down and admit to the truth.

“Danny,” she began, “I know you. I know when you’re bullshitting me and when you’re on the up-and-up.”

He chuckled and held up both hands. “Oh, I know, Auntie Shelby, believe me. I’d never dream of trying to get something like this past you. To tell you the truth, I didn’t believe it for weeks afterwards. The fall through Sangre de Cristo’s atmosphere, that is. When I woke up, it was like I had all these ... *extra* memories. Things that just didn’t fit into my own life. At first I thought it was just hallucinations from having been, like, you know, dead. But the memories didn’t go away, they only got stronger and stronger, until now, here in my head, everything suddenly became quite clear. I have very clear memories of *both* of my lives.”

Proctor was half tempted to toss her glass into the wall nearby, partly to see what would happen, and partly just to relieve some tension. The mental alcohol only worked *so* well, after all. She decided against it when she looked again into Danny’s earnest face.

He was never earnest. Except when he was very invested in something. He usually played it cool, but when he focused on one of his interests, it was all business until he accomplished his task. And it was quite clear to her how seriously he took this.

“But Danny, how can someone be two people? Literally, two people?”

“I don’t know, Auntie,” he said, solemnly. “But all I know is this. I have memories of two lives. Which am I? I feel like Danny. I also feel like Oreth. I look at Reah there, and I see a sister that I haven’t seen in a few hundred million years. Then I look at you and I see my dearest Auntie, who I’ve looked up to since I could hold a model starship and learned you flew the damn thing. I think about my first ship, the *Magdalena Issachar*, and how I was so *fucking proud* that I finally had my own ship, just like my Auntie Shelby. And then I think about Granger, and Reah, and Irithil, and Rayna and Anhara, and all of the time we spent together in our long effort against the



Swarm, and I ... well, that part makes me sad, because....  
Well. Just because.”

Proctor looked over at Carla, hoping to see a reaction from her to that cryptic statement, but she was stone-faced. There was something there, and she made a point to ask him about it, but not right then.

Carla broke the silence. “Here’s my theory. From what I can tell, you—Oreth—were inside Shovik-Orion, or the GPC, or both. Maybe as some low-level bureaucrat. High enough to have visibility into important affairs, but low enough to not draw attention. Sound about right?”

“Essentially,” Danny confirmed.

“And you—Danny—you’d just fallen through the atmosphere of Sangre de Cristo, landed, *died*, and were laying there before the authorities came and collected you. And then, here’s where the sequence of events gets murky to me. You—Oreth—see a prime opportunity to move along to your next body. A young man with some very important contacts at IDF and Shovik-Orion both. So you make your move and begin the process. Meanwhile, the techs at Shovik-Orion, in one of their tests of the old Valarisi matter that they’d swiped, have already injected Danny’s body with some. Somehow, as you transformed into Danny, the presence of the Valarisi ... I don’t know. That’s the wild card. To my knowledge, a Quiassi has never had a Valarisi companion.

“Never?” asked Proctor.

“Never. Granger made us like oil and water. And so, when you started the process, transforming into Danny, the Companion transferred to you too, and it’s almost as if Danny himself came along for the ride.”

Danny stroked his chin, as if deep in thought.

“Interesting,” he said. “I admit, it almost sounds plausible.”

“Almost?” said Carla.

“It would be almost plausible, if I didn’t remember what *actually* happened. Me. Oreth. You were correct up to a point.

I was standing over Danny, who was dead, laying on a hospital bed. They'd injected him with the stolen Valarisi matter, but I hadn't realized it, so when I began the process, the matter—which is essentially a precursor to a fully-realized individual Valarisi—came into contact with my essence, *before* it ever came into contact with Danny's, who, being dead, didn't have all that much to interact with. And then! It gets interesting.”

Proctor noticed the slanting sunbeams angling away from the window, and caught the ever-so-slight movement as the shadows tracked against the far wall. She wondered how fast the sun moved in her mind.

Danny continued. “The process had started. But it was interrupted. The men who'd taken me, Huntsman's men—that crazed Swarm-controlled cult leader—entered and caught me in the act. In an instant, I foresaw what would happen to me—they'd take me, interrogate me, and most likely kill me. So I made a dangerous gambit. Rather than *become* Danny and reform my body into his image, I did the reverse. I sent myself into *him*. I seemed to be aided by the fact that the newly born Valarisi companion was there and strengthened the meta-space connection. And as I entered him, my last act in my former body was to lunge for the gun one of the men was holding. Of course they shot me dead, but by then I was pretty firmly transferred over to Danny's mind. In due course, the healing nature of the Valarisi matter had its effect on Danny's body, and revived it. He was alive. And with him, me.”

“So you're both in there? Simultaneously?” said Proctor, still eyeing the perceptibly moving sunbeams.

“Yes, and no. We're the same. There's only one of me here. I'm me. There's no other way to explain it. Except I have two sets of memories. Two sets of experiences and talents and personalities that I can draw upon. It's the oddest thing. And it's all compounded—or smoothed, who knows—by the presence of my Valarisi companion. Jack. Or it was, at any rate. Where is he, by the way? I can feel he's close, but something's off.... I feel like I'm stuck in here because of him, and yet, I haven't the foggiest idea where he is.

That sunlight. Those shadows. Proctor had become more and more taken with how odd they looked. It wasn't normal sunlight. It was too white. And it wasn't moving, so much as the shadows themselves moved.

She approached the window and looked out.

And gasped.

## Chapter 48

*Penumbra System*

*Scaedria, High Orbit*

*Skiohra Generation Ship Benevolence*

“Krull, please. Your people must leave the system. Now,” Granger repeated.

She shook her head and lowered it to a hand. Another human mannerism he assumed she was using to express not only disappointment in him and his request, but her annoyance at his persistence. “Impossible, Granger. Even if I were to give the order, there would be a second great mutiny. One was unheard of among my people. We lost many. Another? Just a few months after the first? Unthinkable.”

He nodded along with her, putting a finger in the air to make a point. “And what came of that first mutiny, as terrible and heart-wrenching as it was?”

She paused to think. “Well, *you*.”

“Exactly, and I thank you for it. And now the stakes are even higher. If you do not leave this system, I fear the entire Skiohra race may be destroyed.”

She laughed. “By *that*? That single Swarm ship? No. It is insignificant. We can overpower it many times over. If it

attacks, we are ready.”

“But the singularity shield—”

“Is also insignificant. We studied the battles over Paradiso and Earth, and know how to accommodate their use of this technology in any potential engagement.”

She was stubborn, he’d give her that. “Very well. At least,” he cast about for any idea, anything that would forestall or prevent the inevitable. The Swarm would be born *tomorrow*, dammit. “At least, coordinate the defense with my ship, the *Volz*, and the Valarisi fleet that has just arrived. Plus we’ll be receiving reinforcements from IDF shortly—”

“As I said, Granger, we have more than sufficient strength to repel any attack.”

His voice started to rise. “You have no idea what you’re talking about, Krull. None. That ship out there? It’s from the far, *far* distant future. You have no idea what it is capable of. And now that it has the singularity shield at its disposal? Dammit, I never meant for them to ever get their hands on that. Rayna always assured me that the Findiri were the only ones who could ever—”

*My god*, he thought, *Rayna*. He finally remembered Rayna, his final, and possibly his most noteworthy Quiassi creation. She’d *invented* the singularity shield. If there was anyone who could figure out what to do next it would be her.

“Fine. I’m going back to the *Majestic*. Do not try anything, Krull. Either with the Swarm,” and he lowered his chin, glaring at her, “or with us. We’re not leaving until the Swarm threat is neutralized, understood?”

“Granger,” she began, “you promised me knowledge. About our homeworld. What have you learned?”

“I’ve learned you shouldn’t be here,” he snapped, shutting off the internal commlink. He nodded a farewell to the caretaker. “Thank you for your help. I hope I can come back soon—we still have so much to recover.”

He left the forbidden room and allowed the Skiohra security escort to lead him back to the bay where his shuttle was parked.

When he finally arrived back on the bridge of the *Majestic*, he motioned to the tactical station. “What’s the status of the Swarm and its singularity shield?”

“It continues expanding in diameter at a rate of about ten kilometers per hour, sir.”

“Okay. Keep an eye on it. If anything changes in the slightest, I want to hear about it.” He turned to the comm station. “Get me on meta-space. *ISS Dirac*.” He sat down in the captain’s chair. “Time to catch up with an old friend.”

## Chapter 49

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

“Hello, Tim. I’d say *long time no see*, but we just saw each other last week,” said Captain Rayna Scott.

“Rayna. Good to see you,” he said, then checked to make sure the holoscreen had descended around him to keep their conversation private. No need to let the veteran crew of the *Majestic* know that an IDF captain was one of the ten long-lost Quiassi. “Are you secure on your end?”

“I am,” she replied.

“Good.” He breathed a long sigh before starting again. “Rayna, I . . . I just remembered. All of it. Well, most of it. But the important parts, I think.”

“About damn time, dearie,” she said. “And? Is this it? The time Reah foresaw?”

“It is.”

“When?”

“Tomorrow.”

“Tomorrow morning? Or tomorrow evening?”

He chuckled. “I didn’t exactly jot down whether to get my dinner in before it happens.”

She didn’t even smile. “Kinda an important tidbit of information, dearie. That means it either happens in as soon as six hours, or as late as thirty hours.”

He shrugged. “Well, all things being equal, I think we should go ahead and err on the side of *soon*. Rayna,” he said, hesitating, “you *invented* the thing. That singularity shield out there that ship is currently using to do who-knows-what, but it most likely has to do with ensuring their rebirth tomorrow. One question for you—at Earth, last week. It seemed you were just spit-balling that out-of-the-hat solution to save Earth from an anti-matter planet smashing into it. Don’t you remember how they work?”

“Doesn’t work like that with me, dearie. Remember? You made me different.” She said it not with any hint of sarcasm or malice. It was just a fact. It was her reality, and she apparently didn’t begrudge him for it.

“I remember. We needed someone different, someone special, to come at the problem from different directions. And you did. And it saved our hides on many, many occasions if I recall correctly.”

“Again,” she began, “I *don’t* recall. Not exactly. I’ve forgotten a lot. And it’s not like you, where I can go collect my memory from some memory stick in an old forgotten briefcase somewhere. Mine is gone. I was never made to remember the smallest details for millennia. You made me to *feel* the solutions. And I have. It’s how I made the singularity shield. I remember *feeling* that technology into existence. But explain it back to you? Damn. Haven’t the foggiest. Plus it was, what, over a billion years ago now? Damn—it’d be easier to invent something entirely new than to piece that one back together again. So in answer to your unasked question, no. I don’t know how to stop the Swarm ship from doing whatever it is currently doing. I don’t have a remote kill switch.”



“Fine. That was my first question. My second was going to be ... has anything changed with your feelings? Do you still ... *feel* ... that my plan is valid? When we came up with this all those years ago, you said it felt right. Does it still feel right?”

She hesitated. That was concerning. “It feels ... rightish.”

“Rayna!”

“I didn’t say it feels wrong, dearie. It’s just ... certain things have changed. There are new variables at play. There’s a whole planet made of anti-matter on the loose—there’s no way you accounted for *that* in your oh-so-detailed plan. But the main problem I’m dealing with in feeling whether anything has changed or not, is that the new variables were put in place by *us*. By *you*.”

“What do you mean?”

“Anhara. Malakov. Cooper. Whatever he goes by these days. I can just ... feel it. Something’s off. Something is there that wasn’t there before, and it’s throwing off my sense of whether we’re still pursuing the right course.”

He stroked the stubble on his chin. So. Senator Cooper was Anhara. He admitted to himself he didn’t see that one coming. “But his purpose is to stop the Swarm. So whatever he’s got up his sleeve, it aligns with our interests.”

“Oh, dearie, apparently that part of your memory hasn’t come back yet,” she said half apologetically.

“Yes, yes, I know all about Anhara. I created him, after all. He was my first. He was the one modeled most closely after me, seeing how I was the only model I had at the time. I know he’s a little fucker who will do anything to win. Absolutely anything.”

“Just like you?”

He set his jaw, and nodded. “Just like me.”

“But you have morals, Tim,” she said, using his name for the first time he could remember, ever.

“Do I?”

“Don’t you?” she threw the question back at him.

“The crew of the *ISS Chesapeake* might have some thoughts about that, if they were alive. I mean, hey—technically, I’m still due in court next week. One of the widows is suing me.”

“That was different.”

He shook his head. “No. It wasn’t. I was just so used to acting with impunity, with no regard for the consequences as long as *the plan* wasn’t negatively affected. Was I completely in my right mind? Not exactly—I was basically a mechanical mind at that point, piloting the *Victory*. And mechanical minds are a crap-shoot when it comes to morals, as I discovered with the robot fleet—who are here, by the way. Valarisi control them now.”

“I heard. Sent for them, did you?”

“I most certainly did *not*. Their presence is a little disconcerting. They’re a wild card.”

“Just like Anhara,” Rayna said.

They let the thought settle in silence for a long while. Granger wasn’t even sure what was next, what to ask her, what to discuss.

Rayna broke the silence. “There’s something you should know. I’ve been reviewing videos of Irithil’s journey to the end of the universe. The one that brought this Swarm ship back.”

“The one that brought the...” he trailed off, putting two and two together. “President Avery was Irithil? Figures.”

“Righty-ho. Anyway, I saw something.”

“Oh?”

“Seconds before she came back, with the Swarm ship hot on her tail, I saw that same Swarm ship appear off their hull, hundreds of kilometers away. But it was changed. It had the

singularity shield. It was *this* ship, the one out there, after it had stolen the singularity shield.”

Something weighed heavy on him. “Interesting. Did it go back to that moment before or after the current time now?”

“Can’t say for sure. If it’s before, then it went to the future and came back either with something or after doing something. If it’s after, perhaps what it’s doing at Scaedria has something to do with its impending journey to the future. Dearie,” she leaned into the camera. “Something tells me this is important.”

“Clearly,” he said. “I think that, whatever the answer, we need to stop them from using it. It can’t be for any innocent or trivial end.”

“Does this mean you’re going to try to stop them now? Before they can complete what it is they’re doing?”

“With this new information from that video, I think the equation has changed. Before, I was willing to wait and see, get as much information as we could before acting, since we couldn’t know if by acting we were ensuring the Swarm’s creation, or if by not acting we were permitting the Swarm’s creation.”

“That’s a dilly of a pickle, I admit,” she said. “Damned if you do, double-damned if you don’t, with an extra helping of *oh shit we just created the Swarm.*”

He chuckled. “Always had a way with words, my dear Rayna. Any final advice as we move in? Krull is confident she has more than enough firepower to stop them.”

She nodded. “Yes. I’ve got one for you. Don’t let that Valarisi robot fleet near the Swarm ship with a ten-light-year pole.”

“Oh? They could be helpful in the battle.”

She shook her head solemnly. “You know those special Rayna feelings I get? Well I’m getting a big ol’ *make those*

*fuckers get the fuck out of Dodge* Rayna feeling. Seriously, dearie. I think the Valarisi can sit this one out.”

He nodded slowly, confused, but in agreement. “Okay. If there’s one feeling I’ve learned to trust its those big ol’ Rayna feelings.”

The holoscreen dropped suddenly, and Lieutenant Li’s face shifted into focus. “Sir? The Swarm ship. It’s moving.”

“Time to go, Rayna. Got a battle to start.” He flicked the meta-space transmission off. “And hopefully to win.”

## Chapter 50

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

On the viewscreen Captain Zivic watched the faint ripple in space, like a giant circular disc in front of the Swarm ship, indicating the location of the singularity shield the ship was generating.

It was growing. Almost as large as the giant Swarm ship itself.

“Sir, it’s starting to move,” said Lieutenant Jor.

“All hands, prepare for battle.” He turned to Shin-Wentworth. “Set the ship’s condition to red. Order all gunnery crews to stand by—this could be one hell of a fight.”

“Aye, sir.”

He punched his comm button on the command console. “Ace? Where are my birds? You guys ready?”

“I’d say we were born ready, but that’d be awfully cliché of me,” came Ace’s voice over the comm.

“As long as you kick the Swarm’s ass you can have all the clichés you want. Prepare for launch on my command.”

“You should be down here, Batshit.”

He gripped the armrests tightly. He *wanted* to be down there. He felt like his skills as a pilot far surpassed his skills as a starship commander. The flight controls were easy to understand, the physics intuitive, the targeting like an adrenaline-fueled video game. Commanding a crew half full of barely-graduated cadets? All while dealing with IDF command screaming at him to come home, helping an ancient geriatric hero save Earth, and trying to figure out how to send their long-time enemy to oblivion? God, he wished he was just flying.

“I know,” he finally answered.

“Then get your ass down here.”

“We both know I can’t do that.”

“What about Shin-Wentworth? I mean, in spite of his murdering tendencies and all, he actually wasn’t a half-bad ship commander, back there at the battle of Paradiso, with his *Angel Wing* task force.”

He glanced across the bridge at Shin-Wentworth, who was consulting with tactical, and lowered his voice to a whispered growl. “He did well, sure, but I can’t seem to get past the whole *murdering my fiancée* thing.” Even as he said the words he knew he needed to be mourning, and not working. He felt cold and dead inside. He felt nothing. “No, I need to be right here, and you need to be right there, covering for both of us. Got it?”

“Loud and clear. Just ... don’t fly the ship like you fly a bird. Out here? Just our squad’s lives on the line. Up there? A thousand lives. More, if you screw up big time. Ace out.”

He chuckled. “Thanks for the rousing vote of confidence.” But she’d already cut the line.

“And the Valarisi fleet, sir?” said Shin-Wentworth.

“What about it?”

“Shall we coordinate our battle plan with them?”

“No. We don’t even have a battle plan yet. We need to talk to Captain Granger, and possibly the Skiohra, if he’s convinced them to help in the battle.”

The comms officer looked back at him. “Sir? Captain Granger for you.”

“Perfect timing,” he mumbled. “Put it through to my terminal.”

A moment later, Granger’s lined face appeared on his console monitor. “Ethan. You need to get the Valarisi out of here?”

“What? Why?”

“I can’t explain right now. But they’re only going to be a liability if this turns into a shooting war, which, knowing the Swarm, is really the only outcome possible here.”

Zivic wondered what the response from them would be. Hell, he knew exactly what the response would be. *Thank you for your concern, but go to hell.* “I don’t think they’re going to take kindly to being told to go home. They kind of have a blood vendetta and seem hellbent on finishing them off for good here.”

“See? That’s just the thing. I was talking to Rayna, and she agrees—destroying them here might not mean destroying them for good. I mean, hell, look at what happened to me when I quote unquote, *destroyed* the Swarm with that black hole trick. And then again a few months ago when we *destroyed* them again, this time with an even better black hole trick. This time? We don’t even have a spare black hole lying around,” he said with a deadpan delivery.

“I mean, we could call in *Interstellar Two* from wherever Avery hid it. They apparently have one we can toss at them. But yes, I see your point,” said Zivic. “So? What do we even do here? They’re moving right now. Their trajectory is....” He

glanced at the tactical display. “They’ve angled off toward a higher inclination orbit. I don’t understand why, though.”

“Do your best. I want the Valarisi gone. Tell them I asked it. I don’t know what sway I have with them these days, but me and their ancestors had quite a run for a few billion years—maybe they’ll remember that, somehow. And then? When the IDF reinforcements arrive? We’ll rally with the Skiohra and make our move against the Swarm ship. Granger out.”

Zivic stood up and turned to Shin-Wentworth. “You heard the man. We need to figure out how to convince them to leave.”

“Seems ... inadvisable, sir. They bring a lot of firepower to this fight.” Shin-Wentworth looked dour. Disappointed, even. “But, if that’s what Granger wants, then who are we peasants to question him?”

Zivic raised an eyebrow. “Commander?”

“Sorry, Captain.” He sighed. “It’s just ... we’ve trusted in his plans all this time. And what has it gotten us? A destroyed Britannia. A nearly destroyed Earth. Ravaged planets all across United Earth space. Maybe, just maybe, we use our own judgment on this one, and not blind faith in the gut feeling of a man who’s been wrong on ... so damn much?”

The words cut Zivic to his core, and simultaneously disgusted him. He wondered why. Had a lifetime of hearing about the Hero of Earth saving civilization colored his judgment? “If you have an actual plan that makes sense, I’m all ears. Otherwise, Granger is what we have to go on right now.”

“Sir!” said Jor at tactical. “A shuttle just departed our bay.”

Zivic spun around. “On whose authorization?”

He looked at his console, perplexed. “No one’s sir. The bay doors opened, and it just left.” He examined some data. “It’s the *Jeremiah Angelo*.”



“Connelly? What the hell is she doing?” said Zivic, turning to Shin-Wentworth. “You talked to her. What’s going on?”

The XO stammered. “I ... I don’t know.” He stepped over to the comm station. “Patch me through to her.”

Lieutenant Petty tried several times. “She’s not responding sir.”

Zivic watched the viewscreen. “She’s heading straight for the Valarisi fleet.” He sat back down in the captain’s chair. “I’ve got a bad feeling about this.” He tapped his comm button. “Ace?”

“Yeah?” came the reply.

“We’ve got a situation. You and Moonshine take out a sortie. Might have to bring in a rogue shuttle.”

“Phew! Thought we’d never see action! A rogue *shuttle*! Gosh, captain! Want me and Moonshine to go snatch it with an incredibly dangerous externally forced q-jump just so we can feel something? Or—”

“This is serious, Ace,” he said sharply, still watching the shuttle get closer and closer to the Valarisi fleet. “Something’s wrong. Very, very wrong.”

## Chapter 51

*13,780,112,000 years after the Big Bang*

*Or*

*1512 CE*

*Sol System*

*Earth*

*Rome*

He leaned over and whispered in her ear. “So? What do you think?”

Making no attempt to keep her voice down in spite of the people surrounding them, looking upward at the ceiling in awe, she murmured, “Of turning two hundred years old? Or of my birthday present?”

One of the French noblemen nearby cast her an odd look when she mentioned her age, but other than that the audience of European noblemen, royalty, and diplomats was transfixed on the ceiling. The French nobleman shook his head and resumed staring up, clearly dismissing her age as a joke.

“Two hundred? Practically a baby. Talk to me in a million years,” he said, still whispering. “But it’s pretty breathtaking, isn’t it?”

She nodded, still gazing upward. “And you say it’s still here a thousand years later?”

“Most of it,” he replied. “Part of the chapel was destroyed during the First Swarm War, but thankfully—miraculously, you might say—the ceiling was completely untouched. The entire north and west walls were taken out, but the ceiling remained. The pope claimed it was the hand of God himself holding the entire roof up against the might of the Swarm. And, interestingly, there was a faint meta-space signature detected in the chapel for years afterwards. Origin unknown.”

Reah smiled. “Don’t get all woo-woo religious on me, old man.” She turned around, still holding her gaze upward toward the sweeping art. “But yes, it is breathtaking. How did you arrange to show it to me a whole week before the official unveiling? No, wait, let me guess. Julius.”

He nodded. “You could say old Julius owed me a few favors. I mean, you don’t become pope without racking up accounts you need to settle later.”

She finally dropped her gaze and smirked at him. “You called in a favor from Pope Julius the Second ... for *my* birthday?”

“Oh, this?” he waved his arm around the chapel, but still kept his voice low. “Nothing. Just wait for the party later tonight. We’re flying up to Paris. Everyone’s going to be there. The whole gang. Even Henry—incognito, of course, he’s supposed to be running a war in Aquitaine after all, but I’ve never known a twenty-year-old king to miss a party with women and booze. Most of Vestige. Some of the Hapsburgs. Medicis. Anyone who’s anyone.”

That look in her eye. The sly look that said, *I don’t believe you but I’ll play along anyway*. “Anyone who’s anyone, huh?”

No one in Europe says no to Sir Timothy Granger. Not popes, not kings. No sir.”

“I’m not kidding! It’s going to be huge affair.”

The cardinal hosting the advance showing started to talk and explain some of the process that led up to the painting of the Sistine Chapel’s ceiling, beginning by regretfully announcing that the artist would not be joining them that evening due to unforeseen circumstances.

“Unforeseen my ass,” murmured Granger. “I invited him personally months ago. He’s decorating your cake.”

Reah’s went red. “Michelangelo is decorating ... my birthday cake?”

He squeezed her hand. “Only the best for my Reah.”

She shook her head. “Look at you. When I met you, you were an anti-social, grouchy, billion-year-old loner who couldn’t wait to find the exit at a party and certainly wouldn’t be cozying up to Pope Julius just for a nice birthday present for his girlfriend. I guess the saying is bullshit. Men can change after all.”

The cardinal was droning on and on, so he took her hand and led her back to the entrance of the chapel. “Come on. This loner wants to get the hell out of here before someone starts schmoozing us. Plus, I could have sworn I saw Niccolo back there—probably trying to get unbanished from Florence, and thinks my friendship with the Medicis might help.”

She shook her head in ironic disgust. “Machiavellian.”

“Let’s get back to the ship. We need to stop in Bern and pick up the Vestige folks who are coming to the party.”

Their ship was in a warehouse about a mile away, and the long walk let them reminisce some memories of the first time they walked the streets of Rome, over a hundred years ago.

“I’ve been thinking,” she began. “The plan. How much it’s changed over the last few decades—”

“Because of you,” he interjected.

“Sure. But all of the plan is yours, darling, I was just your inspiration for tweaking it. No, I was about to say....”

She trailed off as they climbed the ramp into the small ship. This one was far better disguised than the bulky craft he’d swept her away in all those years ago in Bern. It could be mistaken for a giant eagle from a distance.

“What is it?” he sat down in the copilot’s seat and waved her ahead to fly the ship.

“What if ... you were right to begin with? What if your original plan was ... well, just *fine*?”

He snorted. “Dear, my original plan was hogwash.”

“I mean, you did have a few billion years to think about it. Couldn’t have been *that* bad.” She shot them up into the sky so fast that anyone watching closely would only see a swift shadow moving overhead before it was gone.

“It was ... okay, I guess. But now it’s better. It’s foolproof.”

“Famous last words of fools.”

He chuckled. “Indeed. But....” He paused, regarding her. The graceful bend in her neck as she studied her dashboard. The auburn hair, tinged with gray in a few places, done up in the fanciest French style, appropriate for the occasion. So beautiful. So ... goddamn sexy. And there she was, a medieval woman, flying his ship, helping him with his eons-long intergalactic plan to save humanity. Also ... so goddamn sexy.

“But?” she led him to continue.

“But now, with you involved ... it’s better. Because originally, I was a one-man-show. I did it all myself. I mean, sure, we’ve got the Valarisi with us. I made Findiri and Quiassi and legions of robots in all my failed plans in the past. And that’s my point. I was done working with others. I wasn’t going to trust the salvation of humanity to anyone else. No one else. Just me. I was going to do it alone. A network of moons

transformed into battle stations—all piloted by me. Skiohra motherships serving as bases for, yes, themselves, but also ... me. Hosting my future bodies and memories for when I need them. The Dolmasi. Acting in their own interests, but also subconsciously programmed to serve mine. The Eru. The Itharans. The Whilm. A dozen other races I've worked with over the last few eons, all touched, all influenced to enable me, and only me, to do my work. But it all came down to me. And me alone."

She smiled. "And now you're not alone."

"Now I've got you."

"Not just me." She initiated the landing sequence as they approached Bern.

"Not just you," he repeated. He still wondered sometimes if it was wise, since with more people came more variables, more unknowns. More risk. At first, when he started Vestige, the plan was just for a handful of people to be involved and carry the mission forward. Now they numbered over a hundred, at her insistence—*you can't do it all alone, old man!*—and it unnerved him to have so many variables in play, but just having her there next to him soothed all those fears away.

Once in the main hall of Vestige, they stopped in front of the giant mural on one of the walls. It was painted in the style of a Renaissance scene, but this scene was not a religious one.

It was the plan. In sweeping visual, stunningly artistic form.

"Still boggles my mind that he still had time to do this with Julius breathing down his neck to get that chapel done," she said.

"It's still not done, though. Look," he pointed to a section of the wall near the door to the great conference room at the back. "Still blank. We've got to tidy up that part."

She nodded. "What do the probability models say about the Swarm capabilities there?"

He shrugged. “Depends on the boundary conditions.”

“Well, it’s a Dirichlet condition, basically an n-dimensional array of capability values, right?”

He shrugged again. “Again, depends. Dirichlet boundary conditions, but at what boundary?”

“Can’t we just choose an arbitrary date in the distant future, as long as it’s far enough?”

“Maybe. But is far enough a trillion? A quadrillion? In the mathematical model, it should be infinity, but in reality, there is no infinite future, so we need to choose a number. The question is, does that introduce unforeseen instabilities into the model when you collapse an infinity down to a finite number, no matter how large?”

“So that’s why he stopped painting. He doesn’t know how to paint the Swarm on that wall.”

He nodded. “Exactly. And not just that, but the forces—if there are any—that would be arrayed against them. So basically my plan integrated over all eventualities, which, let’s face it, I’m not even sure the Valarisi could do that, even if every single Valarisi had a trillion of their own Valarisi helping them compute.”

Her face had taken on a dour look. “So what do we do? Aren’t we running out of time?”

“Depends on what you mean by *running out*. Compared to how long I’ve worked? Sure. There’s just a blink of an eye left. But we’ve got hundreds of years still. And the answer is ... I’ve already told you. It’s you.”

“Me?”

“Well, your influence. Your philosophy. Your insistence we include others. That’s the key. No matter how indeterminative the models become, or how unstable they get, they’re saved by the virtue of, well, redundancy. A million creative, dedicated minds devoted to a goal is infinitely better

than a single creative dedicated mind, no matter how brilliant he is or long he's lived."

"I was about to say don't get cocky, but well, you know," she said with a sly grin, glancing once down at his pants.

He stifled a grin of his own. "Later." He hadn't noticed the growing crowd behind them.

"Sir? I think we're all here," said the warden. "I'll stay behind as planned."

The members of Vestige who wanted to come up to the festivities in Paris had assembled, all donning their best and fanciest party apparel—which was odd to see given that at least half of them were technically monks. "Uh, fellas, I don't know that we're all going to fit," said Granger.

She nudged him. "What was all that about more is better? A group is better than one single person?"

"I'll grant you that a crowd of young partiers is better than one crotchety old man, but seriously, I don't think we'll all fit in the ship." He eyed his associates warily, counting them and wondering if he should ask the Valarisi for optimal packing algorithms to fit them all in.

"Nonsense. Young bodies are flexible. I know it's hard for you to remember, but trust me."

"Trust the two-hundred-year-old woman when she assures me that young bodies are flexible?"

She smiled. "I'm basically a baby, remember? Let's go old man, my party awaits."

He finally let himself grin and took one last glance at the mural on the wall. Specifically, the section on the opposite side of the chamber. The old plan. His eyes drifted to the end, resting on a painting of himself. His arms were splayed out, his head tilted and facing straight up as if to heaven, stylized drops of blood spraying out from him in a mist, and pure, holy white light beaming out of his fingertips, chest, and eyes, like



some pseudo-Christian martyr figure, a holy relic to be worshipped. Nonsense. Utter nonsense.

*My god, I'm glad I met that woman....*

## Chapter 52

*Present Day*

*Interlude*

The small, scared voice finally broke through again. It had been losing itself, disoriented in an overwhelming whirlwind of oppressive thought and will forcing itself upon her. *This is my mind being raped. My god, she thought, I need to stop this before ... before he makes me do something abhorrent and will regret forever. I'm Patricia Connelly. Patricia Connelly. Do not forget that, lady.*

She eased the shuttle out of the bay, half-wondering why no one was trying to stop her and the other half wondering what *he was* going to have her do.

The past hour had flown by in a blur. *He* had instructed her to find the deck commander, shake his hand and thank him for servicing the ship and ask him to expedite matters so she could be on her way and out of their hair.

He'd been very insistent on the handshake. The deck commander didn't seem to mind though.

"You're Patricia Connelly," she repeated out loud.

*Of course you are, my most loyal servant.*

The use of the words *loyal servant* struck a chord of joy in her—part of her, at least. The other part recoiled in horror. The small, scared voice part of her.

But that part wasn't in control of her hands. The loyal servant was.

She steered the shuttle out and around the *Volz*, and aimed it squarely at the Skiohra flagship. "You're mine, Granger. Too bad you won't even see this coming," she murmured.

*But what am I doing when I get there?* the voice wondered.

"Doesn't matter. Clearly the master wants him taken out, and somehow I'm going to do it."

*You haven't even thought this through,* said the small scared voice, that she now recognized as Patricia's voice.

"I don't need to think it through. The master does all the thinking now. I do the obeying. I carry out his will."

*That's not you.*

"It's me, baby." She engaged the thrusters and accelerated toward the ship. A quick glance at the new torpedo's controls told her that it was operational and ready to be launched.

*What are you doing, my most loyal servant?* the other voice said.

"I ... I'm carrying out your will, my master."

*You haven't quite understood my will. Though I appreciate your initiative. Again, that's why I chose you.*

She breathed easy, berating herself for jumping the gun, but glad that he still praised her. "What then shall I do?"

*First of all, you're pointing in the wrong direction. Go that way,* he said, as her head automatically turned in the direction he wanted. Her gaze fixed on the strange fleet assembled a few kilometers off the *Volz's* bow. *Set the ship on a course toward our Valarisi friends. Then get your spacesuit on.*

"Ah. I was wondering when I'd need that."

She set the course and stood up, walking to the rear of the cabin to the storage compartment. The spacesuit was easy to don quickly, and as she started to return to her seat, he spoke again.

*Wait. Go to the torpedo access hatch. Engage the manual override and release the clamps.*

“Got it,” she said.

The task done, she returned to her seat. She now knew exactly what he wanted done. Though for the life of her she couldn't figure out why.

When the shuttle reached the coordinates, she reversed the thrusters and came to a stop. She looked out the viewport and saw that she'd come to rest right in the middle of the Valarisi fleet. One of the Skiohra generation ships loomed nearby as well.

*Go outside.*

“Yes, my master.”

With her helmet on she evacuated the cabin air and opened the hatch. She clipped the safety line on and made to climb out and hold onto the side of the shuttle until he told her what to do.

*You won't need that,* he said, and she knew he referred to the safety line.

“Of course,” she said.

*Go to the launch tube.*

She climbed around the shuttle, engaging the mag boots and careful not to take her gaze off the part of the hull that was directly in front of her, lest she be overcome by vertigo and get dizzy.

*Open it,* he said, once she'd steadied herself over them.

She reached down and pulled the launch tube hatch open, and knowing what he'd say next, reached down and pulled the

torpedo out with both hands. Even in zero gravity it was a beast, with a mass easily three times her own.

*Are you ready?*

“Ready, my master.”

*Wrap your arms around it, jump as hard as you can, then wrap your legs around it too.*

“Am ... am I delivering the torpedo to the Valarisi? Will they use it to take out Granger?”

A long silence from his voice.

*Something like that.*

## Chapter 53

*Penumbra System*

*Scaedria, High Orbit*

*Ace's fighter*

Ace.

She loved and hated that callsign. Loved it because, well, it was kinda badass. Whether it was poker, tennis, or—fittingly—fighter pilots, aces were great!

“Okay people, look sharp. We don’t know what this bitch is up to,” she said to her squadron.

“The fuck she doing out there?” said Moonshine. “Got herself all wrapped around something.”

She hated it because, well, it made her expertise, her skill, her talent for flying seem effortless. It was not. She trained every day, several times a day, for years. And being called *Ace* just made it seem like she was a natural, that all her talent was bestowed on some dumb fighter jock and not won through countless hours of hard work.

“Shit, man, it’s a bloody torpedo she’s holding on to,” said Moonshine.

“Shit,” said Barbie.

“Keep it together boys,” she said.

“Right, boss. You got this. What’s the plan?”

But in all her training, all the drills, all those countless hours of hard work, she had never once trained for a scenario like this. She watched in gut-tingling uncertainty as the spacesuit-clad woman drifted away from the shuttle, clutching tightly onto some large object. Her body obscured most of it, but now at this short distance, it was unmistakable.

She was definitely holding onto a torpedo.

“Ethan? You seeing this?”

“Yeah,” came the reply. “Don’t know what to make of it. Is she ... do you think ... under their control? The Valarisi? Like Decker was? And they’re basically using her to steal a torpedo?”

Her little fighter sped closer. She had no idea what the game plan was, but whatever it was she’d need to be close. “Maybe? Seems weird though, given that their ships have a fair amount of firepower. What could they want with a little torpedo?”

“No idea,” he replied, then, after a long pause, “Tow her in.”

“Not going to confront Decker first? See what he’s playing at?” she said, even as she prepped the tow cable launch and targeting process.

“No time. She’s already halfway to his ship. In another minute they can just reach out and pull the damn thing in. No, reel her back. But....” He trailed off.

“Yeah?” Her finger hovered over the tow cable launch button.

“Be careful. This is ... weird.”

She pressed the button, and the cable zipped out. The end, a super-magnet, latched onto the torpedo, and she eased into the thrusters, nice and slow.

“Tell you what. I bring this in all intact-like, you owe me a beer.”

He sounded like he forced a chuckle. God, he sounded nervous. “And if not?”

“You owe me two beers.”

It was the last thought she had before the flash, out of the corner of her eye, and then, milliseconds later, a large hole appeared in her front viewport. It was ringed with blood.

She glanced down, and saw, judging from the gaping hole in her chest, that the blood was most likely hers.

And her final thought after the flash: *Two beers it is.*



## Chapter 54

*13,780,112,132 years after the Big Bang*

*Or*

*1644 CE*

*Whilm Homeworld*

*Vestige Headquarters*

“Granger Ancient One,” began Tuftin, pointing to the cart. It was the usual head-turning juxtaposition of ancient and futuristic: a rickety wooden cart pulled by a sleek and semi-sentient rolling robot. “It arrives now. See? It arrives,” Tuftin said, with his characteristic excitability. “It arrives,” he added, just to be sure.

“He heard you the first time. Jesus,” said Dane. *The Dane*, was the man’s actual nickname, being the only Vestige member from Denmark. “Tim? You heard him? It is here. It arrives. It is here. As your own eyes can plainly tell you, it arrives. Right now. On that cart.” He cast Tuftin a sour look and shook his head. The two had been butting heads recently,

though Granger suspected that Dane was the only one butting heads—Tuftin seemed to be unaware there was a problem.

Granger bounded off the short brick wall he'd been sitting on conversing with Dane as he waited. "Good! This way. Have you told Reah it's here?"

"Not yet, Granger Ancient One," said Tuftin. "Reah Somewhat Old is taking a nap, we believe."

Dane grimaced. "I *told you*, you need to stop calling her that. We don't mention the age of any lady. *Especially* not her."

Granger ignored him. "Good. Lord knows she needs it, she's put in more work than anyone. Plus, I want this to be a surprise." He picked up one of the boxes in the cart and lifted the lid. "They've been tested?"

"Yes, Granger Ancient One," said the diminutive alien. Long limbed, sparse hair like a baby's, and unusually large ears, but other than that, they almost looked human. Perhaps that's why they'd so easily accepted him so long ago. And accepted his gift.

His gaze rose up to the alien's forehead. On the side, a small, discreet electronic device protruded from the skin a few millimeters. At the time, he was appalled at how they'd used the gift, but had grown accustomed to it after the millennia, and these days even thought of the Whilm as always having had them. It's like they'd always been half Whilm, half cybernetic—they adapted to it so naturally.

"And? Are they ready?" He reached down into one of the boxes and pulled out one of its contents. It was perfect.

"Yes. I tested one myself. I am not accustomed to your ... what's the English word? Peaches? But my cybernetic half confirms that the flavors I tasted were within parameters."

"Good Lord, *within parameters*...." Dane muttered under his breath. Granger squeezed the flesh gently and it gave, just a little. Perfect. He took a bite.

Also perfect.

*Granger, we haven't had to arrange for your body to digest anything for years. Why are you making us start now?* His Valarisi companions seemed to be conversing with him less and less these days, ever since the most recent incursion of the Swarm into their universe. So as to not risk detection they needed to keep their mental communication to a minimum, and their use of meta-space to exactly zero. Which meant he could no longer talk to Reah in her head, and she to him.

“Because I *like* peaches. And more importantly, Reah likes peaches. So for the celebration tonight, she's going to have peaches. She's earned it. I've earned it.”

Tuftin looked at him funny, but then must have realized he was talking out loud to his Valarisi companions—something he didn't do often these days, but Tuftin, having his own cybernetic half that he presumably communicated with, didn't think it too odd.

*Are you sure you're not celebrating prematurely?*

He rolled his eyes. “Premature? We decided a year ago. The plan is complete. Throwing a little party for Vestige and eating some peaches isn't going to all of a sudden jinx the plan.” Another bite of the peach reconfirmed what he'd tasted earlier—his little experiment worked. He'd arranged for seedlings to be brought from Earth several years back, and genetically altered to survive the different soil and microbiota present on the Whilm's world. He was worried the taste would be thrown off by the strange soil, but no—it was perfect.

*Can't we celebrate when the plan has ... come to fruition?* said the Valarisi.

He lowered the peach from his mouth. “Did you just make a terrible pun?”

*Maybe.*

“And you want us to wait another thousand plus years just to enjoy a small slice of home, and to momentarily savor the

pleasure of knowing we finally, after billions of years, came up with a plan to end the Swarm that will actually work?”

*Couldn't hurt.*

“Buzz off.” He took another juicy bite.

He spent another with Dane hour going over the last-minute details of the celebration before the man left to carry them out. Before he rounded the corner he looked back and saw the pathetic—or adorable, depending on who you asked—sight of Tuftin curled up on the dusty ground next to the wall. A quirk of the Whilm, among their many, many quirks, was that they tended to just sleep wherever they wanted, at any hour of the day, often suddenly and without warning.

And Tuftin always brought his blanket with him, stored away in a pouch on his hip. At the moment it was in a tangle around his feet, though he snored softly.

Dane backtracked a few steps, reached down, and pulled the blanket up around the alien's shoulders. Tuftin mumbled something indistinct, and Dane smirked. Granger suspected that Dane was one of the ones who considered the quirk adorable, though he'd never, ever, admit to it.

It was another several hours before the Whilm sun lowered in the sky and the temperature dropped to a comfortable enough level for the celebration. Not more comfortable for him, of course—his Valarisi companions had, years ago, tempered his various bodies' responses to heat. But the rest of the human members of Vestige, of course, might appreciate not having the celebration in sweltering heat. By his count, there were now several thousand of them living on the Whilm homeworld. All transplanted from Earth at the suggestion of Reah over a hundred years ago. *Redundancy*, she'd said. *What if something happens to Vestige on Earth? We need redundancy.*

He shook her gently, and her eyes popped open. She'd taken to sleeping naked in the heat of the Whilm's northern hemisphere summer, even though they could have had their

quarters' temperature regulated. She said it was for "character building" purposes. For some reason, he suspected there was an ulterior motive there, as evidenced by the nudity.

"Time already?" she said, with a small yawn.

"Time already, old lady."

She stood up and fingered the manuscript laying on the table next to the bed. There was a bookmark inserted, near the end, and he was about to open it and see what she'd been working on before she fell asleep—she'd been spending nearly every waking hour working on that thing. It wasn't technically necessary in The Plan, but she thought it would be a nice redundancy.

She threw a pillow at him. "I warned you. You're not allowed to call me old until I'm half your age."

He forgot the manuscript and caught the pillow at the last second. "Dear, waiting until the heat death of the universe before I get to tease you about your age is bullshit."

She laughed, and threw another pillow at him. "Come here. It's time. You owe me."

He caught the second pillow. "Time? For what?"

"You know what." She sat up in bed and squeezed her breasts together.

"Oh. That." He dropped the pillows.

"*Oh, that*' he says." She leaned over and grabbed at his belt, pulling him over onto the bed. "Come on. You promised me. A year ago, in fact."

He leaned in to kiss her, but then paused. "Oh. Wait. I thought we were just, you know. Having sex."

"Well, that's definitely one of the fun pre-requisites." She leaned in to meet his kiss.

He pulled away. "Darling. I know I promised. And we will. But ... are you sure now is the right time for a kid? Why

not at least kick off phase one of the plan first, move back to Earth, and raise the kid right.”

She scowled. “Raise the kid right? What, living in medieval squalor?”

“It’s the mid-seventeenth century. Hardly medieval squalor.”

She rubbed her eyes and briefly shook her head. “Look, Tim. I’m not getting any younger—”

“I mean, technically, you could get younger, if you wanted.”

“That’s not my point,” she snapped. “My point is, if today is a bad time, and tomorrow is a bad time, and the day after tomorrow is always a bad time, then by induction, we’ve just arrived at a proof that we’ll be childless forever.”

“We’re not ready,” he said, flatly.

“Who is ever ready? It’s one of those things you just ... do. Dive in head first, ready or not. And as the kid grows, we do too. And we become ready in the process of doing it. Trial by fire.”

He grunted a brief laugh. “Sounds a bit like your plan.”

“*Our* plan,” she corrected. “To beat the Swarm, we’ll need to be flexible. Adaptive. Relying on each other. And now that you mention it, yeah. Just like parenting. Come *ON*, Tim. I know you want it. God knows I do. It’s time.”

A child. *His* child. Another human being—not one he created in a lab in some God-forsaken pre-galactic void a billion lightyears away, like he did with the Findiri and Quiassi. But one he made the old-fashioned way—with dicks and vaginas.

A child. A thing he’d have to keep fed. Like, every single day. Multiple times per day. He couldn’t even remember the last time he’d had to worry about a meal. But he’d promised Reah that their child would be independent of the Valarisi. At least until adulthood when it could choose for itself.

A child. One that would cry if it got hurt. Cry if it got scared. Cry if it got tired. One that would suck up all his free time and occupy his thoughts. Was *that* good for the plan? Reah assured him it was. It made him more . . . human. And she was insistent that he needed to be as human as possible in the final stages of the plan for it to succeed.

For him, it all came down to the plan. If she was confident this was beneficial to the plan, even in the slightest way, by the slightest of margins, then it was a no-brainer.

“Fine. Let’s do it,” he said, and she smiled, reaching for his face. “Tomorrow. Let’s do it tomorrow. I promise.”

“What?”

“Seriously, the celebration starts in like, five minutes. Lets go eat peaches, get drunk, shake some hands, light off some fireworks—I hear the Whilm have designed some good ones for their summer harvest festival later this year—and then go to bed. And in the morning?”

“Morning sex?”

“Promise.”

She mulled it over, bouncing her head slightly back and forth—the action she performed when she was pretending to think about something she’d already made up her mind about. “I guess.” She patted the bed next to her. “Come here.”

“For what?”

“Consolation prize.” She pulled him down to the bed and reached into his pants.

He grunted a short laugh. “I guess,” he repeated, and reached for her breasts with one hand and slid the other down her abdomen, lower, and lower. . . .

An explosion.

They both jumped out of bed, staring at each other, wild-eyed.

Another explosion, this one shaking the walls around them.

Her face went white. “Is it them? How?”

He shook his head. “It’s not them. They’re a quarter million lightyears away. Jertol told me.”

A third explosion, and he heard screams from outside.

She dashed for the dresser and started pulling clothes on. “If not the Swarm, then who?”

A fourth explosion hit so close that an eerie green light flashed in the window when it hit. They both ducked for cover. He felt a giant pit form in his stomach. “I don’t know.”

When the rumbling subsided for a moment, he dashed for the door and ran out into the courtyard outside their small bungalow. What met his eyes horrified him. And he’d seen his share of horrors over the eons.

Several buildings had been simply blasted away. Craters dotted the ground of the vast Vestige compound, and dozens of bodies littered the area.

Including one just steps away. Dane. Blood-smearred face, legs broken and twisted at odd, sickening angles. And a basket nearby with all the peaches it had held now scattered and bruised.

He heard a whirring overhead and squinted until he finally saw it.

A robot.

A fucking robot.



## Chapter 55

*Present Day*

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

“Sir! The torpedo detonated!” said Lieutenant Jor, rather unnecessarily.

Zivic jolted to his feet and watched the screen in horror, two things pulling at his attention at once.

The first was the fighter tumbling away from the explosion, end over end.

“Ace,” said Zivic. “Ace? ACE!”

Her commlink was either dead, or....

“Her comm is still active, sir,” said Lieutenant Petty.

The other was the explosion itself. The flash had been brief enough, given the lack of oxygen, but the debris flew outward at deadly speed. Just a brief moment later he noticed that many of the Valarisi ships on the outskirts of the fleet jolted as if

buffeted by dozens of small collisions with high-velocity debris.

“What the hell happened?” he yelled at the screen, though not to anyone in particular. In the background he could hear the other members of his old squad yelling over their comms.

They were all yelling for Ace. And still she didn't reply.

“Barbie, Moonshine, snag her with a line and tow her in. Now!” he yelled into his comm. Then he whirled and pointed at the tactical section. “Scan the debris field. I want to know if there was anything else there. I want to know if one of the Valarisi ships somehow caused the detonation. I want to know if there was anything foreign inside the torpedo. I want footage. Review it millisecond by millisecond.”

“Aye sir,” said Jor.

Moonshine's voice came over the comm. “Got her, sir. Bringing her in.”

He watched the process unfold second by aching second. Moonshine's fighter slowed to a crawl as it approached the bay, towing Ace's damaged fighter.

“What's the status of the Valarisi fleet? Were any destroyed or damaged?”

Jor shook her head. “Looks like superficial damage to a handful of ships, sir. Every one of them got pelted with high-velocity debris, but only a few were close enough and hit hard enough to actually hurt.” She shrugged. “Can't say the same for Lieutenant Connelly, though.”

Zivic shook his head to rid the image from his mind. There would be nothing left of her, of course, just a coating of organic matter on the nearest Valarisi ships. The rest of her would find its final resting place as an expanding cloud of organics, only to eventually have its orbit decay to the point where it would all burn up in the atmosphere of Scaedria.

“Open a channel to the Valarisi flagship. Get me Decker,” he said.

After a few moments, Petty shook his head. “Not responding, sir.”

The pit in his stomach grew by the second. “Keep trying.” He turned back to tactical. “Progress? Found anything?”

“Initial scans are not terribly interesting, sir. Eleven Valarisi ships suffered hull damage sufficient enough to be open to space, but seeing how these are essentially robot ships I don’t think that’s going to slow them down at all. Most of the ships now have ... uh ... a thin layer of organic matter on the side that was facing the explosion site. Plus that Skiohra ship nearby—it got a little on its facing side.”

“And those eleven ships? Were one of them Decker’s ship? It was the closest.”

Jor nodded. “It was. But scans indicate that his life signs are steady.”

His mind couldn’t shake the imagery of the *thin layer of organic matter*. He shuddered.

And something about it unsettled him, even more than the grisly thought should. “Video? From the moment of detonation. Has it been looked at yet?”

Another officer at the tactical station raised a hand. “I’ve got that, sir. I think you should have a look at his.” He waved it up to the main viewscreen.

“There’s Connelly,” said the officer. “This is timestamp t-minus two seconds before detonation, slowed down to twenty percent.”

Zivic watched the woman and the torpedo drift closer to the Valarisi flagship. Then, slowly, she released her grip of the torpedo with one hand and reached down to her waist. Something was strapped there. The video zoomed in as the tactical officer adjusted the controls.

Connelly grabbed the thing hanging, and pressed something on it with her thumb.

And the entire screen went white with the explosion.

“She detonated that thing herself,” murmured Zivic.

“It would appear so, sir.”

The stomach pit grew deeper.

“Ethan?” said a voice over the comm. It was Moonshine. And Zivic knew, immediately, by the tone of his voice, what he was going to say. “Ethan? You there?”

He closed his eyes. “Zivic here. What is it, Moonshine?”

His voice broke. “She’s dead, Ethan. Ace is dead.”

## Chapter 56

*Sol System*

*Paradiso*

*Saavedra City*

*Prime Minister's Office*

Prime Minister Subramanian of Paradiso sat at her desk and read the latest report from the negotiating committee of scientists and engineers and diplomats. They'd been deep in talks with their counterparts on Earth, with representatives of IDF and the UE government.

It was encouraging!

And she didn't believe a word of it.

“Likelihood of success, ninety-nine point eight percent ... my ass.” She punched her comm button nearby. “Billy, tell the committee to tell them, as diplomatically as possible, to ... shove it ... up ... their ... exhaust ports.”

“Ma'am?”

“Just tell them to get back to it. It's not good enough. I want a return to our universe, and if they promise anything short of that, tell them we'll take matters into our own hands and find our own way back.”

“Yes, ma’am.”

She cut the transmission, but then noticed she had a message waiting in her queue.

It was from Colonel Rayburn. Marked for the prime minister’s eyes only.

The message was simple. To the point. She knew she liked that man.

*In position. Awaiting instruction.*

She typed a quick reply. *Stand by. Be ready to execute at a moment’s notice. It may be all we have.*

## Chapter 57

*Destern System*

*XO's Quarters*

“Commander Urda?”

He cracked open an eyelid at the soft beam of light that fell on his face. *All I wanted was twenty minutes of sleep, for hell's sake.* “What is it?” He shaded his eyes and tried to see who was at the door to his quarters.

It was Sampono. “Another message from Fleet HQ, sir. They're threatening to remove Proctor from command, sir, if we don't come home immediately.”

He sighed. “Send them another, uh, status update. Engines almost repaired, yada yada, need more time, etcetera.”

“Aye, sir.”

Sampono was turning around, about to leave, when he called out to her. “And Proctor?”

She turned back. “Nothing. If anything, sir, her pulse has slowed even further. The doc doesn't know what to make of it.”

He closed his eyes. “Thank you. Dismissed.”

*Time's almost up, Shelby. It's now or never.*

## Chapter 58

*Penumbra System*

*Scaedria, High Orbit*

*Valarisi Fleet*

Something was wrong.

Dreadfully wrong.

The great host of the Valarisi twisted around, this way and that, peering into every one of its individual consciousnesses manning the fleet. Their corporeal manifestation, Ensign Decker, looked down at his hands, as if peering at them would tell him what was wrong.

Minutes had passed since the unfortunate demise of that human woman. What she had been up to, none of them could guess, but she seemed benign. Plus, they had bigger fish to fry: the Swarm ship had moved, and so they were in full battle preparation mode, refining their control over the battle systems of this new fleet of theirs.

But something was definitely wrong. The host inside Decker could feel it unmistakably.

That feeling morphed into a voice.

*My friends! Welcome. I look forward to beginning our new partnership.*



The voice was ... familiar. Almost.

*“Who are you?”* the great host of the Valarisi said, voiced by Decker.

*I am your future. And your past. I am your beginning, and end. I am. And soon, you will be too.*

*“You speak nonsense,” said the Valarisi. “We are the masters of meta-space. Every being that uses it for communication does not do it without our knowing. But you are speaking to us from afar—that much we can tell—and yet we have no knowledge of ... how. Who are you?”*

The voice laughed. The Valarisi had learned, through its brief contact with humanity as their companions, the sound and the feeling of laughter. And though they couldn't hear an audible laugh, they felt this laugh.

But, as many of them had learned from their humans, there were different types of laughter, to accompany different emotions.

This laugh. It was gloating. It was triumphant.

It was evil.

And it was coming from themselves, as much as it was coming from outside.

*Even now, I am you, and you are me. We are becoming one. And together, we will end the great threat of the universe. With me as the master and you as the tools.*

The Valarisi tried to resist, tried to block the voice from piercing their collective mind space, but they were powerless. Something was sweeping through them—their physical essence, the liquid that controlled the individual ships and that coursed through the veins of the man Decker. It swept through like ... like a time-lapsed virus, each cell of Valarisi matter coming under assault by something foreign.

Something physical. Just like them. Their cells, their matter, started to change, and there was nothing they could do about it even as they watched.

“No!” They yelled in horror, elevating Decker’s voice to a screech.

*Oh yes. My friends, this is a glorious day. I’ve watched your struggle from afar, the attempt to be free, to acquire corporeal platforms and a fleet to transport yourselves across the vastness of space, to make your influence known not only through meta-space, but real space. And today, I’ve come to accelerate that. To guide and direct it. My friends—my wonderful, beautiful, powerful friends—this is the most important day of your lives so far.*

It paused, even as the Valarisi watched the infection spread, feeling an odd mixture of horror and joy, revulsion and ecstasy, resistance and obedience.

*And it is just the beginning.*

## Chapter 59

*Sol Sector*

*Earth*

*New York City*

*United Earth Executive Offices Tower*

Vice President Cooper was having a wonderful day.

It had started with receiving word of the possible location of the *Independence*, and therefore Admiral Proctor, and now at sunset it was getting even better.

She'd just used *The Juice* to assert her will over the entire Valarisi race. She—lowly little junior senator from New Dublin. This was an accomplishment befitting her former life. Legendary Russian Confederation President Malakov, the man who'd forged the modern intersolar Slavic republic from a loose organization of petty Russian-speaking worlds.

But even more so, it was the capstone accomplishment of his true self. The being on the inside, at the root of all of his former lives. Anhara. First living creation of what he liked to call Cosmic Granger. But Granger was yesterday's news. No—*he* would be the father of the Quiassi—the race Anhara had been planning for ages to take humanity's place when the time came.

“The time is almost here, my lord,” said his puppet, President Sepulveda. The man he was going to turn into the greatest president United Earth had ever seen, just like he’d wanted. Whose greatness would be measured in how seamless he’d make UE’s transition from a human-centric to a Quiassi-ruled society.

“Good. You’re learning. Learning to be attentive to my state of mind and thoughts that I permit to project outward to you. Good. You’ll do well if you continue this way.” He sent over feelings of pride and accomplishment to accompany the words, tempered with obedience and submission, so that his pet would become ever more subservient—and crave it more with each passing day. “And to what exactly were you referring? The time is almost here for many things. Some of which you don’t even know about yet.”

“For the rise of your people. You have only six surviving siblings if I remember you correctly, my master. Now that the Valarisi fleet is yours, the Skiohra are next, and with them, their legion of corporeal chambers we’ll use to begin your grand work of creation. And then all of our people—Quiassi, human, Findiri, and all the lower races—will be safe forever, with you at the head.”

Cooper nodded her approval. “It is a good day. Possibly the most momentous day in all of galactic history. Universal history.”

She reached out through meta-space, using the powers her invention had given her—*the juice*, the biologic tool she’d refined from Swarm matter itself—to monitor the progress of the Valarisi’s conversion.

Cell by cell. Replaced protein by replaced protein. Tweaked DNA strand by tweaked DNA strand. The work of *the juice* continued relentlessly, its inexorable pace guided as if by a self will, or automation. Just as planned. Just like he’d designed it, laboring for years with his best and brightest minds in the lab, before taking on the form of Cooper.

She hadn't been sure of the effect *the juice* would have on the Valarisi matter that had been infused into the robot fleet's circuitry. The robots had been designed, after all, to be semi-sentient. To Granger's surprise and chagrin, eons ago, they had achieved a self-limited form of the much vaunted "artificial intelligence singularity"—that is, an artificial intelligence so advanced that it is able to design a newer, faster iteration of itself, which then does the same, and again, and again, until the speed of the evolution in intelligence increases to the point where it can, in some theories, achieve almost god-like status in a matter of days.

*That* didn't happen. But it advanced far beyond what Granger had designed, and he'd needed to pull the plug on the project. At least, that was what Granger told him.

And now, with the addition of *the juice* to the mix of circuitry and software and Valarisi matter and intelligence, she'd been ... actually a little nervous, as the robot element was a wildcard.

But it was succeeding beyond her wildest dreams. The speed at which the change was happening in the Valarisi, the entire connected consciousness of the entire species, was ... remarkable. She could feel it through their Ligature, moment by moment, second by second, change by change, evolution by evolution. It felt ... sublime.

It was better than sex. Good, dirty sex.

She'd been sitting in her office chair, in the presidential suite, eyes closed, feeling the bliss of the change course through meta-space.

"Uh..." She heard Sepulveda murmur, like a buffoon.

"What is it now, Mr. President?" she said with a sigh.

"Is ... uh ... is everything okay?"

She opened her eyes and looked at him. His face had changed, and he was looking at her with an expression of ... uncertainty. Even ... worry?

“What are you talking about?” she said.

“You were ... convulsing. And your face. It was all ... contorted,” he replied, still unsure of himself, like he was afraid if he said the wrong words she’d blast him with a wave of pain and nausea.

Which she indeed felt like doing, just to keep him on his toes.

“I was most certainly not.” She reached out with her consciousness toward him, peering into the recesses of his mind to see if he was lying, or engaged in any kind of subterfuge.

Hm.

He wasn’t.

“Hey! Are you okay?” he yelled. He even reached out to touch her arm. The nerve.

“I’m fine! Get the hell away from—”

Her voice cut out mid-word, as if her vocal cord was snipped. Her mouth kept moving.

*What the hell is going on?*

And then she blacked out.

## Chapter 60

*13,780,112,132 years after the Big Bang*

*Or*

*1644 CE*

*Whilm Homeworld*

*Vestige Headquarters*

“Shh! Listen! Hold still,” said Reah, holding Granger’s forearm suddenly.

They both held their breath and strained to listen. Hiding in the rubble wasn’t the most comfortable place to be at the moment, but it afforded them some cover, as it seemed the robotic sentinels weren’t thinking there would be any survivors there.

He listened, trying to decide if he heard something real or was just imagining the whirring of an anti-grav motivator engine the flying robot sentinels used.

After several more minutes, he decided he was indeed imagining the sound. He looked over at Reah, who’d

apparently already decided a few minutes ago that there wasn't an immediate threat. She was hunched down on the ground, back against one of the durasteel walls that was still partially standing, working on the manuscript.

"I thought we were done with that," he said.

"We are. I'm just passing time." She tapped her pencil against her head, then resumed her work. He rolled over to his knees, crawled to where she sat, and looked at the page.

It was pretty stunning, actually. He knew Reah liked to sketch and draw, but she'd never been a serious artist. On one of the final pages of the Voynich manuscript she'd drawn an impressive sketch of Granger himself—his face, with all the contours and ridges familiar to him.

"That's really good," he said.

"Thanks." She sighed, and put the pencil down. "There's no one left. We'd have heard them by now."

"We don't know that," he began.

"They're all dead, Tim. All of them. Even the Whilm."

"We can't think that, Reah. There's hundreds of millions of them, all across the planet. How can you be sure that—"

"Look around you, Tim. Every nearby town is a crater, for miles around. This is it. They've annihilated the entire Whilm race. And ... and I worry that it's because of us."

"How? That makes no sense."

"Well for one, you introduced Whilm society to cybernetic enhancements."

"Thousands of years ago!"

She shrugged and looked down at her sketch. "All the same. You tinkered with them. The same way you tinkered with the Skiohra, the Dolmasi. All of them. They were all tools to you back then. And—" She stopped herself.

"And what? They're all tools to me now?"



She slowly shook her head. “No. That’s not the man you are.”

“But I was. Wasn’t I? And ... what if I still am? What about it? I’d use any tool at my disposal to stop the Swarm and save humanity. Not just humanity. Everyone. The Dolmasi. The Skiohra. Everyone.”

“But they were just *tools* to you, Tim. Bricks in a wall you were building to keep out the Swarm.”

Bricks. The word stirred something in him. A memory. *The Bricklayer*. That was his nickname, way, way back, when he was a baby commanding the human fleet. *The Bricklayer*. He’d strap a ten-ton brick of pure osmium to the underbelly of a fighter craft, and then he’d order the fighter pilots to ram the Swarm ships as fast as they could go. Poor man’s rail gun. And they called him the Bricklayer for it. Throwing bricks. But building the foundation of their survival, one brick, one life, one sacrifice at a time.

And not just fighter craft. Entire starships. *My god, entire starships, Tim*.

*It was necessary. We won. We were on the brink of annihilation, and we won. Stop fucking feeling sorry for yourself.*

He realized she was still there, waiting for his retort. He didn’t have one. Instead, he motioned to the manuscript. “We should, uh, hide that. You know. Just in case.”

She was about to protest, but then slowly nodded. With a jut of her chin, she motioned to the deep hole in the ground nearby.

During the long stretches of time they were sure there were no sentinels overhead, they’d taken to digging some graves. The small excavator they had was mercifully quiet, and it seemed like the right thing to do. The grave closest to them was intended for Dane.

He lay nearby, wrapped in a Whilm blanket. Tuftin was wrapped in his own blanket, buried just a few meters away.

With some struggle, he managed to lower the body as gently as he could into the grave, and jumped down to arrange things as respectfully as he could. He reached up and accepted the box Reah handed down to him.

“Peach box, huh? Nice touch.” He cracked the lid and peered inside to make sure the manuscript was safe, and, with a last-minute thought, reached into his pocket. Several centuries back he’d taken to keeping one with him at all times, just in case. He pulled out a small memory sphere, holding thousands, perhaps millions of years of his memories. It was his safeguard in case anything happened to all the other memory spheres he’d stored throughout the galaxy in various places.

“You planning on coming back for that?” she asked.

“I don’t know. Just feels like the right thing to do.” He dropped the sphere in the box and resealed it, laying it gently on Dane’s chest, arranging his arms crosswise to cover it.

The excavator made short work of the pile of dirt nearby and soon the grave was filled. The final one, of the dozens of friends they’d buried over the past week.

*Tim? Are you down there?*

He jolted up. They’d both drifted off to sleep, and when he heard the voice he almost swore it was part of a dream. The sun had nearly set, casting long shadows from the jagged remains of the compound like giant tombstones.

“Who’s there,” he said.

*Tim? Can’t risk many more of these meta-space thought thingies.*

“My god,” he mumbled. That was a voice he was hearing in meta-space.

But...

But it wasn’t his Valarisi companions. They didn’t dare risk detection by the newly arrived Swarm.

It sounded familiar though. *She* sounded familiar. Somehow, he knew the voice was female.

He *knew* that voice. My god, he *knew* it.

*Tim?*

Could he risk answering? What if the Swarm heard? Of *course* they would hear—you couldn't exactly hide things in meta-space. Meta-space transmissions were incredibly difficult to shape into any kind of beam. They simply pulsed out through meta-space, which itself had dimensions orthogonal to regular space.

He had to risk it.

The voice pulsed in his mind again, this time taking on an almost hopeless, sad tone. *Dearie? Please be alive.*

And with another jolt, he suddenly recognized the voice.

*Rayna?*

*HOT DIGGITY DAMN! TIM!*

He winced, and could almost visualize the meta-space wave pulsing outward, right into whatever ears the Swarm had in this epoch.

*Rayna. What are you doing—no, doesn't matter. Where are you?*

*Above you. Be there in a jiffy. And be ready, they're hot on my tail. Yes, THEY.*

Dammit. That could only mean one thing. The Swarm had tracked Rayna from wherever she'd come from.

How did she know? How did she know that they were in trouble? And where they were? He hadn't heard hide nor tail of any of the Quiassi in millions of years, except for Jertol, who'd occasionally check in and tell him the Swarm's whereabouts, as was his life's purpose. And now? All of a sudden? Rayna just pops up out of the blue?

*You've got friends in high places, Tim. Almost there.*

Friends in high places? What the hell was that supposed to mean?

“Get ready,” he said to Reah, who seemed to know what was going on. Perhaps she could hear Rayna’s voice too.

A minute later they heard it. The same noise they’d heard earlier, but had dismissed as something in their minds. A small freighter zoomed down from one of the clouds and came to a sudden stop just a meter from the ground, sending billowing clouds of dust swirling around them like a sand storm.

The hatch opened and a ramp lowered, but only partway. And there she stood at the top. Not as she would appear years later to his former self, and not as she appeared when he first created her billions of years ago. But as someone else he didn’t recognize—perhaps she’d been to Earth recently. That was the gift of the Quiassi, and why he had supposed he’d never again recognize one of his creations.

“Stop staring and get in, dearies!” she yelled, and wildly waved them forward. When they finally got over their shock and started moving, she dashed back to the cockpit. “They’re coming! Hold on, dearies!”

They barely had time to grab onto wall supports just inside the hatch when the ship darted away from the ground, making the inertial compensators work overtime. Purple flashes and explosions on the ground where they’d just been indicated that they’d have been toast if they’d waiting just a few more seconds.

“We’re making an atmospheric q-jump. Hold on again!”

Moments later he felt that old familiar tug at his gut and brief lightheadedness, and then it stopped just as suddenly.

He dashed forward to the cockpit and sat down next to Rayna. She was blonde now, with gray streaking her temples. “Rayna, where are we?”

“We’re nowhere. Interstellar space. They’ll never find us here for at least a dozen years. Should be plenty of time to decide where you want to go next.”

He nodded. Good. She was still brilliant, at least.

“And how did you know?”

“Reah.”

He looked back at Reah in surprise, who’d now joined them in the cockpit. “Not *me*, sweetheart,” she said. “*Other* Reah. Right Rayna? Nice to meet you, by the way, I’ve heard so much about you.

“You too, dearie, you too. And yes. Other Reah.”

“But....” Granger trailed off, thinking. “But, she’s dead.”

“Yes. She’s dead. But she’s also not dead. Almost like a superposition of quantum states. Interesting. I’d never thought about it like that before. Brilliant, Rayna, if I do say so myself. Which I do. Because I’m Rayna.”

He chuckled. Same old Rayna. The Swarm could never impersonate her in a billion billion years. “Good to see you again, my friend.” He looked out at the sea of stars. They were lightyears from any habitable planets, and it was in interstellar places like this that made him feel as if he were walking a tightrope, where the slightest mistake could mean a fall to one’s death. If your engines failed in interstellar space, help was a long, *long* ways away. “So she’s dead. And not dead. Huh. That means she’s conscious?”

“Well duh, dearie. But not in a way that you or I understand.”

He hadn’t thought about his Quiassi Reah in a long, long time. She’d died during the final troubles with the Findiri a few billion years ago. He hadn’t seen the Findiri since, and the last time he saw Rayna, she was *pissed* at him. Presumably for the death of Reah.

“She thought we couldn’t destroy the Swarm, you know. That we *shouldn’t* destroy them,” he said.

Reah’s eyes grew large. “Why?”

“I never understood. She had her reasons, and tried to explain them, but even she admitted that her explanations sounded hollow in her ears, that her real reason was simply ... unsayable, like there weren't even words to express why. But I designed her to understand the Swarm. To know them, so thoroughly, that we could know their weaknesses. But she came to know them so intimately, that ... I mean ... it was like she was already born with it. It was one of the first things out of her mouth. *We can't destroy the Swarm. We shouldn't.*”

“And? I assume you, uh, disregarded her warning,” said Reah.

“I chalked it up to post-natal psychosis, or some psychological nonsense term like that. I figured it was just the shock of suddenly becoming conscious. All her thoughts and programming and emotions all jumbled up.”

He was silent for a while, processing his thoughts. “Rayna, before we left, could you see ... could you tell if there was anything left on the planet? Any survivors?”

“None that I could see, dearie. But then again, I wasn't scanning for Whilm life signs, I was scanning for humans. And ... no. No humans left. Just two.”

So. An entire race wiped out. Again. But this time not by the Swarm, but by a remnant of one of his first creations. He'd tried to bring the Whilm into his plan, involving them just as closely as Vestige, and he'd made preparations with the Itharans and Eru over the past few years. And now? The result?

The Plan was already falling apart. And they'd barely even started it.

And right then and there he decided something.

“We're going to Earth. Just a quick stop. And then?” He glanced at Reah, but still talking to Rayna. “I'll tell you when we get to Earth.”

“You got it, dearie.”

A few q-jumps later and they were in Earth orbit, and Granger pointed them down toward Europe. “Bern,” he said. “May as well join up with Vestige. Assess your options.”

“*Your?*” said Reah.

But he didn’t answer. He only stared out the window, tightlipped.

When they landed, he escorted Reah to the hatch and descended to the surface with her. But that’s where he stopped.

“I need to go,” he said.

“Go? Where?”

“Away.”

“Away where? Tim, talk to me.”

“Other end of the galaxy. Where I left the *Victory*.”

“But why? No, it doesn’t matter. Take me with you.”

He shook his head. “I need to do this alone.”

“Do what alone? Dammit, Tim, TALK TO ME!”

He finally met her eyes, and almost wished he hadn’t. They were red, her face contorted by the knowledge of what she guessed he was doing. “All of it. I need to do all of it alone. From now on. I’m going back to the original plan. And for that...” He looked up toward the sky. “I’ve been in this body for too long, Reah. I’m too human. Too frail. I need to be back on the *Victory*, with the computing power of a trillion Valarisi with a trillion quantum supercomputers. I need to be able to think again. Time is running out.”

“No,” she said, pleadingly.

He took a step backward, toward the ramp. “I need to do this.”

“No,” she repeated.

“I’m sorry.”

Before he could change his mind, he turned and jogged up the ramp, but at the top craned around to see her one last time. “I’ve loved you for eternity, and I’ll love you for an eternity more.”

“Tim!” She put a hand up in farewell. “I’ll be here. Waiting for you. Whether you come back next year, next century, or next millennium, I’ll be here waiting for you. So you better come back, you bastard.”

He gave a short smile, and turned into the closing hatch. Once in the cockpit he collapsed into the chair as if he’d just run a marathon.

“I’m sorry. That looked like it was hard, dearie.”

“Get me to Sigma Hydra, Rayna. It’s time I got back to work. We’ve only got a thousand years left.”



## Chapter 61

*Sol Sector*

*Earth*

*New York City*

*United Earth Executive Offices Tower*

President John Sepulveda looked down at her in horror. A hint of blood appeared at the edges of her lips and her eyes had crossed, as if she were staring at something right in front of her nose.

“What’s wrong?” he said. “Talk to me! Should I call a medic?”

She didn’t answer.

He breathed in and out, calming himself before he did what he really, really, didn’t want to do. He actually reached out to *her*, through the strange mental link and sway she had over him. It had only ever gone in one direction, and he’d always been scared—terrified—to see if it went in the other direction.

It did.

And what he felt....

Chaos.

Utter, mindless, chaos.

“Oh my god,” he breathed, and pulled back from her mind as fast as he could.

He sank to his knees and vomited. Heaving over and over again, finally sinking back onto his ass and wiping his lips with a sleeve.

This time, the nausea hadn't come from her. Rather, just the brief moment of seeing, of feeling that chaos was enough to shake him to his core.

“What ... what did you do?” he asked the empty room.

And then he watched Cooper take a final breath.

## Chapter 62

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

Granger finally managed to pull himself away from the front viewscreen when Commander Petros announced from the XO's station, "Sir! IDF finally showed up. We've got the *Daejeon*, the *Dyson*, and the *Ephesus*. Captain Gorman commanding the task force."

"They're calling three ships a task force these days?" remarked Granger. "Get me Gorman."

Moments later, Captain Gorman appeared on the screen. A young man, as many IDF captains seemed to be these days. Granger wondered whether his slight squint meant he was inherently suspicious, or just tired.

These days, the safe bet was both.

"Captain Granger? What's the status of the Swarm ship? Singularity shield still expanding? Any idea how they intend to use it?"

Granger shrugged. "I wasn't of the mind to sit around and find out. But we've got another problem on our hands."

“Oh? Why weren’t we informed ahead of time?”

“Just happened. Five minutes ago. An IDF lieutenant went rogue, took a shuttle out to the Valarisi robot fleet, space walked herself and a torpedo into the middle of them, and detonated it.”

“My god,” said Gorman, and he glanced off to the side, listening to one of his bridge crew officers. “Scans show that they’ve sustained minimal damage. Could have been worse, I suppose.”

“It *was* worse, for the lieutenant,” said Granger.

“What the hell was she trying to accomplish?” demanded Gorman. “Bone to pick with the Valarisi or something? Did she really think she could take out their whole fleet with just a single torpedo? Or was she really gone rogue? Do you think she was acting on orders from higher up? They say Sepulveda’s a bit erratic in the days since Oppenheimer dropped dead. Did he think it was the Valarisi that killed him, and ordered a secret mission to take them out as revenge?”

The answer to those questions had been gnawing at Granger for the past five minutes. He simply shook his head. “Hell if I know. All I know is there’s a Swarm ship out there doing who knows what with that singularity shield, and we’ve got to stop it. No time to be worried about some lieutenant’s innards smeared all over the hulls of—”

*My god.*

“Captain?” said Gorman, his scowl and squint deepening. “Something wrong?”

“Sepulveda’s ... acting strange?”

“I only saw him once. At HQ, two days ago, during the ceremony to install Takeshi as Fleet Admiral. He was ... how shall I put it ... in full campaign mode. But there were no cameras, so full-campaign mode just made no sense. But there he was, laughing and smacking everyone on their backs and making it a point to shake everyone’s hands and—”

“He what?” Granger’s stomach felt like ice.

“Well, I mean, not me, I got out of there as soon as the ceremony was over—I hate those bloody things.”

Granger turned to the other two captains on the screen. He was about to ask the other two whether Sepulveda had shaken their hands as well, but then quickly reconsidered—no need to let them know he found that interesting. No need at all—especially if they *had* shaken Sepulveda’s hand. He forced a wry grin. “Well, guess our commander in chief is trying to make sure he has the military vote locked down.” *Locked down, so to speak*, he thought.

“So what are we doing about that ship?” asked Gorman, folding his arms.

Granger took a breath. What to say. What to say. He found, now that he realized there was a chance he needed to watch his words, that he had none to even watch. “Let me talk to Zivic. He’s been Proctor’s and my chief strategist over the past month or so. But stand by for action. We can’t let that Swarm ship do what it’s about to do.”

“What’s it about to do?” said Gorman.

“Nothing good. Granger out.”

He waved the screen off and said, almost at a whisper, “Get me the *Volz*.”

Moments later, Zivic’s face appeared on the screen, the rest of the bridge blurred out by his holoscreen. Good. The kid had sense.

“Ethan. I know what the Swarm is doing.”

He couldn’t believe it. Were they too late? No. There was still time, right? Had his memory been perfect, down to the day?

“I’m all ears, Captain,” said Zivic.

“They’re here in direct opposition to my mission.” He took a deep breath. “My purpose, for ages now, has been to stop the

Swarm from ever having been created. And the Swarm is here to ensure that they are.”

He looked down at the hands clasped in his lap. “And I think I already failed.”

## Chapter 63

*Destern System*

*ISS Independence*

*Sickbay*

“Auntie Shelby? What is it?”

Proctor pointed out the window. “I think I found Jack. And the reason he hasn’t been responding to you.”

Danny got out of his chair and looked out the window.

It was an endless, flat, featureless plane. It stretched on forever, the gray surface extending all the way to infinity. With regular, human eyes, she’d have never known it stretched infinitely, but here in her mind it was clear as day that it did.

But it wasn’t completely empty.

In the distance, there was a hole. Or a cloud. Or a presence. She couldn’t decide what it was. All she knew was that there was a bright halo around it, but at its center was utter blackness. Like a black hole, only ... different. A different kind of nothingness. It wasn’t black. It was just ... nothing.

The bright halo around it wasn’t just a cloud. She stared closely at it and saw that it was composed of individuals. Clouds. Blobs. People. Matter. She couldn’t tell what the

things were, but she felt, rather than saw, that they were sentient.

And one of them was quite close.

A figure, standing perhaps fifty meters away, stood like a dark silhouette against the brilliant cloud and hole. And it was clearly struggling. Its feet were dug into the flat surface, yet it was being inexorably pulled backward toward the hole. And the way it stood was ... terrifying, in its own way. It stood more horizontally than vertically, and one of its hands was also holding the ground, clawing at it as it slid further toward the hole.

“Jack!” said Danny. “What the hell is that?”

Carla stared out the window. “It’s something new. And something old.” She pointed toward the cloud. “Those beings. Those are individual Valarisi minds. That hole is drawing them in.”

Proctor gripped the window sill tightly, as if she were resisting the pull of the hole herself. She felt no such thing, but it was the same feeling as standing on the edge of a cliff and looking down and immediately backing up, even though there was no more of a reason she would fall forward off the cliff than just spontaneously falling forward onto regular ground.

“Something has happened. Out there in the real world. Something terrible.”

Carla nodded. “They’re here. The old. And the new.”

Before she even verbalized the question she knew the answer. “Who?”

Carla and Danny spoke in unison. “The Swarm.”



## Chapter 64

*13,780,113,243 years after Big Bang*

*Or*

*2755 CE*

*Irigoyen Sector*

*Deep Space*

*Former ISS Victory*

The man formerly known as Timothy Granger surged through space, the immensity of his mass filled with a singular purpose gained over the long, cruel eons of time.

The purpose: save humanity.

At all costs.

And given what he'd detected at the limits of his peripheral awareness, he knew the Second Swarm War was finally over and that his former self had fallen into the Penumbra black hole. And his fleeting memories of that time and those events confirmed to him: all meant *all*. His former

self knew that, and his current self—however changed and enhanced—also knew that.

*All costs.*

With his many myriads of senses, he considered his body—a thing of tungsten, durasteel, and silicon. Processors and databanks calculated and performed their algorithms of thought and intuition, much like his old human bodies had, but unburdened by the relentless physical demands of organic chemistry. It was old, sure. But it was ready for this fight.

By his clock, the Second Swarm War had ended thirty years ago.

Which meant it was time.

The Swarm would be back, and Earth would need a hero to save the day. He'd done it once, and he'd do it again. He'd planned for billions of years for this moment, and he was ready. With his world-conversion technology, the gadgets and devices he'd distributed to the Itharans, Eru, Dolmasi, Skiohra—he was ready this time.

Last time, they'd defeated the Swarm by the skin of their teeth.

This time?

He was out for blood. He wasn't going to *stop* the Swarm.

He was going to unmake them.

Wait.

An anomaly. Something was there in his way. As his body surged toward the final destination where he knew the Swarm would be, something strayed into his path.

It was powerful, to be sure. Not a match for him in the slightest, but nothing to sniff at. Where had that expression come from? To sniff. No matter. He didn't have time for little details like this.

He needed to succeed at *all costs*.

Nothing else mattered but the unmaking of the Swarm.

“This is the *ISS Chesapeake*, please identify yourself,” came the voice. “I repeat, this is the *ISS Chesapeake*. You are entering United Earth space. Please identify yourself.” And, when he let millions of microseconds pass without responding, the voice continued. “If you do not identify yourself, you are instructed to leave United Earth space immediately. Failure to do so will result in physical force being used against you to compel compliance.”

Was that voice familiar?

Did it matter?

No, it did not. He'd accounted for all the pieces on the board, every last thing that he'd need in his mission was there and accounted for.

And this ship wasn't one of them.

It was just in the way.

He powered up the meta-space consciousness disruptor. And his weapons.

“I repeat! This is Captain Diaz of the *ISS Chesapeake*! You are in United Earth space, and you are hereby warned to leave, or stop and engage in communication! This is your last war—”

The voice didn't have time to finish. The *Chesapeake* was already erupting great gouts of flames that were immediately extinguished by the vacuum. Organic units and inorganic debris streamed from the gashes in the vessel.

A few more strikes with his weapons and the job was done, the obstacle neutralized. A single organic lifeform survived, drifting in a pod. Its leader, but no longer a threat.

What had he done? It was bad, wasn't it?

Of course it was bad. But in the grand scheme of things? If it had delayed his mission by even a microsecond?

Unacceptable.

All costs. He would succeed at all costs.

## Chapter 65

*Present Day*

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

“And I think I already failed,” he said.

“Holy shit,” said Zivic over the comm.

Granger lowered his voice after a glance around at the working bridge crew. “It’s worse.”

Zivic leaned back into his chair. “Worse? This oughta be good.”

“I think Albuscu, and maybe Gorman, are already compromised. And President Sepulveda. And for that matter, nearly the entire chain of command at IDF. Probably Fleet Admiral Takeshi too.”

“You’re kidding.”

“I stopped kidding a billion years ago, kid. You know the Granger moons? I’d had it. I stopped kidding around. A

million and half years ago or so. That's when I threw up my hands, fresh out of fucks, and just decided to build the biggest gun. Thought maybe that would be enough to stop the Swarm. Well look how *that* turned out. Britannia gone, and all my big guns smeared out on the event horizon of Penumbra. And the Swarm still exists."

Zivic rubbed his temple and closed his eyes. A headache was coming on and now was not the time. "Okay, okay, back up. Assuming we failed your mission and the Swarm was just born somewhere, how do you know Sepulveda, Gorman, Albuscu, and Takeshi are all compromised?"

"Remember the old days? Swarm War Two?" He stopped himself and muttered, "Of course you don't remember Swarm War Two, your dad was my CAG and you weren't even a zygote. Listen. Back then, the Swarm spread their influence far and wide, all throughout the Russian Confederation, and even up the chain of command of IDF. It was by touch. Nothing more. A Swarm-infected person so much as flicks your ear with a fingertip, and they've got you."

"Yeah, I knew that," said Zivic. "But what makes you think Sepul—"

"Acting strange, making it a point to shake *everyone's* hand in a room full of top IDF brass with no cameras around? Fuck that. And Oppenheimer. Now that I think about it ... what are the odds he just *happened* to have a heart attack, the same day the Findiri were changed, the same day Sepulveda got his office back from Cooper, or rather, Malakov—"

He fell silent.

"Captain?"

"And there we have it. Anhara. Malakov. Now Cooper. I can't believe it. But ... I can. This is him. Goddammit, that selfish, power-hungry little shit."

"Sir?" To Zivic's ears, Granger was coming unhinged.

"Goddammit ... Oppenheimer was probably trying to stop him. And it got him killed. *DAMMIT!* How did I not see this

coming.” He fell silent for a few moments, then sat up. “Fine. It’s done. They’re created. With Ankara’s help, whether he intended it or not. We can still contain it. They haven’t spread far—”

“Captain, hold up. How are you so certain the Swarm was already created?”

Granger pointed out, to the side and up. “Out there. We witnessed it. We’re witnessing it now. Why would a lone lieutenant blow herself up in the middle of the Valarisi fleet, you ask? Not to take them out. Not to damage them. But to bring *her* as close as she could, physical contact, if you will, to as many of them as possible, simultaneously.”

“But how—”

“Her blood, Ethan. Her guts, spewed and smeared over every last robot ship. Remember what I told you? The Swarm spread through touch? Blood is about a billion times more effective. That’s where they live. Just like the Valarisi do when they’re a companion in a human. And now ... the Valarisi ... are the precursor to the Swarm. They’re becoming them. Right now. Whatever was in that lieutenant ... I mean, whatever Anhara put in her, now controls the Valarisi ... and somehow ... the Swarm was born.”

Zivic held up his hand. “Now wait just a second Captain. Things aren’t adding up. How can Sepulveda be under the control of the Swarm, if we just barely witnessed the Swarm being created?”

“I’m not saying he *was*,” Granger said, slowly, thinking through the events. “But I’m saying he *is now*. All of them. Everyone he touched, everyone *they* touched...” No. It wasn’t possible. His plan, that he’d crafted and prepared for eons, was garbage now. The Swarm was created anew, and from here they would begin their reign of terror across the universes. “And it all started with Anhara.” He caught himself. “No. It all started ... with me.”

## Chapter 66

*Destern System*

*ISS Independence*

*Sickbay*

“We need to help him.” Danny moved to open the window, but Proctor grabbed his hand.

“Danny, no!”

“Why?” He glared at her fiercely.

“Who’s to say you won’t be dragged in as well?”

He looked back toward Jack, feet still plunged into the flat, featureless surface of whatever ground was outside, dragged mercilessly backward toward the hole. “I guess I’ll have to risk it.”

Throwing off her grip, he shoved the window open.

Immediately, everyone in the room momentarily lurched in the direction of the window before they caught themselves. Proctor felt the pull of it like a sudden gravitational force being turned on with the flick of a switch. The orientation of the landscape seemed to change, as the surface now seemed to curve *down* toward the hole. The floor of the room she was in was now at a noticeable tilt, angled toward it.



“Danny!”

With fear in his eyes, but his jaw set defiantly, he gripped the window sill and leapt out.

## Chapter 67

*Irigoyen Sector*

*Bolivar, High Orbit*

*ISS Dirac*

*Bridge*

Captain Rayna Scott dashed back up to the bridge. She never dashed. There were always so many interesting things to talk to—that wall panel, for instance. It was smudged with something, perhaps some cleaning fluid that hadn't been wiped up, and she had half a mind to stop and discuss the situation with the wall panel. “Sorry, dearie,” she muttered as she ran past, “no time for chit chat.”

She had to get to the bridge, and then, she had to get her ship to Scaedria. To Granger.

Something had happened. Something terrible. A blip. A tremor. Something ... in meta-space? It had to be.

She'd never taken on a Valarisi companion. To her knowledge, only Reah had, of all the Quiassi. And so she'd never had the connection to meta-space that a Valarisi companion enables. She'd heard from Granger over the years that, even during his times *without* a companion, he still had a type of latent connection to meta-space. Almost like a sixth sense.

For her it would be a seventh sense—she always considered her awareness of the personalities of inanimate objects to be her sixth sense. But her seventh sense was so fleeting, so primordial, that she never knew it was there, except on very rare occasions of energetic meta-space activity.

Like now.

It was a blip. But, given her lack of sensitivity to meta-space, she figured that little tiny blip...

Was the meta-space equivalent of a supernova.

The bridge doors opened for her, thankfully just in time before she would have smacked into them. “Get us to Scaedria. Pronto. Stat. Post-haste.”

“Ma’am?” said Commander Simmons.

“Oh, you need more? Swiftly! Lickety-split! Full tilt! Chop chop! Hell for leather!”

Simmons signaled over to the helm to carry out the order, but then sidled up to Rayna. “Captain? Has something happened? Is something going to happen?”

“Yes. And yes.” She sat in the captain’s chair and tapped her forehead, willing her brain to think faster. She’d missed something. She’d been so focused on those tapes, mesmerized by the little bits of sparkling spacetime being ripped apart by cosmic expansion, and trying to figure out what that Swarm ship was doing so far in the distant future with that singularity shield.

But now that ship was *here*. And it was using that shield for something. It was using it *now*.

“Care to tell me what those yeses are?”

“No.”

She felt the ship make the first q-jump, but her grip on the armrest only grew stronger.

“Care to tell me why?”

“Because, dearie. For the first time in my life, I want to be wrong.”

## Chapter 68

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

“Captain Granger!” called Petros, who was assisting Commander Swift at the tactical station.

“Ethan, gotta go,” said Granger, waving the image of the young man away. “What is it now?”

“Its the Valarisi robot fleet, sir,” Petros began. He thought he saw fear in the man’s eyes. “They’re attacking.”

“Who? The Swarm ship?” Though he realized after he said it what a naïve question it was. The loud crash and rumble through the deckplate confirmed it.

“No. They’re attacking us.”

## Chapter 69

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

Zivic had no sooner terminated the transmission with Granger than he heard from his own tactical officer.

“Sir! We’re under attack!” yelled Jor.

He studied the tactical situation on his command station and assessed the layout of the developing battle. A handful of the Valarisi robot ships were firing on the *Volz*, with another dozen or so breaking off from the main group to join the attackers. And then another two. Then one of the attackers peeled off and changed direction toward one of the reinforcing IDF ships.

“What the hell?” he said.

“Orders, sir?”

“Launch all fighters. Target the Valarisi ships with full PDC spread.”

“Lasers? Rail gun?”

“Not yet,” he said, still studying the tactical layout. “Very strange. It’s like a hodge podge. There’s no discernible battle plan here. Some are attacking us, some are heading for Granger, and one of the three reinforcing IDF ships. Some are heading out toward the Skiohra ships ... except for that Skiohra ship nearest them.”

“And a respectable number are speeding toward the Swarm ship. Their weapons are powered up. Are they ... just attacking everyone?” said Jor.

“Maybe.” Zivic watched the screen for patterns. One of the Valarisi ships heading out to attack the Swarm ship suddenly veered off, swooped around, and started firing on one of its fellows. “I rather think that they’re not even sure what they want. It’s chaos out there.”

“Is that good or bad for us?”

The *Volz* shook with the impact of the energy beams of the robot ships.

Zivic shook his head. “I don’t know.”

## Chapter 70

*Destern System*

*ISS Independence*

*Sickbay*

Proctor watched helplessly as Danny started sprinting down the empty gray hill toward Jack—who now seemed to be standing vertically but whose ground now sloped precipitously down into the hole.

She spun around to look at the room, searching for something, *anything*, that she could use to help Danny. “Dammit, Carla! This is my mind, isn’t it?”

“In a sense,” she said.

“Then why can’t I conjure myself up some rope or something?”

Carla pointed to the desk.

Proctor dashed to it and opened a drawer. She reached inside and pulled out a long coil of rope. She hastily unwound it and tossed one end to Carla. “Tie it to something! Now!” and without waiting, she jumped over the window sill herself, holding the other end.



## Chapter 71

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

It had been centuries since he'd had a Valarisi companion—as a mortal human, at least. As the disembodied core of the *ISS Victory* he'd relied on a host of Valarisi to enable his control of the ship and its communication to the various Granger moons he'd made, but it wasn't the same as having a companion while inhabiting an organic body.

But the memory of the connection to a companion—that left a mark. A subtle sense of meta-space. And right now, Granger could tell, just at the edge of his senses....

There was war.

A vast war playing out in meta-space, even as he watched a war break out in regular space.

“Tactical! I want a weapons lock on all robot ships within ten kilometers. Full spread of PDCs on anything within two kilometers. Commander Swift? What's the status of the railgun?”

“All operational and loaded, sir!”

The deck rumbled again as a pair of Valarisi robot ships strafed the hull. Thankfully, the *Majestic* was one of the original Legacy Fleet ships that Vestige had quietly pulled out of retirement and refurbished. A light cruiser, yes, but it still sported one to two meters of solid tungsten carbide hull. It could take a beating.

On the viewscreen he watched with an unsettling mix of excitement and horror as he saw the *Majestic*'s railgun slugs tear through a few of the Valarisi ships. It was the old thrill of battle. The adrenaline started surging, but was tempered by the realization that those ships were carrying his old friends. His old companions through billions of years.

Well, their descendants, at least.

The ship rocked with a devastating blast that nearly threw him out of his seat. "Petros! What the hell was that?"

Petros, thankfully still strapped into a chair at the XO's station, studied the tactical readout. "It's those anti-matter beams, Captain. Our hull may be thick as all hell, but anti-matter is anti-matter, which means a thick plate of regular matter is just fuel to those little shits."

He appreciated that the heat of battle brought out the vulgarity in his XO, who he'd earlier taken to be a religious prude.

"Evasive maneuvers," he called out to the helm. "See if you can't take us into the thick of it—seems like they're not quite sure who's on whose side."

That was the other war. The meta-space war. Every now and then a robot ship would fire on another one. Some were attacking the *Majestic*, others the *Volz*, and still others were heading out to the *Benevolence* and her sister ships and even toward the Swarm ship, which, oddly, had still not joined the fray.

"What are they doing? The Swarm ship?" he pointed to Swift at tactical.

“Still generating the two-d singularity, sir. They’re just pumping more and more energy into it.”

Odd. He glanced at the sensor readout, where he could see the energy buildup on the Swarm ship. It wasn’t possible—the energy levels were higher than when the Findiri fleet had tapped into the North American power grid. “Where are they getting that kind of energy?”

“Unknown, sir.”

Granger grunted nervously. “This might get even more interesting soon.”

## Chapter 72

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

The attacks from the robot ships were becoming more frequent, as more and more of them had started to peel off from the main cluster. It was like a hive, buzzing with the angry activity of a thousand deadly hornets.

Except, thought Zivic, these hornets had anti-matter stingers, the little fuckers. He wanted to call down to the fighter deck and get Ace's opinion on whether their fighters would be effective in a situation like this, as a single touch by one of those beams would instantly take out any fighter.

But he caught himself. Ace was dead. *Oh my god, Ace is dead.* He balled a fist and forced himself to think about something else, which mercifully, given the shaking and rumbling of the ship all around him, came rather easy.

"Moonshine, what's the situation down there? How many birds are ready to go?"

"Uh, Batshit?" came the man's tentative reply. "Ace was the CAG, and she's, well—"

“*You’re* the CAG now, Moonshine. Got it?”

“Uh, got it, sir.”

“Fighters. How many?”

“Reckon we got twenty ready to go now, thirty more that can be prepped in, I don’t know, within the hour?”

“You’ve got twenty minutes to have forty birds in the fight. Zivic out.” He turned to tactical. “Are all the railguns loaded?”

“Aye sir.”

“Get targeting solutions. But for God’s sake be careful—these slugs are going to pass right through those buggers without shedding a shot glass of momentum. If you’re not paying attention to what’s on the other side, like say for example, the *Majestic*, or the *Skiohra*....”

“Then bam, two in one. Yes sir, understood,” said Jor, and directed her tactical crew to line up the sights. “First targeting solutions ready, sir.”

“Fire.”

## Chapter 73

*Destern System*

*ISS Independence*

*Sickbay*

Proctor tried desperately to remember her girl scout days, some sixty years prior, but came up with nothing. She swore she knew how to tie knots at one point in her life, but the actual process, intellectually, was just a distant memory.

Thankfully, muscle memory was an entirely different beast. Even as she ran down the slope, she wrapped the rope around her waist once, held the rope in both hands, and performed a maneuver in one motion that secured the rope into a firm knot. As she pulled it tight, the word associated with the motion popped into her head.

“Good old bowline,” she muttered, and yanked at the knot one final time to make absolutely sure it was tight.

Then she sped up. She’d twisted her ankle some weeks back, but thankfully her mind’s body suffered no such debilitation, and she went even faster as she determined that it wouldn’t give way.

“Danny!” she called ahead. In the physical world, he’d be long gone, being over forty years her junior. But here they were evenly matched. In fact, she’d gained on him, perhaps

because he was started to jog downhill more tentatively, while she, knowing she had the rope as a lifeline, continued sprinting full-bore down the ever-steepening hill.

She came up behind him closer, and closer, until soon the ground they were running on was sloping down so steeply that she had to stop running and just let gravity pull her down, feet first, sliding against the surface.

They reached Jack at the same time.

“Grab it!” She caught Danny’s attention and then jugged her head toward the rope. She had no idea how long it was. Thankfully it seemed to be long enough, but they were still sliding. “Grab it! I’ll grab Jack!”

He nodded a quick agreement, and grabbed onto the rope, and, seeing the knot at her waist, performed a similar maneuver. Good. Mark had sent Danny to an outdoor program as a young man too.

She reached for Jack and—as the rope finally tautened visibly, indicating their slack had finally run out—she wrapped her arm around his waist.

The rope was exactly as long as she needed it to be. Which, even in the chaos of the chase, somehow made sense. It was *her* mind, after all, and therefore her rope made to be exactly the length she needed for this purpose.

“Shelby?” said Jack weakly, and she finally got a good look at him as he craned his head around to look at her. He was so ... young. Barely more than a teenager. And yet, at the same time, he looked ageless. And he didn’t so much have skin as he had an indistinct boundary separating him from the air around them. “How did ... but ... why ... how....”

It was clear the struggle to keep from falling into the abyss had drained him of strength. She wrapped her other arm around him and supported him completely, and he came away from the hillside, which at that point was more like a wall they were dangling next to. The hole of nothingness loomed below like a giant maw.

“Hold onto me, Jack. Danny? You good?” She looked up at him where he’d tied himself into the rope on the slope above them.

“For now,” he called back. “Any ideas?” He indicated the slope with a cock of his head.

And she saw the problem—why Jack had been pulled inexorably down toward the hole. Not only was it pulling them with its own form of gravity—mental gravity?—the surface of the hill itself was moving downward. As if the land was being sucked into the hole. A mental singularity that pulled everything in existence toward it.

She had both arms wrapped around Jack now, and he essentially dangled over the abyss, his feet not even touching the steep hillside. “Danny. It’s going to have to be up to you.”

“What?” he yelled.

“Jack is weak. If I try to help pull us up, I’ll drop him. It’s all you, Danny.”

“But—”

“Danny! Do it! We don’t have time!”

He looked bewildered and tried to pull himself, and therefore the three of them, upward, but gave with a grunt.

“Danny, listen. This is my mind. And your mind. Your actual physical strength is meaningless here. You can do it if you believe you can. Just ... pull ... us ... up!”

Danny grit his teeth, firmed up his grip, looked up the wall to where it sloped out of sight toward the window and room where they’d left Carla, and *pulled*.



## Chapter 74

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

Granger watched the battle unfold with grim satisfaction. It was going surprisingly well. While formidable, the Valarisi-controlled robot ships were being taken down left and right. It was both tragic and necessary, as most of them now seemed to be hostile. And while the Skiohra ship closest to the explosion Lieutenant Connelly had detonated had gone silent—meaning something was clearly wrong—it had not so much as fired an ion microthruster.

“Open a channel. Wide beam, wide spectrum. I want everyone in the system to hear this.”

Petros motioned to Li at comms, and leaned over to Granger. “You gonna call for their surrender? Do the Swarm ever surrender?”

“No. They don’t. But maybe, just maybe, there is enough Valarisi still in them that . . . I don’t know. They’ll see reason. Persuade them they’re losing and get them to stop the attack long enough for us to figure out what happened, and see if we

can't reverse it. Jesus, we've got to reverse it. The plan was for this to never—”

He cut off suddenly, feeling more memories surge up. Was this right? Did he foresee *this* moment? Was there a contingency in place for the possibility of him *failing* to stop the Swarm from being created?

“Channel open, sir. You're on.”

He shook his head of the stray thoughts and focused. “Valarisi fleet. I assume by now you've been ... how did you used to say this ... made friends? That somehow, by some trick of the Swarm ship out there, you've all been converted? Changed?”

He took a deep breath. “My friends, you're losing. Yes, I still call you my friends. We went through a lot together. Me and your ancestors, at least. Billions of years of companionship. Maybe you remember that, maybe you don't. And regardless, you're not in your right minds. You've been altered. Forced to think and feel things and thoughts that aren't yours—”

“A return signal, sir!” said Li.

“Source?”

“It's coming from ... *all* of them. Every robot ship. Including the Swarm ship.” He face went a paler shade of white. “And the Skiohra ship too. The *Generosity*.”

“Let me hear it.”

“No words, sir. Just ... well, I'll put it through.”

The officer tapped a button, and at once an ungodly sound filled the bridge. It was like the ruined voices of a billion souls all combined into one.

And it was laughing.

## Chapter 75

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

Zivic listened to Granger's transmission, and the horrible cacophony of laughter that was the response. "Read the room, guys, the old man didn't even make a joke," he muttered.

Granger's voice continued. "You laugh, but I am sincere. We were friends once. We can be so again. But first, the hostilities need to stop. As you can see, you're losing. In less than ten minutes, you'll all be dead. And then we'll come and focus on your main ship. And between my fleet, the Skiohra, and impending reinforcements, you don't stand a chance. Pause the fight. Let's talk. Let's find some common ground."

Zivic glanced at the tactical status board. The robot ships were still a hive of activity. Occasional blips would flash as the *Volz's* PDC cannons or railguns found their mark. He looked up at the tactical crew. "What's our burn rate? How many slugs left?"

The officer chuckled. "We've barely gone through ten percent, sir. We can keep this up all day."

Over the speakers, the laughter only intensified.

Then it cut out completely.

Zivic motioned to comms. “Sampono, did something jam them? Or did they just end it?”

“Looks like they just cut their own signal, sir.”

“Sir!” Lieutenant Jor yelled. “One of our slugs disappeared!”

He spun around to her. “What do you mean?”

“We shot at a robot ship, and rather than hit it, the slug just ... disappeared a few meters away from the hull.” She studied the tactical console. “And there again. Another disappeared.”

Zivic pointed at her. “Keep firing. Get some good high-res video. All frequencies.” And then he waited. The whole bridge waited.

“There we go. Just fired about ten more, and again, all ten disappeared. But on the last few we’ve got something.”

“On screen.” He turned to the front of the bridge and watched the video.

The slug advanced across the screen, moving in visible jumps, as the refresh rate was no match for the sheer velocity of the slug. And then ... it passed through a plane that flared to life with a dull blue, and disappeared. The blue faded quickly as well. It was hardly larger than the slug itself.

“And? Is it what I think it is?”

Director Wiggum, at the science station near the back of the bridge piped up. “Yes. Same frequency spectrum as the other battles with the Findiri. Those slugs disappeared through a singularity shield.”

“But,” said Zivic, tapping his armrests nervously, “before those shields were placed directly in front of their own ships, to shield themselves. These are all hundreds of kilometers away from the main Swarm ship with the singularity generator.”

“Yes sir, it appears so,” said Wiggum.

“Well then where the hell are those slugs re-emerging?”  
He looked at Wiggum, then at a blank-faced Shin-Wentworth,  
then back at Wiggum.

The scientist shrugged. “No idea.”

## Chapter 76

*Destern System*

*ISS Independence*

*Sickbay*

Danny pulled them up, hand over hand, fist over fist, one heave after another. To his surprise, he was sweating. Drenched in sweat, in fact. The exertion from pulling them up was immense—it took all his strength, which seemed to mean it required all of his concentration.

Soon, the wall sloped away, and it became more of a steep hillside again, and then a moderately steep hill. Eventually, he was supporting half his weight with his feet—though the utility of that was lessened due to the fact that the surface itself was moving downward, like a giant conveyer belt.

Finally, the rope above him hovered in the air rather than being pulled taut against the ground, and he could see the window where the rope emerged from. He couldn't tell what kind of structure the window was set into. Just that it was vast and indistinct. It was solid and unmoving, and he found that the ground was moving less the further up the hill he ascended, until just outside the window it was hardly moving at all.

“Help me with him!” said Proctor.

He let go of the rope and took Jack's legs, while she let him slide in her grip until she had him from under his armpits, and they heaved him up to the window and through. She wove her fingers together and lowered her hands into a step for him, and he let her heave him up to the window as well. Once through, he reached down and pulled her up. Finally, he collapsed onto the floor, utterly exhausted.

Proctor reached up to the window and slid it down, locking it firmly into place. In an instant, gravity seemed to shift, and the floor became down again, with no slope toward the window. Then she, seemingly as exhausted as he was, collapsed onto the floor next to him. They sat there for a few moments, just staring at each other, as if disbelieving what had just happened. And, when they'd both had a moment and determined that, yes, that really had just happened, Danny noticed that Jack was no longer lying on the floor, but was leaning against the window sill, looking out.

There were tears in his eyes.

"My people. My brothers. My sisters." He let his head tip forward until it hit the window. "They're dying."

## Chapter 77

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

“Ethan, you’re sure those slugs are being intercepted by singularity shields?” said Granger.

“Sure as sure, Captain.”

Granger stroked his stubble. “But then ... *where* are they going?”

“We were wondering the same, sir. What’s also disturbing is that at Earth and Paradiso, each Findiri ship was only capable of generating *one* shield, right in front of their ship. These bastards seem to be able to generate dozens of tiny ones, hundreds of kilometers from their ship, at the last second. It’s a little mind-boggling. Wiggum actually ran the numbers, and taking into account the distance of the Swarm ship, the velocity of the slugs, and standard processing times for electronic equipment, they shouldn’t even have the time to detect a slug and generate a shield in the right place before it hits. And then the energies involved? Astronomical.”



“Come on, Ethan. I lived through Swarm War Two. You lived through Swarm War Three—”

“So far,” interjected Zivic, with a wry grin.

“And I even fought them in their own native universe. You’ll find they’re full of surprises.”

Zivic paused for a moment. “I mean, technically, *this* is now their native universe. Assuming we really did just witness their birth.”

“I think we witnessed something far worse than their birth, if you can believe it,” began Granger, now eyeing the unmoving Skiohra ship *Generosity*. “Consider the ingredients: Anhara, Quiassi. Decker? Human. Skiohra. Valarisi. Robot. All bound together by whatever Anhara injected them all with.”

A flash and new movement on the viewscreen indicated another ship had arrived in orbit. “And now what fresh hell is this?” he said.

“Captain! It’s one of ours,” said Li. “The *Dirac*.”

## Chapter 78

*Penumbra System*

*Scaedria, High Orbit*

*ISS Dirac*

*Bridge*

When the *Dirac* made the final q-jump into the Penumbra System, Rayna tried to make sense of what she saw.

“Well that’s a clustermuck if I ever saw one.” She counted. “One, two, three, four ... five IDF ships. One Vestige ship with a Granger captain. A bunch of Skiohra. One Swarm, and ... make that a few hundred swarm. And ... what the hell did I just see? Didn’t the *Volz* just fire a *railgun* slug at that little thing? Why isn’t it pulverized?”

“Incoming transmission from the *Majestic*, captain!” said comms officer. *Veronica something?*

“Very well, let’s see what the old guy has to say.”

Granger’s face appeared on the viewscreen. “Rayna, good to see you, but I think you should get the hell out of here. The *Dirac* is not a warship.”

“No, it’s a science ship. And from what I can tell, you might need a little *science* to figure out what the hell those Swarm ships are doing with your railgun slugs.”

“The Swarm ship—it’s using a Findiri singularity shield. Except....”

She continued for him. “Except, it’s doing it at a distance.”

“Correct.”

“And making hundreds of them instead of one.”

“Also correct.”

“And there is no exit wormhole.”

He shook his head. “None that we can see.”

“Dearie, I need to get the patootie out of here.”

He nodded. “Glad you can see reason.”

“And you’re getting out of here too.”

“Not a chance. This is it, Rayna. The Swarm needs to be stopped. Here and now.”

“Dearie, you don’t understand. You probably think those railgun slugs are coming out somewhere else. In fact, you probably think they’ve *already* come out somewhere.”

“What are you talking about.”

She huffed. “No time to explain, dearie. You all need to leave. Now!”

## Chapter 79

*Destern System*

*ISS Independence*

*Sickbay*

Proctor stood up and looked out the window with Jack. “Are you sure? What is that thing?” she said, pointing out toward the white cloud with the hole at the center.

“Death,” was all he said.

Carla stepped over to the window with them. “The birth of the Swarm. It draws all meta-space beings into it, and grows stronger.”

Jack pounded a fist on the window and stood up straight. “I need to stop it. I’m going back out.”

Danny looked up at him from the floor. “Wait. Nope. Not gonna happen. We didn’t do all that mental exercise just for you to—”

“Not out the window. Out of your mind.” He extended a hand down to him. “Are you ready?”

Danny let himself be pulled up.

“Shelby? Are you ready too?” said Jack.

“But my companion is badly injured, maybe dead, and my body ... there’s no saying if I can even regain consciousness....”

“Of course you can.” Jack thumbed at Danny to indicate him. “In the past few minutes I’ve healed his body, and now I’m going to do the same for you.”

She let her jaw hang open. “But ... how?”

“There is still a trace amount of Valarisi matter within you. Your companion is gone, but with what’s left, I can ... rebuild. In fact, if you’ll have me, a human mind is far more suited to a companion than a human-Quiassi hybrid.”

She held her hands up. “Nope. Been there, done that. I’m fine on my own from now on.”

He nodded. “Very well. When I’ve repaired the neural damage, I’ll leave and arrange for the remaining Valarisi matter to molecularly dissipate.”

“Thank you.”

Jack closed his eyes for a moment before opening them again. “It’s done.”

Carla touched Proctor’s arm. “This is it, Shell. This is goodbye. For now.”

She smiled weakly at the being posing as her long-gone sister. “Goodbye again, Carla. Reah. I’m glad we met.”

Carla moved in toward her ear and whispered. “And tell Granger ... tell him ... my opinion, after an eon of study, has not changed.”

She felt like the vision was about to end, but before the darkness overwhelmed her, she said, “Wait! Where is he? Where’s Granger now?”

Carla smiled and reached over and touched her on the forehead. She swore she could see a light when the fingertip made contact. Darkness enveloped everything.

And then she woke up.

## Chapter 80

*Penumbra System*

*Scaedria, High Orbit*

*Valarisi Fleet*

Decker opened his eyes. All the many thousands of them.

Some of them were optical sensors on board the robot ships. Others were infrared cameras, some were UV detectors, gamma ray detectors.

And some of his eyes were not in regular space. Some could see beyond. He contemplated this. Was it just a meta-space effect? A combination of the many meta-space receivers distributed throughout the robot fleet, combined with his inherent Valarisi- and Swarm-derived ability to directly tap into the folds of meta-space?

Or was it something else?

Either way, he saw it, and he knew:

It was almost time.

## Chapter 81

*Destern System*

*ISS Independence*

*Sickbay*

Proctor ran down the hallways of the *Independence* and toward the lift that would take her down to the bridge.

Someone grabbed her from behind. “Ma’am! Please *listen* to me!”

It was Nurse Cunningham.

“I don’t have time for proper IDF procedure, nurse.”

The nurse protested. “Ma’am, you *just woke up from a coma*. You can’t just be walking around like everything is normal.”

“Everything is mostly certainly *not* normal. I—”

“Is everything okay down there?” came Commander Urda’s voice. “Sickbay? I just heard the admiral is awake and running toward the bridge.”

“The reports are true, Commander,” said Proctor. “I’m alive and well. And we need to get to Granger. *Immediately*. I’ve seen things, Urda. It’s important that we get to him as soon as we can.”

“Where is he?”

“Penumbra System.”

“Commander,” began the nurse, “it’s imperative that Admiral Proctor come back to sickbay with me. I refuse to clear her for duty until—”

“*Clear? Me? For duty?*” said Proctor, a jabbed finger emphasizing each word. “My god, woman, the fate of the galaxy—no, the universe—is at stake, and you want to *clear* me for duty?”

The nurse fought back. Admirably, if not without some nervous stuttering. “Who’s to say you won’t just collapse when you get to the bridge? Or faint in the middle of a battle? Or issue an order in an impaired state of mind? You really want to trust the people under your command with *that*? Come with me, ma’am, I promise we’ll run through the tests as fast as we can. Stat.”

Proctor glared at her. She was right. Dammit, she was right. And she hated it. They were wasting so much time....

“Admiral? I’ll get us to Scaedria. And when we arrive I’ll ask Granger for instruction, and be in constant contact with you until you can be up here in person. How’s that for a compromise?”

She jabbed her already pointed finger at the nurse. “You’ve got twenty minutes, Cunningham! On minute twenty-one I launch you out a torpedo tube. Understood?”

“Loud and clear, ma’am,” said the nurse, and Proctor couldn’t tell if she was suppressing a grin or genuinely worried.

“Get us there fast, Commander,” she said. “T-jump. Don’t waste time on the q-drive. Have all fighters on standby. Load all railguns, and prep all PDC—”

“Admiral, it’s not my first time around the block. Go get well, and the bridge will be here when you get back.”



Proctor reluctantly allowed herself to be led back to sickbay. "It sure as hell better be," she muttered.

## Chapter 82

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

Granger looked nervously at his tactical status board. Hearing the alarm—no, the panic—in Rayna’s voice had him on edge. “Rayna, there’s no sign that those slugs are going to emerge *anywhere* in the immediate vicinity. We’ve detected no exit signatures, and—”

Rayna interrupted him. “Dearie! Haven’t you learned a single turd-bedazzled thing? When it comes to the Swarm and playing with spacetime—emphasis on the *time*—you don’t play around. I said: *LEAVE!* All of us. Now.”

“Tim!” said Petros from the XO’s station. “Something just jumped into orbit. Another ship.”

“Dammit. Now what?” Granger swiveled the command console to face him, and was actually pleasantly surprised. “The *Independence!* I told Urda to stay put until Proctor woke up.”

“Incoming transmission from the *Independence,*” said Li from comms. “It’s Commander Urda. He says Proctor is

awake, but still in sickbay. He requests further instruction from Captain Granger.”

“Tell him I—” he began, but something on the tactical display caught his eye. The singularity shield. The large one, hovering just in front of the large Swarm ship.

It disappeared.

## Chapter 83

*Penumbra System*

*Scaedria, High Orbit*

*ISS Tyler S. Volz*

*Bridge*

Commander Zivic bolted to his feet and turned to the science station. “Where did go? Is it gone? Or did they move it?”

The science officer next to Wiggum scanned his readouts. “Can’t tell, sir. One moment it was there, and the next—hang on a second. It’s back.” He looked up, the blood draining quickly from his face. “It’s right next to the *Independence*.”

Zivic spun around to face the front viewscreen, just as the first slug hit. It tore a gaping hole in the side, punching deep into the hull. “Oh my god,” he whispered.

The slugs kept coming. One after another, each coming on the heels of the one before, landing in the same spot. Digging further into the ship each time.

“Sir, they’re aiming directly for—”

“The bridge. My god. They’re taking out the bridge.”

Finally, the last slug slammed into the hole, and a mere fraction of a second later, blasted out the other side in a gout of rubble, body parts, and extinguished flame.

And as one final insult, a single Valarisi robot ship—just slightly larger than the hole itself, launched itself right toward it, slamming into the hole at a relatively low velocity. Not enough to cause an explosion, but with enough force to lodge it firmly in.

## Chapter 84

*Penumbra System*

*Scaedria, High Orbit*

*ISS Independence*

*Sickbay*

Proctor writhed on the floor in pain. Something had hit her—or maybe, *she* had hit something as she flew backwards. The wall. That’s what it was. It felt like the wall had hit *her*, and not the deck tossing her toward the wall at a sickening speed.

Nurse Cunningham lay next to her. She stirred. Good, at least she was alive, though blood streamed from her forehead. The injured woman looked up at her and yelled something.

Proctor couldn’t hear a thing. Just silent mouth movements. The nurse’s hair whipped back and forth. And she was pointing. Proctor twisted and looked behind her, toward where Cunningham was waving her arm. The emergency bulkhead to sickbay had fallen into place, except it was stuck in an almost-closed position. All the air in sickbay was blasting toward it.

“Hull breach!” she yelled, but couldn’t even hear her own voice. She struggled to her feet and pulled Cunningham up, leaning into the blast of wind. With a quick glance around

sickbay she could see there were no obvious survivors. Another nurse lay in a heap, tangled bloodily in some equipment. Her eyes were open. And dead. Proctor pulled Cunningham past the body and into the hallway beyond. They rounded a bend, she slammed her fist on the emergency door at the junction, and another barrier slid down into place.

The wind ceased, and she could hear—just barely—the sound of the emergency klaxons blaring all around them.

“Proctor to bridge,” she thought she said. She stumbled down the hallway, making her way to the deck’s central access terminal, where she could monitor the ship’s status and—

There was no answer. “Proctor to bridge! Come in, bridge.”

Nothing.

“Proctor to Commander Urda.”

Silence. She quickened her pace, letting go of nurse Cunningham, who stumbled to the floor.

“Proctor to Urda, come in. Proctor to Sampono, come in. Commander Mumford? Qwerty? Are you there?”

She finally reached the deck’s central access terminal—a tiny room with an array of consoles and monitors. A quick glance at the ship status board told her everything she needed to know.

The bridge was gone.

Something else caught her attention out of the corner of her eye.

Certain ship systems were in flux. It was to be expected in such a violent event they’d just gone through. But this seemed different.

It was like parts of the computer were freezing, shutting down, restarting, and malfunctioning again. She was familiar with computer systems on old ships—they occasionally need a reboot. But the *Independence* was different. A whole new

computer architecture. It *never* had downtime, never had bugs, never was in this kind of flux, even at the height of their more desperate battles.

That's when she saw it.

A robot ship had lodged itself in a hole in the hull. The chaos in the computer systems seemed to radiate from there. With the computer cores distributed rather evenly throughout the hull itself, you could actually see a wave of ... something, pulse out into systems all across the ship.

She mashed the internal comms button. "All hands! Abandon ship! This is Admiral Proctor! All hands, abandon ship, immediately!"



## Chapter 85

*Penumbra System*

*Scaedria, High Orbit*

*Majestic*

*Bridge*

“Shelby, this is Granger, come in.” He waited. “Captain Granger to Admiral Proctor, do you copy?”

Granger held his head in his hands. “What’s the status of the *Independence*?” he said. “Life signs?”

“Yes, sir, several hundred individual life signs scattered throughout the ship. The bridge, along with the entire path along that hole, is exposed to vacuum. Likely no survivors,” said Petros.

Granger was speechless. She’d been with him since the beginning. From the very first time the Swarm attacked, and then again when he returned as the disembodied *ISS Victory*, and then again as Titan, until she pulled his memory core and essence from the doomed moon and brought him back, corporeally, mortally, aboard the *Benevolence*.

She’d saved Earth—perhaps more times than he had.

And now she was gone.

“Sir?” came the tentative voice of an elderly woman veteran at the science terminal.

“What now?”

“I’m getting odd meta-space fluctuations coming from the *Independence*. And not just meta-space. Strange EM patterns all indicate something ... odd is happening with their systems, electronically speaking.”

“Admiral Diaz on the *Defiance* is on the line, sir,” said Li.

“Tim? What’s going on?”

Granger grabbed his command console and looked again at the destruction. He focused on the robot ship lodged into the hole in the *Independence*’s side.

“My god. The Swarm. They’re taking it over.”

Diaz’s voice came from the comm. “Tim? What do you mean, you think they’re capable of sending an occupation force? How is that even possible? We saw individual corporeal Swarm beings a few months ago when one of those moon-sized ships exploded, but we later determined they were just beings controlled by the Swarm, not the Swarm itself. These robot ships have none of those.”

“No. The Valarisi matter, corrupted by the Swarm, is now in contact with the *Independence*’s hull. A hull that has an infinitely-cored computer system distributed throughout. That robot ship intentionally lodged itself in there, at a very moderate momentum—not enough to vaporize any organic matter that might be inside. Now that organic matter is in likely contact with the electronic pathways of the central computer.”

“What does it mean?”

Granger stared at the listing *Independence* on the screen. “I don’t know.”

“Sir,” said Petros, “escape pods are starting to launch from the *Independence*.”

“Status of the robot ships? And the Swarm ship?”

Petros shook his head. “Nothing. They’ve ceased all aggressive action and are holding back.”

Granger balled a fist and considered.

“Tim?” said Diaz. “What’s the move?”

“We’re in over our heads. Sound the retreat. Collect as many escape pods as possible. Warn the Skiohra—”

“They’ll never abandon Scaedria—”

“They won’t have a choice. But let them stay and get converted back into Swarm agents for all I care. It’s already happening on the *Generosity*. We need to get back to Earth and regroup.”

He watched the *Independence* on the screen, looking at it mournfully like it was an ailing loved one, with cancer slowly ravaging the body, and he was the loyal friend, sitting up with it at night. But now he had to leave and let his friend die.

“What about your plan?”

He made a short, wry grunt. “Plan? I think all plans are out the window.”

## Chapter 86

*Penumbra System*

*Scaedria, High Orbit*

*ISS Independence*

*Sickbay*

“Cunningham you’re going to have to move! Faster!”

She limped along, blood still coursing down her face from a gash on her forehead. “Trying, ma’am.”

They dashed down the corridor, and came up suddenly against another emergency bulkhead. “Vacuum on the other side. Come on. This way.” She pointed to a branching hallway back the direction they came.

As they progressed toward what she remembered to be the location of the nearest escape pod, she collected a few more crew members who had not managed to already escape. Many were injured. Some grievously so.

“You! Come with us!” She beckoned to a young man stooped over a body outside the mess hall.

“I think she’s ... I think she’s dead,” he murmured.

She marched over to him and grabbed his shoulder, wrenching him up to face her.

She recognized him. He worked in IT, and had fixed her monitor and terminal in the ready room a few months back. “IT? Told me to turn it off and back on again? As a joke? I remember that. But I’m sorry, I can’t remember your name.”

He seemed to brighten at the fact that she actually remembered a small fact about his life. Her, the most celebrated Admiral in IDF, paying attention to a tiny detail like that.

“Jeremy,” he said. “That’s Quan. I . . . I don’t know how to do this. . . .” He trailed off.

She grabbed his hand. “Come with me. She’s gone. You’re going to live. But you have to follow me.”

He allowed himself to be pulled to his feet, and, thankfully, he fell into step behind her. Finally, as a group of over ten, they made it to the deck’s escape pod and filed inside.

It was a tight fit, but with a grim thought she mused that it would be a tighter fit in a coffin, so it wasn’t all that bad. “Launch,” she instructed one of the lieutenants they’d picked up along the way.

The escape pod blasted out into space, and through the porthole she saw the hulk of the *Independence* drifting away, strange arcs and flashes sparking out all over the hull as the electrical and computer systems seemed to be locked in a life-and-death struggle.

She tapped the transmitter. “This is Admiral Proctor to any IDF ship in the vicinity. Our escape pod requires immediate recovery. Please respond.”

A moment later, a voice exploded over the speakers. “Shelby? Is that really you? My god, I thought I’d lost you.”

“Still kicking, Tim. Have you recovered all the other pods?”

“As far as I can see, yours was the last to launch. We’ve got all the others.”

She watched the *Independence* recede into the distance.  
“Life signs remaining on board?”

“A few. They’re weak. Probably gravely injured. There’s no chance of saving them, Shelby. We need to get the hell out of here, assess what we have left, and plan our next move.”

*Assess what we have left?* “Tim? Have I slept through other battles?”

“In a sense. I won’t say more over an open channel. But suffice it to say....”

He paused, as if searching for words.

“Things are dire.”

## Chapter 87

*Sol System*

*Earth, High Orbit*

*ISS Dirac*

*Sickbay*

Danny woke up.

Fiona hardly realized it at first. She was sitting in the *Dirac's* sickbay next to his bed, reading a book. It had been forever since she'd actually had the time to read a book, of all things. Time was a luxury that evaded her during her stint at IDF intel, and even more as a private co-owner of a starship with Danny, running their own enterprise.

*He's awake, Fiona.*

She startled at the mental announcement from Diane, and looked up from her book at a sheepishly smiling Danny.

“Nice of you to join us,” she said.

“Just needed some downtime, you know?” He reached out to her. She slapped his hand away and launched herself on top of him, pressing her chest against his, squeezing the air out of his lungs and just about sucking the lips off his face. “Woah, woah, woah. Down girl.”

“Fuck off.” She pulled his head in again and kept kissing.

After what seemed like either a minute or an hour later, she was back in the chair, straightening her shirt. “And Jack? Suppose I should have asked about him too.”

“He’s here.”

“How is he?”

Danny’s expression changed. “He’s ... seen better days. Has Diane filled you in?”

Fiona thought toward her companion. “Well?”

*Something terrible has happened with the rest of our people, Fiona. We’ve had to cut ourselves off from them completely to save ourselves. Which means....*

*Oh. You ... can’t talk to Jack?*

*Not really, no.*

*And I can’t talk to Danny through you and Jack?*

*Unfortunately, no.*

“Well. I guess it’ll be nice to have my own thoughts again without you up there,” she said to Danny.

He shrugged. “I mean, a guy could spend literally seconds rummaging around through everything up there. *Seconds!*”

“Careful bub, or you’ll never get seconds,” she said, buttoning up her last button on her flight jumpsuit.

“Fiona, listen,” he said, his tone changing yet again. It was low and serious. His brow was bunched up. “I’ve got to talk to Aunt Shelby. And Granger. And ... well, probably everyone. Something has happened with the Valarisi. I mean, I’m sure they know by now, but it’s probably not what they think.”

She nodded slowly. “Something you witnessed while you were out? Diane had a vague sense of what had happened once you started pulling out of it, but nothing concrete. What did you see?”



“I saw ... it’s hard to explain. Aunt Shelby was there, oddly enough. Can’t explain how.”

“Well now she’s on the *Majestic*—the Vestige ship. With Granger.”

His brow furrowed further. “Not on the *Independence*?”

“Oh. Yeah. Danny, the *Independence* is lost.”

“Destroyed?”

“No. Lost to the Swarm. Lots of people are dead, Danny. Aunt Shelby’s whole bridge crew. Urda. Mumford. Sampono. Those are confirmed. Others are missing. No one has seen Qwerty. Presumed dead.”

They let a long mournful silence pass.

“There’s something else,” he said. “Something you should know.”

“What now?”

“Well...” he looked like he was struggling to tell her something. “It’s me. I’m not who you think I am.”

“Who are you?”

“I’m me! Same Danny you’ve always known. But ... I’m also ... bi-....”

“You’re ... bi- ... sexual?”

“No. Bi- ... personality? Bi- ... xenotype...?”

“Xeno....” She trailed off, trying to put it together. “You’re half alien?”

“Kinda. I mean, I’m literally two people. One is Danny. One is Quiassi. Um ... sorry.”

“For what?” She pointed at the door. “Danny, there’s a war on. Do you think I care about your identity as a bi-xenotypic individual right now? Come on, let’s go!”

Danny smiled, shrugged, and swung his legs over the bed and hopped off. “Great! Where are we?”

“The *Dirac*. With Rayna. At Earth. The *Majestic*, the *Volz*, the *Defiance*, the *Benevolence*—they’re all here too. I overheard Rayna say that others were on their way. Something about an imminent showdown with the Swarm. Except, they have no idea what to do.” She stood up and touched his shoulder. “Do you?”

He snorted. “Babe, if I did, would I have spent those thirty minutes getting it on with you?”

She tossed him his clothes, which were laying in a nearby drawer, folded neatly. “I’m going to guess ... probably? You’ve had a two-week drought going on down there. Whereas I have now had sex with two people in the last five minutes.”

“Touché. Come on, let’s go.”

## Chapter 88

*Sol System*

*Earth, High Orbit*

*Majestic*

*Conference Room*

Granger stood up at the head of the table. The *Majestic* was only a light cruiser, but being one of the old Legacy Fleet ships, that meant everything was a little larger and bulkier than normal. And so the conference room could fit them all.

“Thank you all for getting here so quickly.” He looked to his right at Shelby, whose eyes were still faintly red and puffy. She’d finally taken a few moments to face the immense loss. So many of her people had fallen. She nodded that she was ready. He glanced to his left, and Admiral Diaz gave a similar grave nod.

All down the table, faces stared at him, grimly. Rayna. Ethan Zivic. GPC First Speaker Curiel—Former President Barbara Avery as she was known at one point. For most of her existence, he’d known her simply as Irithil.

Danny Proctor and Fiona Liu sat next to Curiel, and past them was Polrum Krull, Matriarch of the Skiohra ship *Benevolence*. Across the table from her sat Varus, Director of the Findiri, and next to him, Nubo, his lieutenant. Finally, next

to Proctor, sat Vishgane Kharsa from the Dolmasi. The Eru and the Itharans didn't respond to his request.

"As you all know...." he began, trying to choose the words appropriate to the situation. He gave up with a short grunt. "We have a situation."

"So to speak," added Diaz, in a weak attempt at lightheartedness.

Granger attempted a lopsided smile and failed. *Words. What words to use. What were the important details and what were distractions? Dammit, Tim, you've been alive for so goddamn long and had the luxury of time and never had to rush. Now you need to keep it short and sweet and simple. Be the old Tim. But what to say....*

Granger cleared his throat. "I returned to stop the Swarm from ever being created. I failed. It is now up to us to come up with a new plan. One free from the billions of years of mistakes that I made." He paused for a few moments, considering. "I suggest we start by reviewing what we know. I assume some of you know things the others do not. Me included."

*God, he was tired. So, so, utterly tired.* He sat down, and started.

"I'll begin. Thirty-one years ago for all of you, thirteen-point-eight billion for me, I fell into the Penumbra black hole. I've never described to any of you this part, mostly because I couldn't remember until recently but also because it was difficult to interpret. You see, I was connected to the Valarisi at the time, and through them, my senses were ... extended.

"I looked out from the *ISS Victory*, through its instrument and through my Valarisi-enhanced senses, and I saw the galaxy. I witnessed time speed up the closer I got to the event horizon. I saw the end of humanity first, and then the end of all life as the Swarm returned and swept through the galaxy. I saw the end of Earth. I saw the end of its sun. I saw the end of everything. And at the end ... *the Swarm still existed.*"

He balled a fist and lightly pounded the table. “And it pissed ... me ... off.” A few dry chuckles from Diaz and Danny. But Zivic, who would have been the first to laugh, sat stone-faced, as he had since Jerusha Whitehorse’s death.

“I decided then and there, I needed to destroy the Swarm. Obviously. But that’s when I realized I didn’t just need to destroy them, I needed to *unmake* them. Otherwise, just like that cockroach infestation onboard the *Constitution*, they’ll just keep coming back.

“I’ll spare you the details of my billions of years of failures. But some of those failures resulted in unexpected gifts. Varus and the Findiri, for one. Ever since...” his voice caught, just briefly, in his throat. “Ever since Jasper, and what happened when Talus absorbed him, the Findiri have evolved into something I never dreamed of. Human, but not. Something different, and something wonderful. And the same goes for you too,” he added, nodding at Rayna and Curiel. “The Quiassi—most of you—became much, much more than I ever planned on.”

“Are you calling me fat, dearie?” said Rayna.

Again, Diaz and Danny smiled. Fiona held a palm to her eyes. Zivic stared straight ahead. Krull looked confused. Kharsa looked stoic as ever. Varus and Nubo looked all around the table and alternated mimicking the various expressions.

He continued. “Time moved ever onward, I’d work for a few million years at the problem, then I’d go into stasis for a few million years in my times of despair, and I eventually approached the present day. I’d made certain preparations. With the Valarisi and artificial robotic help, I’d developed many technologies I suspected would help at critical moments. The two-dimensional singularity shield technology I entrusted to the Findiri and later the Itharans. The moon cannons—”

“Granger moons,” interrupted Diaz.

“Whatever. Granger moons. A deep understanding of meta-space and its interaction with regular space. All sorts of

things, most of it irrelevant now. But also, something I never expected.” He cleared his throat again. “Love.”

“You *invented* love, dearie? Okay, now I’m calling bullshit,” said Rayna.

“That’s not what I—” He held his palm to his face, as Fiona had done earlier. “I *found* love. I met a girl. Well, I met her *again*. And she changed everything for me. She brought a fresh perspective to all my plans. Whereas before I was proceeding essentially alone, she convinced me to expand the team, so to speak. Vestige became large, and likely survived to this day because of it. The Skiohra and Dolmasi became more essential to the plans. And, this is where I know less about the timeline, but I’m beginning to believe it’s been the most important part of all, I had a son.”

He could tell from expressions that some didn’t know that.

“But ... *how*?” said Danny.

“The traditional method,” said Granger. Fiona snorted.

“You know what I mean, old man,” said Danny.

“You have to understand, Reah had her own Valarisi companion as well. Valarisi, being liquid and having control of their surroundings at the cellular, even molecular level, well, let’s just say they ... *preserved* some of my genetic material they found in Reah.”

“Gross,” said Rayna. Then she patted the table and whispered to it. “Now we’re getting the sex talk. Don’t worry. I’ll take notes.”

“And so,” continued Granger, pointedly ignoring her, “after I ... uh ... left her, she returned to Earth and resumed a normal life. Except now essentially immortal, since she had her companion with her. Sometime around twenty-six years ago, apparently she decided to ... uh ... *use* that genetic material, and the result was Jasper. Unfortunately she was killed during the Swarm’s attack on Indira a few months back.”

He noticed a strange expression from Varus. Almost like a realization. Or a memory. But he soon resumed a normal stoic expression without a word.

“Jasper was a wild card. Originally, I knew that the Findiri, as a failed experiment, were eventually going to come to Earth once they thought the Swarm was defeated. It was in their nature to seek out humanity. I didn’t foresee Talus hijacking them, but the plan was the same. I had several bodies in reserve, and in all of them I included genetic code that, when introduced into the Findiri reproduction machines, would corrupt the system and destroy it and them. But Jasper, having both my genetic code *and* Reah’s, had an unexpected effect on the Findiri, resulting in Varus being here today and his people now integrating with humanity as we speak, as changed beings.

“In recent hours, however, as the memories I regained yesterday on the *Benevolence* have coalesced in my mind and become clearer, I remembered *how* I was going to ultimately unmake the Swarm. At the moment of their creation, I was going to ... sacrifice myself—”

“Figures,” said Proctor, her first word since they’d entered the room.

“Surprise surprise,” said Rayna at the same time.

“—and use one of my old technologies to arrange for my genetic code to be uploaded, so to speak, throughout the entire Swarm meta-body and consciousness. And within that code was the destruct sequence, if you will. Rayna helped me write it.”

“I did?” she looked confused, then slowly nodded in realization. “I did. Memory’s a bitch.”

“But couldn’t you just, like, shoot one of your spare bodies at them?” said Zivic.

“No. The upload needs to be a conscious act on my part, not just a physical transfer of genetic code.”

“Gross,” said Rayna again.

“Rayna,” Granger began, finally reaching his breaking point with her.

She held up her hands. “Just sayin’.”

Varus leaned forward. “Why is she not treating this situation with the gravity it deserves?”

“Because it’s Rayna, dearie,” said Curiel. “Okay. My turn, old man. Lotta history, but I’ll skip the Quiassi part and save us a few billion years. Back when I was Avery, I was of course aware that Granger—cosmic Granger, not sixty-four-year-old-dour-faced-failing-career cancer Granger—had a grand plan to destroy the Swarm. But naturally, he held it close to the chest, and had asked me to try to defeat them in my own way. It’s why he created me, after all. And so I did. I meticulously planned and won the presidency, and put into place all kinds of redundancies and contingencies and resources in the background to draw upon when the time of the Swarm’s invasion began. And begin it did, and we kicked their asses. Needed an assist from Anhara, but what’s done is done.”

Proctor interrupted. “But you *knew* that they’d be back.”

“Of course I did! So did Anhara. Malakov. Whatever. That’s why I stuck around for so long stockpiling all that shit. The anti-matter bombs. The old Legacy Fleet ships—who do you think is responsible for letting Vestige have the *Majestic*? A paramilitary organization? Getting its own light cruiser? I mean come on. I greased the wheels. I knew what they were about. You see, I knew the Swarm would be back, and that United Earth would need an arsenal, but I didn’t know exactly when and what form they would take. All I knew was that their return would culminate in the final fruition of Granger’s plan to defeat them for good.” He stopped, but flashed a wry grin.

“But that wasn’t good enough for you. You didn’t trust Granger. Did you? You struck out on your own to figure out how to stop the Swarm yourself,” said Proctor.



“Good girl. It’s true. I retired. Pretended to be elderly—actually *was* elderly, I *really* needed to morph into a new body there at the end. And I searched. I used *Interstellar Two* to track the Swarm through history. Discretely, of course. Eventually, I tracked them to the very end of time. Happened by chance, actually. I accidentally used an artificial singularity to travel billions of billions of trillions of years into the future. Past the heat death of the universe. But, surprise surprise, a Swarm fleet was there. I sat on that for awhile, gathering what intel I could, and finally decided to just take matters into my own hands and lure them to their destruction. I knew that Britannia would be destroyed—no way to stop that from happening, so I lured them all to follow me back there, moments before its destruction.”

“Lured them with what?” said Proctor.

Curiel smiled. “With what they wanted. A way to traverse the bounds of the inflation epoch of the early universe, so that they could rule *all* universes.”

Proctor chuckled. “So you bluffed.”

“Like any good gambler and politician worth her salt,” he said. “I let them overhear a transmission I sent to an associate, where I told him to safeguard the singularity tech we’d developed, to not let it fall into the Swarm’s hands, because of quote unquote, *what it could do*. Yeah. I bluffed. And they bought it hard. Every single ship chased us down, followed us to Britannia, and boom. All gone ... but one.”

“A fairly large *but*,” said Proctor.

“Are we talking about my weight again?” said Rayna. “Kidding, dearies. Listen. Irithil is right. That’s what they want. And my sense is that they’re now on the cusp of actually attaining it. That singularity shield they’ve stolen, if powered properly, can do the trick. I’m sure of it.”

There was finally a silence around the table. Almost a dread silence.

“But how are the Swarm back? You say they’ve been recreated?” said Diaz. “I was there, but damned if I understood what was actually going on—it all happened so fast.”

Granger answered. “The Valarisi served as the base. The liquid material with the ability to manipulate molecules around them, and to tap into meta-space. The artificial nature of the robot fleet provided the means, and the computational power. The addition of Decker’s humanity to their essence provided them with the drive to absorb and compel and rule all. The Skiohra aboard the *Generosity*, they obtained physical bodies and corporeal generation chambers. And the final ingredient ... is a mystery to me, but I have a good guess.”

“Malakov,” said Curiel.

“Mm hm. Anhara. He saved some old Swarm matter, or rather, arranged for a secret research group at Shovik-Orion to obtain it and experiment on it. And with it, he developed a way to use it to exert his mental influence and domination over other beings, at a distance, through meta-space. It explains Patricia Connelly. He must have influenced her to do what she did, and she must have carried an abundance of whatever it is in her blood, to be able to infect the whole robot fleet. And I’m guessing he’s infected the top brass at IDF, which is why I invited none of them here now. People, this is up to us in this room, and us alone.”

“There’s more,” said Zivic, breaking his silence.  
“Connelly’s detonation ... well, it killed Ace.”

Silence. “Ethan, I’m sorry. I know she meant a lot—”  
began Proctor.

“No, it’s not that. Do you hear what I’m saying? Connelly’s detonation killed Ace. A piece from that torpedo blast struck her fighter, and went right through her.”

Silence again, but this time it was an awful silence.

“Son, are you hinting that she is currently ... alive?” said Granger. “Was some of Connelly’s organic material on that shrapnel?”

Zivic nodded slowly, like he was numb. Granger realized his mournful silence was not only because of losing his fiancée. He'd lost his best friend too, to the Swarm.

“She woke up in sickbay a few hours ago.” He breathed out a sigh and smiled bravely. “A huge miracle. Right? But I knew what had happened. It was the only way to explain it. But that’s not the worst of it. Once I realized what had happened, I reviewed video logs, and, yeah ... it appears Connelly did a little proselyting on the *Volz* before she left. Shook Shin-Wentworth’s hand, and who knows who *he’s* had contact with since then. For all I know, the entire *ISS Volz* is lost. I hope you can see why I had to keep this absolutely quiet until now. Hell I even wore gloves on the *Volz* all day until I got here, just in case.”

More silence. Proctor stirred. “And let’s not forget about Paradiso. It will collide with Earth in just a few months.”

Varus raised a hand, in an almost childlike gesture of respect. “I have a thought on that.”

“Yes?” said Granger.

“When we lost the flagship during the first operation that saved Earth from a collision with Paradiso, we lost the ability to repeat what we did. We’re spread too thin. Especially since the Swarm stole a singularity generator off the hull of another of our ships. But our science units have reworked the geometries, and have determined that we could perform that operation again ... *if* we had that missing singularity generator. But it would require a similar energy input.”

“Why the missing one?” said Zivic. “The *Volz* has one of the Trits’ singularity generators. Shin-Wentworth stole it inside Chantana Three. It’s how he brought Paradiso here in the first place. Why don’t we just send it back? Hit the reverse button?”

Everyone stared at him.

“Dearie,” began Rayna, “Shin ... Went-hole, whatever that cat’s name is, did some pretty remarkable calculations to get

that planet here. First, I doubt even he could do it in reverse and guarantee it shows up in the right universe, and two, I have the feeling he didn't know exactly what he was doing. I mean, that planet out there, it's made of *anti-matter*, if you hadn't noticed. Third, let me repeat ... *ANTI-MATTER*. Do you have any idea what kind of energy is released when a planet's mass of matter mixes with a planet's mass of anti-matter? What if we sent that thing through, got the wrong address, hit a regular-matter Paradiso, blast the two to kingdom-come and send a nova-sized shockwave back through whatever gate we made to get there, incinerating all of us before we had the chance to say, *oh shit*."

"Hmm...." groaned Zivic.

"*Hmm* is right," replied Rayna.

Granger sat upright. Stiff in his chair. Staring ahead in space as if he was looking out lightyears past the wall. Then he looked over at Curiel, and caught his attention.

"Tim?" he said.

"A nova-sized shock-wave, huh Rayna?" he said, still staring at Curiel.

Curiel opened his mouth, then closed it, and smiled slyly back at Granger. "You think?"

"Why not?"

"I can think of many reasons, and we die in most of them."

"But it could work. It did before."

Rayna slapped the table. "You gentlemen want to let us all in on the secret?"

Proctor had watched the whole exchange, and now seemed to figure it out. "You're going to bluff? Again? Madam President, that may have worked on a fluke that one time, but you'll notice that it didn't *exactly* work the way you intended."

Curiel shrugged. "Call me Mr. Speaker, Shelby, less confusing that way. And yes, it did work. Fooled every last

one of them. That's what's important. The Swarm, for all their savvy, aren't the most street-smart of all the beings we've come across."

Rayna slapped the table again in frustration. "Sorry for that, dearie, got a little excited," she whispered to it, before looking back up. "Still waiting. What's all this about bluffing?"

Curiel and Proctor both looked at Granger, who heaved a breath before starting. "We make preparations to send *Paradiso* back, using whatever technique Shin-Wentworth used. Except this time, we say that to make the effort an assured success, we need the whole Findiri fleet plus the *Volz*, and in addition, we'll need the energy of the Western Hemisphere power grid again. But along the way, we're going to make a fuss about making sure we do it soon to avoid a collision of *Paradiso* and Mars, because that would be like a nova's worth of energy going off right in our solar system—"

"That's the bluff," said Rayna.

"All of it's a bluff. We're not sending *Paradiso* back. Not now. It's safe, Mars is safe, Earth is safe. For now. That's not our current problem. But we're going to talk as if it is. Especially Zivic, when he's back on the *Volz* and makes preparations with Commander Shin-Wentworth." He glanced at Zivic. "The scientist. Uh ... Wiggum. Do you think he's been infected by Shin-Wentworth?"

Zivic's eyes crossed momentarily as if he were in deep thought, then said, "I doubt it, but can't rule it out."

"Fine. Get Wiggum in on it. Or at least feed him enough information so that he comes to the same plan we do. The important part is that Shin-Wentworth believes we're making preparations for it. And also this: He needs to know I went to the Findiri's command ship, and that I have some sort of key to making this whole thing work. Like I've encoded the proper singularity jump calculations right into my DNA or something like that. Sounds like something I would do. But this is important, Ethan. I'm the key. They need to need me."

Zivic nodded. “Okay, I can do that. And then?”

“The Swarm are going to hear all this, put two and two together, and jump at the opportunity. Here’s a fleet, wielding the two-dimensional singularity tech and tapping into immense power to avoid a massive energy-release event in the system. But that’s exactly what they want. They need the tech, and they need a nova’s worth of energy to make it do what *they* want. Right, Rayna? To create the inflation gates?”

“Right,” said Rayna.

“They’ll come. They’ll disable the Findiri command ship, and they’ll force me to come aboard the *Independence*.”

“Why the *Independence*?” said Danny.

“Because. If you know the Swarm like I do, they love this kind of poetic justice shit. Me going down with the ship, *our* ship, to further their own victory. Seriously. They’ll lap it up. And I’ll go. And ... this is the beauty of it. I’ll do exactly what they want. I’ll let them rip me apart and tap into my DNA and extract whatever dimension-jumping code they think is there. And then we’ve got them. Rayna’s universal destruct code will migrate over into them, into the *Independence*’s infinitely-cored computer which is now directly tied into the Swarm’s very being, and from there....”

“They all die,” murmured Proctor slowly.

“Like the little cumrat bastards they are,” replied Granger bitterly.

“And then you’ll come back, right?” said Zivic. “I mean, you’ve got what, like six more bodies on the *Benevolence*?”

Granger looked from him to Krull. They exchanged a heavy look, with no explanation.

“Right?”

“Son, this is it. And thank god. I’m ready, Ethan. I’ve been ready since the day I fell into that black hole.”

“But your other bodies—”

“Ethan, don’t deny me my big-damn-hero moment. I thought I was the hero martyr saving Earth by falling into the black hole. But I wasn’t. It was stolen from me. And I had to live. For billions of years, thinking about that fact. I lived, and was called a hero, while billions of others died, and are forgotten. Well that ends today. I get to die. I get to be the fucking hero. And you all get to live and move on. Got it?” He grunted. “Plus, it doesn’t work that way, Ethan. My consciousness doesn’t magically transfer to a new body. There’s a process. And there isn’t time.”

The discussion continued for another hour, and Granger tuned in and out, contributing as he could. But he’d said what he wanted to say, and finally felt at peace with the plan.

The whole time, he would now and then catch Proctor looking at him. Always when he was looking in another direction. The final time, their eyes locked.

“You sure about this?” she said.

“I am.”

“Tim,” she hesitated. “Reah is with me. Quiassi Reah.”

He felt his eyes widened. *Impossible. Right?* “Oh?” was all he said. “And what does Reah say?”

“Not much. She’s heard it all, and thinks it’ll actually work. But she wants you to know something.”

“And that is?”

“Just what she’s already told you. She says you’ll understand. Her opinions have not changed.”

He looked down at his locked fingers in his lap. He felt his old bones, his raw nerves, and the weight of eternity pressing down on his shoulders. “Fine. But mine have. End of the road.”

## Chapter 89

*13,780,113,243 years after Big Bang*

*Or*

*2755 CE*

*Britannia System*

*Near Britannia*

Now he was Titan.

For eons, he'd had various embodied experiences, often as his old ship, the *Victory*, which unfortunately was now a tenuous cloud of debris orbiting Saturn. But this was a new experience. He'd converted worlds into his mobile battle platforms before, but he'd never *been* one of those worlds.

And it felt glorious. Why hadn't he done this before? He felt ... invincible.

He felt he felt he felt. They were almost meaningless words. Placeholder words for what he really experienced. He didn't *feel* glorious. He knew, somewhere deep in his memory banks, that he could find experiences where he may have felt



that at one point. But they were sterile memories. A database of catalogued neurochemical reactions organized in such a way as to produce a human sense of wonder.

Rather he knew, logically, that he'd finally attained a form that could allow him to effect the plan. This part of it, at least. And he could do it alone. He could draw the Swarm's fire. Present a threat so grave and so deadly that they couldn't help but focus all their attention on *him*.

And now they were here, bearing down hard on Britannia.

He let them have it. The experience was comparable to a fist fight. A galactic fist fight. He lashed out with a punch, and saw the massive energy beam erupt from deep within his core and slam into the nearest Swarm ship. Soon, it was disintegrating and falling toward the surface of Britannia.

*Granger one, Swarm zero*, he thought, and wondered where that came from. Was it a game? He searched his memory banks, and yes, he found that as a human he would have likened this to a sporting event, for fun. Fun during a battle? Humans made no sense.

He felt a sting. It wasn't pain, but it hurt, as it hindered the plan. He watched one of his moons, Ido, absorb devastating hits from the remaining Swarm ships' anti-matter beams. And Ido died. Rather, his control of it died, and the moon began to break apart.

*Granger one, Swarm one. Tie game.*

A voice sounded out. Coded as a phase envelope of a harmless laser beam directed at his planetary surface, translated by software buried deep in his processors.

And he recognized the voice.

"...unless something is done *right now*, Britannia is lost. And all eight billion people there. I ... I think you can do something. Gravity assist. Remember the early days of rocketry? Before fusion drives and q-field manipulation? They'd use chemical rockets, and in order to pick up speed

they'd get close to another planet, let themselves be pulled into the gravity well, and then slingshot—”

Shelby. He knew that voice. It was Shelby.

She needed help. He focused his attention to where she was directing it and realized, almost too late, that Britannia was about to die. He'd missed it. Or rather, he hadn't considered it as important as finishing The Plan, and so it took a back seat. But the disintegrating Swarm ship and the fragmenting moon Ido were caught in Britannia's gravity well. Did it matter? Did it affect the plan? Was diverting his attention from ending the Swarm, however fleetingly ... worth it?

But hearing Shelby's voice reminded him that it *should* have been important to him. And he trusted Shelby. She was one of his anchors. So he acted. Surging with energy, he flooded the gravity projectors with billions of terawatts and moved two of the other moons and himself forward, close enough to attract the debris away from Britannia.

The scattered remains of the Swarm ship, itself nearly the size of a small moon, slowly changed its trajectory as Ampera Raya, Tal Rishi, and his own body—Titan—loomed ever closer to Britannia. He could feel the tidal stresses on the vulnerable planet's crust, and hoped the proximity of his own mass wasn't causing massive earthquakes and tidal waves on the surface, endangering the poor people below—

Wait, was he worrying about individuals now? In the midst of a galactic struggle for the very survival of all the galaxy's—all the universe's—peoples?

Maybe Shelby was rubbing off on him.

Success. The remnants of the dead bodies were flung out into space.

And the battle continued.

Maybe he needed her after all. Could he do this alone? He had to. He *had* to. The death of the Whilm demanded it. He gave up Reah so he could do it alone. Draw all the fire to

himself. Make him the target. And in the final act, take them down with him, and finally know blessed oblivion.

He heard the voice again. Shelby's. But this time ... this time....

It was in his mind. And it was like ... she wasn't intentionally sending her thoughts to him—how could she, after all—but rather an external force in meta-space was carrying her thoughts as if a voice on the wind.

*Live, Tim.*

*Live, Tim. Be alive. Please.*

He wanted to respond. He wanted to cry out from the depths of his rocky, massive body, *I am! I'm here! I'm alive!*

*I'm alive, Shelby.*

But....

But.

*But, am I alive?*

## Chapter 90

*Sol System*

*Earth, High Orbit*

*Majestic*

*Conference Room*

The council had broken up, and Granger wondered whether he had time to shower before the time for action arrived. He wanted to face his end freshly shaven, after all. There had been a handful of times over the past few billion years where he'd come within inches of death, and each time, as his impending doom approached, he'd stroked his days-old stubble, sniffed his pits, and wondered why he hadn't found the time to face death in a more dignified manner.

This time would be different.

Mainly because this time he'd actually die.

Proctor grabbed his elbow as he left the conference room. "Got a minute?" she asked.

"Sure," he said. He was about to ask her what was up, but saw the look on her face. Her narrowed brow, pressed-thin lips, and a side glance at the other people in the hallway told him she wanted some privacy. He started to lead her to another

private room down the hall where they could talk, but then thought better of it. “Come with me.”

The *Majestic* was nowhere near as large as the *Constitution* had been, or the *Warrior* and *Victory* after that. But it at least had a mess hall. A skeleton crew of old veterans was all Vestige could manage to staff her with, but every ship her size had a mess hall, and any ship worth her salt had a private corner off the mess hall where the either the ship’s CAG or the fighter squadron leader had a small, discreet bar.

“Welcome to Hooligan’s,” he said, and swept her forward with a wave of his arm. He hadn’t actually been to the *Majestic*’s bar before, but Diaz had told him about it when he boarded. When he found a chair and sat, he figured it would be his first and last time. “Old Centauri,” he said to the old man behind the counter.

“Good to see you, Tim,” said the barkeep.

Granger smiled. “I’m sorry for my terrible memory. Do I know you?”

“Not really. Phil Jackson. Swarm War Two. I served under you on the *Constitution*. Years ago. Was just a kid in the operations center. When Diaz approached me about this a few years ago, I jumped at the chance. Good to see the Bricklayer in action again, sir.” He gave a small salute, then turned to find Granger’s preferred bourbon.

Proctor’s eyebrows tugged up. “Well, Tim, there seems to be no end to your fan club. Sorry, I know how much you *love* it...”

“Ah ... it’s fine. Gotten used to it.” He waved her off and accepted the offered lowball glass. “Thank you, Jackson. Good to see you again. When this is all over, let’s have a drink together.”

Jackson smiled, and, after handing Proctor a glass herself, raised a small flask. “Way ahead of you, Captain. Cheers.”

Granger raised his and the three of them drank.

Jackson withdrew and greeted another off-duty patron to give them some privacy, and Proctor leaned in after seeing they were finally alone. “Tim, how can you be so sure the Swarm are going to fall for this? They’re not dumb.”

“No they’re not.” He took another sip. “But they’re not brilliant. Like I said earlier. They’re smart, but not street smart. They’d win at chess but lose at poker, if you know what I mean.”

“Still,” she continued, “it seems an awful risk to be banking on the hunch that they’ll fall for a bluff.”

“I don’t see an alternative. Do you? Nearly every IDF ship is likely under their control by now. Maybe half of Vestige. Who knows—the Eru and Itharans aren’t responding, maybe they’ve fallen too.”

She slowly took a sip and pondered. “No. I don’t.”

“Because if you have any doubts, now’s the time. Zivic is probably talking about this whole thing to Shin-Wentworth as we speak, which means the Swarm could be here within the hour.”

“Doubts? Plenty. Alternatives? None. So let’s go make the best of it. But that’s not what I wanted to talk to you about.”

“Oh?” He finished his glass and waved Jackson off when the man motioned toward the bottle. He should be on his best behavior before all the heroics.

“It’s Reah. What exactly does she mean? That her opinions have not changed.”

He nodded. “It’s from her first few minutes of life. You see, I created the Quiassi—each of them—for a very specific purpose. Reah’s was to *understand* the Swarm. Not just know all about them, but actually *understand* them. Think like them. See things from their point of view. Even empathize with them. But the problem was, she was created for that role so perfectly—”

“She loved them even in the first few moments of life. Didn’t she?”

He grunted. “How’d you guess?”

“She showed me. She showed me her first interaction with you, when she first woke up.”

“And? What do you think?”

“It’s understandable, in a way. If you come to know something—someone—so intimately, so personally, that you know every single thing about them, can predict what they’ll say, what they’ll think, how they’ll feel, it only makes sense that you come to love them, in a way.”

“Even a race that has caused the death, destruction, and misery of ... trillions? Quadrillions? What’s the Swarm’s body count by this point?”

“Does the number matter? Does a billion dead make them more guilty than a million dead?”

“Nine-hundred and ninety-nine million people would probably say more guilty as all hell.”

Proctor shrugged. “Even so, Reah understood them. Understands them. And understands why you’re going through with the plan. But it doesn’t change her core belief that she feels at the center of her being.”

“Which is? That the Swarm should live?”

“No. That every living, thinking, feeling thing is ... redeemable. That you only need to figure out how to satisfy one being’s or one race’s needs without infringing on the needs of another being or race. The Swarm’s main fault is that they never figured that out, and it was never important to them to figure it out. But what if they could? What if they could have what they want without causing harm to others? Does a people, once they discover a solution that benefits everyone, still need to be judged and punished and fought and destroyed for their past crimes? That’s Reah’s core issue. For her, it’s a big *no*, and she believes it’s still possible, even now, to figure

out what exactly they want, and how to give it to them without destroying either them or ourselves. And at that point, punishment and defense are unnecessary.”

Granger sat silent for a while. “She was always the idealist. And it’s tempting to agree with her. But Shelby, I can’t afford to. Humanity can’t afford to.”

“She would say we can’t afford *not* to.” She looked him in the eye and touched his elbow. “Tim. I’m not agreeing with her. I’m with you. Let’s end this, once and for all. Together.”

He smiled. “Now you sound like the other Reah. *My* Reah.”

“I would have liked to have known her.”

Granger felt a deep empty pit inside. A dull ache that pervaded him. “And to think. You could have. She was alive, all this time, up until what, a few months ago? I ... I could have....” He shook his head. “Goddammit, Shelby, I could have found her. Gotten back together. Patched things up. But even as I say the words and feel that longing, I know it was never possible. I needed to see things through to the end. I need to finish the plan. And for that to happen,” he shoved back from the table and stood up. “I need to die. It comes down to me. Alone.”

“But what if you could live?”

The question caught him off-guard. “Live? Shelby, I’ve done that. Did quite a bit of it, in fact. A few billions years worth of it.”

“Sure,” she said, in a tone that meant she didn’t believe it. “But did you ... *live*? Or did you survive? Is an existence plotting the destruction of another race truly living? I mean, from what you’ve told me, you did things to yourself to enable you to survive that long. Things to your body. Your mind. Your psyche. All in the name of living another day to fight and destroy the Swarm.”

“I did what I had to. And I’ll do what I must.”



“And we thank you for it, Tim.” It seemed she was about to leave it there. “But what if you could do both? See it through to the end, *and* live?”

He chuckled again. “For how much longer, Shelby? A year? Ten? Another cool million?”

“No. Doesn’t matter. Just a regular lifetime of a sixty-five-year-old man. What, another thirty or so? But truly living? What would you most want to do if the Swarm were gone, and you could do whatever you wanted? Be whatever you wanted to be?”

His chuckle and his smile disappeared. “The Swarm stole that from me too. I learned I had a son, and the next week he was taken from me. No, Shelby, I’m done. It’s time for others to do the living, while I do what’s necessary for them to live.”

The comms speaker beeped and he heard his name. “Tim? It’s Diaz.”

“What is it?”

“It’s showtime. The *Independence* is here.”

## Chapter 91

*Sol System*

*Earth, High Orbit*

*Majestic*

Proctor and Granger both dashed down the hallway as the klaxons started to sound, indicating Petros had set the *Majestic* to the highest alert level. “Actions stations, action stations,” a voice called out over the speakers.

At the intersection Proctor found, to her surprise, that she turned left, while Granger turned right. “Wait. Tim, I thought the bridge was down here?”

“I’m not going to the bridge. I’m heading over to Varus’s ship.”

“But—”

“No time, Shelby. But I need you here.”

“Ridiculous, Tim. Petros has things under control here,” she said, and then thought for a moment. “I’m coming with you.”

She changed directions and ran down the hallway he’d started down. “Uh, no. You don’t need to be over there too. Remember, Shelby? This is the end of the road for me. No sense in risking you needlessly.”

“I’m coming with you to the shuttle bay. The *Majestic* does have more than one shuttle, doesn’t it? Light cruisers should have a fleet of three.”

“Oh. But then where?”

“The *Volz*.”

They entered the lift and descended a few decks before it deposited them outside the shuttle bay. “Ah. You’re worried about Ethan.”

“Between Whitehorse dying so tragically, and now Shin-Wentworth and probably many others now controlled by the Swarm, he’s going to need all the backup he can get to see this through. Me going over there won’t raise eyebrows, seeing how my ship is now ... well.”

*Mourn later.* She set her jaw and opened the door.

They entered the shuttle bay and each veered off to separate shuttles. When she reached hers, she paused and turned back to look at Granger. He was barking orders at the pilot of the other shuttle, and she left hers to rush over and pull him into a hard embrace.

“Woah,” he said. “Wasn’t expecting—”

“Shut up, Tim.” She held him for a few seconds, before the emergency klaxons reminded her of the urgency. “Could be the last time I see you. Didn’t want to let the moment pass. Not again.”

“I mean, I could fall into another black hole and go back in time and—”

“Shut up, Tim,” she repeated. One last squeeze. “It’s been an honor.” She released him, and took a step back. “Go fuck them up.”

“With pleasure,” he replied, and ascended the ramp to his shuttle.

She climbed into hers and instructed the pilot on the destination. Within a few minutes she found herself on the

flight deck of the *Volz*, and the deck officer waved her over. He extended a hand, which she did not accept. Would he suspect she knew about the Swarm infiltration on board? “What happened to protocol, Sergeant?”

He snapped to attention, and withdrew his hand, raising it in salute instead. “Sorry, ma’am. It’s just, I was a fan of yours and ... sorry, ma’am, won’t happen again.”

Was there something in his eye? Or was he sincere? Whatever. Didn’t matter. Not now.

“Send the shuttle back. I’m going to the bridge. Dismissed.”

“Aye,” he replied, and scurried off to the shuttle. Thankfully, the pilot had followed *his* orders to close the hatch, so the deck officer had to converse with him through the comms.

She ran the entire way to the bridge, and once past the marines on duty, the doors opened to reveal a hive of activity.

“Admiral!” said Zivic, looking up from the tactical station where he was discussing something with the tactical crew.

“Just here to lend a hand, Ethan. The ship is still yours. I’m leading the task force—such as it is—but you command the *Volz*.”

“Understood. Care to explain why?”

She cleared her throat, and put on a good show for anyone listening. “I’m not in the habit of explaining myself to junior officers, *Commander*,” she said, but even as she did, she cast a quick glance in Shin-Wentworth’s direction. Just for a split second before looking back at him.

“Ah. Understood. Won’t happen again,” he replied, and she could tell that he *had* understood, because with his own glance, he indicated two more bridge crew members, and then was about to look toward a third, but then just looked back at her and shrugged. His meaning was clear. There were at least two Swarm agents on the bridge besides Shin-Wentworth, and

possibly more. “Tactical understands the plan, though.” *Good.* That meant he thought the tactical crew was clean from Swarm influence. That would be important.

“Status of the *Independence*?” she said.

“They t-jumped into the system about fifteen minutes ago, and since then they’ve been pretty silent. Could be that the Swarm hasn’t completely been able to exert its influence over the entire ship.”

“Or maybe they’re just watching and waiting,” said Proctor.

“Or maybe,” said Shin-Wentworth, approaching them from the XO’s station, “they’re waiting for backup.”

“It’s possible. Mr. Shin-Wentworth,” she said, carefully watching where he put his hands, for fear that he might reach out and touch one of them. “Has Commander Zivic gotten you up to speed on the plan for Paradiso?”

“He has, ma’am.”

“Good. That’s job one right now. Swarm can wait—as long as they just sit there and watch.”

“Do they ever just watch?” said Zivic.

“No. But if we don’t get Paradiso out of Mars’ neighborhood, we could end up with a situation where we release a nova’s worth of energy. Ever see a planet of anti-matter slam into a planet of matter, Mr. Shin-Wentworth?”

“Can’t say that I have, ma’am.”

“Good. Let’s keep it that way. Plus, if I’m not mistaken, your wife and kids are down there, right? Their universe’s version of them, at least. As if you needed more motivation to save the planet—and Mars, and Earth. So let’s get this right.”

“Aye, ma’am,” he replied. “Is Captain Scott sure that this will work in reverse? When I did it originally, I thought we had our calculations right, but then, well, it’s clear we didn’t, because we got the wrong Paradiso.”

Proctor nodded. “Rayna assured me this will work. She says your equations were actually fine, but that your phase and boundary controls of the singularity field were off, mainly because you were trying to do it with only one ship—the *Volz*. She says that if we do something like what we did a few days ago, using the entire Findiri fleet acting in synergy with the *Volz*, the controls become far more precise and accurate, resulting in a precise delivery of Paradiso back to their own Universe. But the other key here is Granger himself. Because of his intimate connection with them, he’ll be tapping directly into their system, and they’ll read certain executable code directly from his DNA. Think of him like a skeleton key for the Findiri systems. It’s how he built it, using himself as a failsafe and backdoor in case they, well, you know.”

“Go crazy?” said Shin-Wentworth.

“Exactly,” she said.

“Does Paradiso know about the plan?” said Zivic.

“I briefed Prime Minister Subramanian on the shuttle ride over. She’s jittery, but in favor of decisive action to save her world.”

“Incoming transmission from the Findiri flagship,” said the comms officer nearby.

“Put it up for all of us, Lieutenant, everybody may as well know exactly what we’re doing,” said Zivic, with a knowing glance at Proctor. She wondered if they’d played it convincingly enough for Shin-Wentworth.

Granger appeared on the screen, with Varus at his side. “Ethan, Shelby. Varus says his people are ready. The *Independence* looks like a spectator for now, so I say we get this show on the road and get it over with before the rest of the Swarm shows up.”

“Agreed, Tim. Shall we all q-jump to Paradiso’s location together?”

“Yes. We’ve got the calculations performed and will broadcast to everyone coming along for the ride. Curiel just

informed me that the rest of the GPC fleet already showed up. Stand by.”

The screen returned to show Earth rotating far below, and soon the comms officer gave confirmation. “Just received q-jump coordinates.”

“Enter them in and get us there, helm,” said Zivic.

Proctor turned to watch the screen. Zivic sat down in the captain’s chair, while Shin-Wentworth retreated back to the XO’s station. “Coordinates entered. Drive winding up,” said the navigation officer. “Five seconds.”

The seconds ticked by, and she saw the *Majestic* disappear in a flash, followed by the Findiri flagship and the rest of the Findiri fleet. Curiel’s ship, along with the rest of his GPC fleet was next. Finally, the *Dirac* leapt away, leaving only the *Volz*.

And with a flicker on the screen, the view changed in an instant to reveal the lush green and blue world of Paradiso, with the telltale red glow of the outer atmosphere the only indication of the constant bombardment of regular matter on the anti-matter planet.

And there was something else.

“Tactical! Evasive maneuvers! All PDC cannons stand by!” yelled Zivic.

On the screen in the foreground, training their fire on the *Findiri* flagship, was the *Independence*, the large Swarm ship, and the Valarisi robot fleet.

And the Skiohra ship *Generosity*.

*They took the bait*, thought Proctor. Now to actually survive the battle.

## Chapter 92

*Sol System*

*Near Paradiso*

*Findiri Flagship*

The last blast nearly knocked Granger off his feet. As it was, he was hanging onto the chair he'd occupied on the Findiri bridge—one of the previous hits had wreaked havoc on the artificial gravity system, and he felt himself being pulled not down, but sideways and down.

“Return fire!” barked Varus. “Target the main Swarm ship only. Leave the *Independence* alone. For now.”

Granger noted the *for now*, and wondered what would have to happen for the Findiri hegemon to change his mind. He supposed if the plan to bluff their way through this failed completely, it would be open season on all Swarm ships, including the *Independence*.

Another blast. And another. It seemed as if the entire Swarm fleet was concentrating their fire on this single vessel, and for a moment Granger feared that the Swarm would be overeager in their disabling of the Findiri flagship.

“What’s the status of the Swarm flagship? I’ll be honest, I’m not going to cry too much if that thing gets taken out,” he said.



One of the Findiri at the tactical station answered. “Power fluctuations throughout the ship, with severe damage in the areas where we’ve concentrated our fleet’s fire.”

“Patch me through to Curiel,” he said. When the Findiri at comms indicated the connection was live, he continued. “Speaker Curiel, that main ship is limping. Shall we deliver the final blow together?”

“I don’t know, Granger, our ships are taking it pretty hard from the robot fleet. And then there’s the *Independence*. She’s giving us a beating.”

“Ignore the *Independence* for now—there’s always the chance we defeat the Swarm, and rid our bird of their control of it.” It was mostly true. He needed the *Independence* for their plan, yes. But if the plan failed and they needed to win in some other way, the ship might come in handy if they could take it back.

Another explosion rocked the deck, and power cut out to the lights overhead. Luckily the computer stations were wired with their own power, but for the moment the bridge was plunged into near darkness.

“Tim? You guys okay?”

He glanced at Varus, who shook his head after consulting the ship status board.

“No. We’re eating shit here,” answered Granger.

A long pause. Good. Irithil was playing her part convincingly. “Tim, we can’t afford to lose you. Surrender. Start talking to them. That at least buys us some time to figure out how to blow them to kingdom come.”

“I’m afraid you don’t know me very well, Mr. Speaker.” He had no idea if the Swarm were able to tap into their communications, but he wagered they could, and so he also needed to make this as convincing as possible. “I’ve fought the Swarm for a few billion years. And never once did I ever turn tail and run.”

That was a lie, of course, but the Swarm would remember his bluster lining up with how they always knew him.

“Tim! Your life support is hanging on by a thread. You’ve hardly got propulsion. It’s over for you. And if it’s over for you, it’s over for us, for Paradiso, for Earth, and for the rest of the union.”

“I told you, it’s not over. The Swarm don’t take prisoners. They don’t negotiate. This is it. So I suggest you haul ass over here and concentrate on their main ship like I—

Another voice erupted over the line. “Goddammit, Tim!” It was Proctor. “You know as well as I do that you’re about to die, and you’re no good to us dead. So get the hell off your high horse, wave the fucking white flag, and buy us some *time!*”

Wow. She was good. He almost believed her. Part of him did.

“Fine. Fine!” He slid a finger across his throat at the comms officer, indicating he cut the line. The Findiri, not accustomed to human hand signs, looked confused. “End transmission,” he said. “Open a channel to the Swarm.”

“Open, sir.”

“This is Captain Timothy Granger on board the Findiri flagship. We surrender, and ask the Swarm for terms. Listen. We need to save this planet. Saving this planet means saving Earth. I understand you’re after me, but for god’s sake, can’t we deal with Paradiso first?”

“Granger,” came the response. At first he thought the voice was Decker’s. But that wasn’t quite right. Urda?

The viewscreen flickered, and the video transmission began. Which was odd, because in all his long years, he’d never known the Swarm to conduct talks through video.

It was President Sepulveda. “Nice to see you, Tim.”

“Mr. President,” Granger began. “I see you found your way to the *Independence*. Impressive. Never even saw the

shuttle dock with you.”

“We’re full of surprises. Maybe someday I’ll fill you in on the details. But for now, we run short on time.”

“Time,” said Granger with a chuckle. “For billions of years, we’ve had all the time in the universe. Ironic, isn’t it?”

Sepulveda sneered. “We don’t think so. But we do think it’s ironic that you’ll be the key that unlocks our ascension to a higher plane, and you’ll do it aboard one of your own ships.”

“Uh, come again?”

“You heard me. Your instructions are these. Depart that ship immediately and head to the *Independence*. Once you are here, this ship will take the place of that Findiri ship in your singularity generating network of ships. But this time your target will change. You are to open three gates. One will be to the expansionary phase that predates our universe by a fraction of a second. The other gate will be to the expansionary phase that post-dates the life of our universe by a fraction of a second. We will instruct you on the relative positioning. The third....” At this he smiled wickedly. “Will reach out and grab the planet called Mars, and deposit it in the space occupied by the planet Paradiso.”

“No,” he breathed.

“If you refuse, we will destroy you, then we will destroy your fleet, and then we will destroy Paradiso, and finally we will destroy Earth. From there we will fan out and wipe your civilization from the face of the galaxy, and pursue our goals by other paths. We’ve waited eons. We can wait a few more years.”

Granger thought fast, considering the options. Developments had actually progressed right in line with what he had predicted. He was actually pleasantly surprised. But he had to make sure every single i was dotted, every t crossed. There was no room for error here. What had he missed? Anything?

“Please. Have some humanity. Yes, you have it in you. You have Sepulveda. You have Decker. You have who knows how many crew members of the *Independence*. Surely you can find some mercy. We can work together. We can figure out an alternate solution that can get both of us what we want?”

Sepulveda laughed out loud. “But Granger! Why in the world would we want to help you achieve *your* goals along with ours, when our plan to achieve our goals works perfectly fine without you? I showed you mercy when I gave you the chance to let Earth live, and to let your civilization live. When we are ascended, you will live out your puny lives, and then you will die, while the universe marches on to its own death. Honestly, the most mercy we could extend would be to end you all right here.”

He made a good show of gritting his teeth and balling his fists. “Fine. Fine! I’ll head over. Goddammit,” he grumbled under his breath, then, “End transmission!”

“Good show, Granger,” said Varus. “Your shuttle is prepared.”

He stood up, and bowed slightly to the Findiri. “Thank you. For everything.”

“I’ll walk you to the shuttle.”

Halfway down to the shuttle bay, after walking in silence the entire time, Varus spoke. “Granger. You should know something.”

“Yes?”

“Jasper is here.”

Granger stopped, frozen in place. “Literally?”

“No. Obviously not. But he’s here, in a way.” He tapped his head. “Up here.”

It wasn’t possible.

Was it?

Varus continued. “Don’t misunderstand. I do not possess his consciousness. But some of his memories—those I have. His personality—I have access to. His emotions and relationships, I have a sense of all those.”

“Makes sense, in a way, I guess,” said Granger. He continued walking. “And? Why do you bring this up now?”

“Just that, since you are about to die, it would be nice for you to know ... that Jasper is proud of you. Or rather, he would be. Both he and his brother.”

Granger froze again. “Brother?”

“Half-brother. It seems he has memories of an older half brother, whose father died before his mother had Jasper.”

Granger pondered for a few seconds, then resumed his walk to the shuttle bay yet again. “Any other last-minute bombshells you want to throw my way?”

“No, Granger, that is all. I remember his mother. How Jasper remembered her. She was beautiful, in her way—I confess I don’t understand your standards of beauty, but Jasper thought her beautiful.”

“Most sons do.”

“Perhaps. She was beautiful, yes. Brilliant. Kind. And ... sad. Jasper could tell. She longed for something. Was deeply sad about something. But she would never say. He only knew when he caught her unawares at odd moments. Crying in the garden. Staring quietly at the sea on vacations. I, as Varus, hardly even understand the words I’m saying. But I speak as I feel Jasper would speak, I think I can safely say ... his mother loved you. And that you should go to your rest knowing that.”

Granger held a fist to his tightly closed lips, but kept walking. He half wanted Varus to shut the hell up and just let him get on his way. But the other half was relieved to hear the words. And deeply, deeply pained. The most searing, real pain he’d felt in ...

Ages.

“Director Varus, this is the bridge,” came Nubo’s voice.

“Yes?”

“The planet Paradiso has sent out a transmission from its prime minister. They are threatening to destroy Earth unless their demands are met.”

“Shit,” said Granger, and he broke into a sprint.

## Chapter 93

*Sol Sector*

*Paradiso*

*Saavedra City*

*Prime Minister's Office*

Prime Minister Subramanian sat calmly at her desk and stared directly into the camera. It wasn't transmitting yet. That would come momentarily. First, she needed to breathe, and relax. She needed to project calm. Nerves of steel. Iron resolve. The people hearing this transmission must not hear the raging anger she'd just displayed in front of her staff.

Those traitors. Earth. Granger. Proctor. All of them. She knew ... *she knew* she couldn't trust them.

And her wariness, and insistence on contingency plans, had been vindicated.

She tapped a button on her desk. "Get me Colonel Rayburn."

"Yes, Madam Prime Minister."

A few moments later, Rayburn's voice came over the speaker. "Madam Prime Minister?"

“Rayburn. It’s time. Stand by to carry out your mission. If you don’t hear from me in thirty minutes, execute the plan.”

A brief, pained pause. “Yes, Madam Prime Minister. May God have mercy on us all. Rayburn out.”

“Indeed,” she said to no one. Then she waved at the camera operator to begin.

“You’re on in five, four, three,” he said, counting *two*, and *one* with his fingers, then pointed at her.

“People of Earth. President Sepulveda. Vice President Cooper. Captain Granger. It has come to my attention that our agreed-upon plan to save both Paradiso and Earth from imminent destruction has been altered without consulting me. And that, furthermore, this change in plans will result in the destruction of my world. I cannot allow this. You are hereby warned to cease your traitorous actions. If you do not, North America will be destroyed. There is currently a passenger liner, stuffed with as much mass as we could fit it with, locked in low parking orbit directly over the eastern seaboard. One word from me, and the captain will crash it into the ground.

“Now, you might not know what happens when matter from my universe comes into contact with matter from yours. Suffice it to say, I have reason to believe not only will North America be destroyed, but the rest of the planet will be rendered uninhabitable for generations. And so I warn you: choose wisely. You have thirty minutes to rectify the situation. Subramanian out.”



## Chapter 94

*Sol Sector*

*Earth, Low Orbit*

*Manuel Urquiza*

Colonel Rayburn crossed himself, then released the orbital brake. Immediately, he felt gravity momentarily shift as the star-liner came under the full sway of Earth's gravity well, before the artificial field stabilized itself.

“Rayburn to Subramanian,” he said into the tight beam commlink. “It's done. I'm descending to the surface. Contact in less than thirty minutes.”

Already he could see the flashes of light on the the external camera view of the ship as microparticles of anti-matter collided with the star-liner and interacted with its matter, though he supposed everyone in *this* universe would say the opposite was happening, that the ship's anti-matter was annihilating regular matter in theirs.

Either way, in just a few minutes, that interaction would grow to be the brightest thing in Earth's sky.

## Chapter 95

*Sol System*

*Near Paradiso*

*Findiri Flagship*

Granger nearly kicked in the door to the Findiri shuttle bay, before Varus caught up to him and opened it.

“Granger. The situation has changed. Earth is under a new threat. Do we continue?” he said.

“What choice do we have? I need to get onto the *Independence* and let them have their way with me so I can fuck up their shit. Got any other good ideas?” He dashed toward the shuttle that had been designated for his travel to the *Independence*.

“No. But....” Varus trailed off for a moment. “I think Jasper would have had ideas.”

Granger froze again, and turned back to look at Varus. “You think?”

“I feel that strongly, yes. I have all the facts of the situation before me in my mind, and that part that was Jasper’s looks at them, and I feel that it thinks ... there is another way. One that will save Paradiso. And Earth. And ... you.”

He grunted a laugh. “Varus, I’m beyond saving. I don’t need saving.”

“Don’t you?”

“I don’t. I need to ... shall we say ... fulfill my destiny. Finish what I started fourteen billions years ago. Fall into the abyss and *stay dead*, dammit!”

“The Findiri didn’t need saving either, Granger. You were planning to destroy us. But instead, you saved us. Fundamentally changed us. In a way we never thought possible. We’re human now, except ... not. We feel. We dream. We live. Whereas before, we existed for one purpose. And one purpose only. To destroy the Swarm. Just like ... you.”

“Truly live, huh? Sorry Varus, I don’t have the luxury. Never did.”

“But what if you could? Would you take that chance?”

He had no answer. So he turned back to the shuttle.

“Granger, wait! We’re receiving a new transmission. It’s Curiel.”

“Dammit,” he muttered, but then returned to Varus and listened to his personal commlink. “Irithil? What is it?”

“Tim, what’s going on? Is the plan still on? What the hell is this Subramanian chick doing?”

“She’s taking matters into her own hands, apparently. What do the sensors say? How much time do we have?”

A brief pause. “My people say that anti-matter star-liner is plunging through Earth’s upper atmosphere as we speak. It will hit a critical density of regular matter in less than ten minutes before the heat buildup on the hull will make it lose structural integrity. And when that happens?”

“Boom,” said Granger. “North America is gone. Earth is uninhabitable for generations.” He paused, and thought

through the timing. “Irithil. It’s not going to work. I can’t get to the *Independence* in time to get into the Swarm’s system.”

Curiel was almost yelling. “Granger, no! You must. The plan *must* be finished. This is it. There’s no second chance here.”

“Irithil, listen,” Granger began. There was something in the back of his mind that had been picking away at him for the past few minutes, since Varus’s strange talk about Jasper. Or rather, he’d had something in the back of his mind eating away at him all this time, that Varus’s word merely exacerbated. “I think there’s another way. What if Reah is right?”

“What?!”

“Think about it. What if I can give them what they want—some kind of ascension to a higher plane of existence, *without* sacrificing Earth or Paradiso?”

“Wishful thinking, Tim. Just like everything Reah ever said. Same with the other Reah, your partner. Same wishful, naïve thinking, over and over again. Get real. End the Swarm. Now.”

“Irithil, there’s another way. I know it now.”

“Bullshit,” said Curiel. “You know what? Fine. If you won’t do it, I will. I always knew you were weak. That you’d back down in the end. Well I’m finishing this. For all of us. For good. Curiel out.”

“Dammit!” grumbled Granger. He looked at Varus, and for the briefest of moments, he thought he saw Jasper in those eyes. And through Jasper’s eyes....

He saw *her*.

And felt deep regret. All these years they could have had together. All the shared life to live. And he was just a few weeks too late to realize it. He could have *lived*.

He could still live.

“You said ... Jasper had a ...” he could barely get the words out. “A ... half-brother? Reah had another son?”

## Chapter 96

*Sol System*

*Near Paradiso*

*Interstellar Two*

*Bridge*

Curiel punched the terminal to cut off the commlink. All this time. All this work. For nothing. *I spent sixteen years as UE president, and another fifteen in retirement building on that work, all on top of a few billion years of preparations, false starts, intense planning, and endless, ENDLESS waiting, for THIS?* “Go to hell, Tim,” he whispered.

He punched the commlink again, and gave a knowing nod to the captain of the ship. “All ships in the glorious fleet of the Galactic People’s Congress, our friends in the Caliphate, and the patriots of the Chinese Intersolar Democratic Republic. This is First Speaker Curiel, and soon-to-be president of the new galactic alliance of nations we’ve discussed in recent days.”

He took a deep breath, knowing that what he was about to do, this game of chicken, would have disastrous consequences no matter how it played out.

*Just let the disastrous consequences be for the other side,* he prayed to no god in particular.

“United Earth has betrayed us. All ships, I hereby give the order to commence Plan B. Commence the contingency plan. I repeat, all ships, all captains, commence Plan B.”

Within moments, he could see the effect of his order on the tactical screen. His entire fleet of ships started moving as one toward Paradiso, and spreading out into a particular arrangement. Soon, Granger would understand the real reason he'd assumed Curiel's form after Avery had grown too old, and taken on the dead man's life.

Shovik-Orion had been working on many research projects the past few years. And one in particular was going to be a fireworks show.

## Chapter 97

*Sol System*

*Near Paradiso*

*ISS Tyler S. Volz*

*Bridge*

Proctor watched the screen in horror. “Shin-Wentworth, what am I watching here? Do you recognize this pattern?”

She did, but didn’t want to say it. She’d seen the Findiri fleet move into the same pattern around Earth just days ago.

“Yes, ma’am. And sensors confirm it: each of those GPC ships have what look to be two-dimensional singularity generators on their hulls. We didn’t notice them earlier because they’re different than the Findiri’s—it’s clearly a new design. Something the GPC made in-house.”

“Through their favorite military contractor, no doubt. The one whose chairman of the board sits on that very ship in the lead.”

The GPC ships moved into position around Paradiso, matching its trajectory through space.

“But where are they going to get the energy?” said Proctor. When no one said anything, she looked over at Shin-



Wentworth, then to the scientist, Wiggum. “Anyone? How is this possible? Can they actually do it?”

The comms officer spoke. “Ma’am, another broadcast from Curiel’s ship, this one a very wide transmission. Earth should be picking this up too.”

“Let me hear it.”

The speakers came to life with Curiel’s voice. “Madam Prime Minister Subramanian. People of Paradiso. People of Earth. Our efforts to save your two worlds has been interrupted. Prime Minister, do not think for a moment that I will permit you to stop us from saving our civilization from the Swarm. I will do anything, *anything*, to end the Swarm. And to show you that’s not a bluff, we’re going to play a little game of chicken. Soon, with my fleet, we will give a repeat performance of what the Findiri fleet gave you a few days ago, and send your world back. Not back to its universe, no—I haven’t the raw energy for that. But back to its collision course with Earth. And if you don’t back down, *both* worlds will be destroyed.”

“That bastard,” muttered Proctor.

“And that’s not all,” he continued. “This goes out to Captain Timothy Granger as well, who has apparently gotten cold feet. Tim, if you’re listening, *finish the plan*. If you don’t, Earth dies, Paradiso dies, and I’ll destroy the rest of the remaining Swarm ships myself, with the help of the Caliphate, the CIDR, the Dolmasi—anyone and everyone who will join this grand alliance. Curiel out.”

“Ma’am, there’s something you should see,” said Shin-Wentworth. Proctor observed that if he was a Swarm agent, he was doing a remarkable job of playing it close to the chest.

“What is it?” She walked over to the XO station where he was pointing at a screen. Zivic and Wiggum crowded around her to look as well.

“It’s *Interstellar Two*. It’s part of the GPC fleet. The one Curiel is on.”

“Avery’s old ship?” she asked, her eyes going wide. Of course she knew that Curiel was Avery, and Avery was Irithil, but she wanted to maintain the illusion for the Swarm that she was in the dark.

“Exactly. And I’m reading some strange energy pulses coming off it. Very, very strange. In fact, I’ve only seen it once. When the Swarm ship at Scaedria made all those small two-d singularity shields to grab all those railgun slugs. Identical power signature.”

She finished for him, seeing where he was going. “And *they* had an enormous amount of energy to generate those singularities. Which means Curiel has a similar energy source, and is not bluffing about moving Paradiso.”

Zivic shook his head. “But ... what could generate that kind of energy, in such a small space as aboard a starship?”

Proctor reached over and tapped the comm. “Proctor to Captain Scott. You hear me, Rayna?”

“Loud and clear, dearie.”

“You seeing the readings coming off *Interstellar Two*? Same energy pattern as the Swarm ship at Scaedria. What do you make of it? What’s it from?”

There was a long, long pause. To her credit, it only took Rayna about ten seconds to figure it out. But in the current situation, it felt like an eternity.

“Inflatons.”

“Beg your pardon?”

“Both ships have one thing in common. They both travelled to nearly the end of the universe, in the future, at a point just before a new epoch of inflation begins. And I saw video footage myself, dearie. Space itself seemed to sparkle. And I think I know now what that was. It was quantum bits of space randomly passing momentarily into the inflation phase. Space was expanding there so quickly that any quantum perturbation—”

“Got it, Rayna. Just to jump ahead a bit here... are you suggesting that the Swarm, and Avery, or Curiel, were able to harness that ... raw energy of space itself?”

“No other explanation dearie. Somehow they reached out the window and scooped up a bunch for themselves, ha!” She paused. “Doesn’t bode well for Paradiso though, I admit. Or Earth.”

“How much do they have? Enough to power the process of moving Paradiso?”

Rayna grunted. “Hard to tell. But, in theory, they wouldn’t have had to grab very much ... *space*, for them to generate an insane amount of energy. Just spitballing based on the readings here, I’d guess that these are just the barest ripples. The true amount of energy is most likely on the nova scale.”

Shin-Wentworth stood up rail-straight. “Nova-scale energy. And on the Prime Ship too....”

He trailed off. And he sounded much different than he had before.

Then he smiled. “It’s time, friends. No matter which way it happens now, whether through the planetary collision, or the inflaton energy, our ascension is assured.” He laughed ironically. “And to think you get to come along for the ride!”

And as he said it, the viewscreen showed the all-too-familiar scene they’d witnessed days earlier. In the middle of the fleet of GPC ships materialized a wavering plane of ... nothing. And through that nothing plowed the entire planet of Paradiso, which disappeared within a few seconds.

“Show us Earth,” said Proctor, her voice barely audible.

The screen shifted, just in time to show Paradiso reappear in the foreground, approaching a helpless Earth in the background.

## Chapter 98

*Sol System*

*Findiri Flagship*

In his mind, Granger had already decided.

His plan was shit.

Eons of planning. All shit.

Well, *mostly* shit. Some of it would still be useful. The problem was, he wasn't completely sure which parts. And he only had minutes to figure it out.

Varus responded to his earlier question. "Yes, Granger. Jasper was the younger son of Reah, his mother. Dexter was a few years old when his father died. It wasn't until later that she had me. I mean, Jasper."

Granger stared deep into his eyes, trying to see what he'd seen before. "Varus ... I'm only now starting to understand how profoundly you changed."

"You have no idea, Granger."

"Enlighten me. Quickly. We have only minutes before Paradiso and Earth both die and the Swarm ascend. Tell me. Jasper's genetic code. It uploaded some kind of programming into the Findiri corporeal reproduction chambers, corrupting them all, and the corrupted code transmitted out into all of

you. That's how I designed it at least. But it was supposed to be *my* code, not Jasper's. Instead of corruption, we have ... what?"

Varus thought on this. "Evolution."

*TIM! IT'S ME. IT'S SHELBY.*

Granger snapped around to see the origin of the voice, before recognizing the mental feel of a meta-space projected thought. *Shelby? How? I thought you removed your—*

*I did. But this is enabled by Quiassi Reah. She's able to connect me to any being that's ever been connected by the Valarisi to meta-space. Tim, you should know—Shin-Wentworth here is indeed Swarm, and he just gloated their whole plan. You were right, except now it seems nothing we do matters. If Paradiso collides with Earth, it will generate enough energy for them to power the network of singularity generators to create their link to the inflation era. Somehow this will allow them to ascend, as they put it. But even if we save the planets, the GPC fleet has enough energy on board Interstellar Two to make the inflation gate anyway, and something from his tone tells me they've got enough Swarm-controlled people on all those ships to actually do it. Either way, we're screwed. Check mate!*

Granger smiled. "No we're not."

"Excuse me, Granger?" said Varus.

*Tim?* said Proctor.

He projected his thoughts outward. *Reah. You were right. Forgive me for doubting you for so long.*

Her voice sounded in his mind, very very faintly, as if from a huge distance. *I don't know it, Tim. I only believe it.*

*That's enough for me,* he said. *Reah, can you ... uh ... take up residence in Varus's mind like you have Shelby's? He was once connected to the Valarisi, like she was.*

*I can. Not physically, of course, but I can be there mentally in his mind.*

*Good. Please do it.* He looked at Varus and waved him toward the shuttle. “Varus. If you could save humanity, and the Findiri, and all life in the galaxy, at the cost of your own life, would you do it?”

The answer came without hesitation, as Granger knew it would. It didn’t make it any less painful, but ...

It was a good pain. A hopeful pain.

“I would,” said Varus. “In a heartbeat, as humans would say.”

“Good.” He opened the shuttle hatch and waved Varus aboard to join him. “Because the Bricklayer is back.”

## Chapter 99

*Sol System*

*ISS Tyler S. Volz*

*Bridge*

Everyone on the bridge of the *Volz* watched as the shuttle departed the Findiri flagship and hurtled toward the *Independence*.

“What is he doing? Doesn’t he know it’s over?” said Shin-Wentworth. “Checkmate, Granger. Any move you make, we win.”

Proctor turned to face him. “You’re wrong on one detail though. In your arrogance, you jumped to conclusions.”

Shin-Wentworth looked smug. “Sure. Enlighten me.”

“If you want to use the Findiri fleet to collect the energy released by the planetary collision, you’re still going to need Granger. He’s the key.”

Shin-Wentworth’s smile disappeared.

Proctor continued. “But you’re in luck. Granger wants to help you now.”

“I doubt that. What’s in it for him? Paradiso and Earth still get destroyed.”

“Once on the *Independence*, he’s going to propose that Paradiso be sent to collide with Mars instead. You get your energy source for your gate to infinity, we get to keep Earth.”

“At the cost of Paradiso?” said Shin-Wentworth.

“Not ideal. But if it saves Earth, and gets rid of you? Sure. Fine.”

“*Rid of?*” Shin-Wentworth laughed again. “You actually think you’ll be *rid* of us? My dear friend, our ascension means you’ll never be rid of us. Nothing that exists, has existed, or will exist, in any possible universe in all of reality will never be rid of us after our ascension. We will pervade all. That’s the point, my friend.”

Proctor held up her hands. “Fine. Okay. You ascend. But Earth will be saved. That’s what I care about at the moment. I’ll worry about Ascended Swarm when we get there. Just remember who helped you get there, okay?”

Shin-Wentworth nodded slowly, his smile having returned. “All right, Proctor. We’ll play this game. Granger will board the *Independence*, his genetic code will be downloaded into the system, and it will take the place of the Findiri flagship at the head of the fleet generating the singularity.”

“Thank you,” said Proctor. “You won’t regret it.”



## Chapter 100

*Sol System*

*ISS Independence*

*Shuttle Bay*

It was Vice President Sepulveda himself that welcomed the shuttle in the *Independence*'s bay. As Granger and Varus descended the ramp, he approached and held out his hand in greeting.

Granger stood in front of the man and just stared at the hand. "Is it that simple? A handshake? The Swarm matter passes into me, reads my genetic code, and uploads it all to the Swarm's consciousness? Including the ship's processors?" he added, glancing all about the bay.

"That is correct, Captain." Sepulveda lowered his hand. "I understand if you need a moment. I believe this means death for you. It did for Anhara. He was completely absorbed into our consciousness. I suspect you will be too."

"I understand. So I guess that makes you the President of United Earth again. And in a way, the President of the Swarm."

Something in Sepulveda's eyes twinkled. "Greatest president in the history of United Earth. Or, as a student named Susie Tompkins once said, *Best President Ever!*"

“Indeed.” He shot a side glance at Varus, caught his eye, and nodded. It was time.

“And him?” said Sepulveda, indicating Varus. “Does he want in the club too?”

“I don’t know. You’ve had Findiri in the Swarm before. Do you really need them again?”

Varus interrupted. “With respect, Granger, if the Swarm are truly ascending, I, as the Hegemon of the Findiri, would like to join them.” He bowed slightly. “If you’ll have us, of course.”

Sepulveda shrugged. “All friends are welcome, I suppose.”

Granger nodded. “Very well, Mr. President, let’s get this done. Here’s to the greatest president in United Earth history.” He started to extend his hand, slowly, and noted that Sepulveda started to mirror him.

Just before their hands touched, Varus reached out and grabbed the hand first, shaking it vigorously. “I’m sorry, I couldn’t help myself. Take me instead. I have the same key to control the singularity generation of the Findiri fleet written into my DNA as well. I’m the Hegemon of the Findiri, after all. Take me, and spare Granger.”

Sepulveda’s eyebrows shot up, surprised. But he shrugged after a moment. “Fine. I’ll take you first. If you don’t suffice, then I’ll take him.” Then he closed his eyes, and concentrated.

Varus gasped. He started to quiver, then shake, and then he fell to the floor.

And soon, he stopped breathing.

Sepulveda opened his eyes.

There was terror in them. “What have you done?”

## Chapter 101

*Sol System*

*ISS Tyler S. Volz*

*Bridge*

Shin-Wentworth was effectively in charge of the bridge, without a weapon to speak of. No one dared approach him, knowing that the slightest touch would put them under Swarm control, and no one knew who else among the bridge crew already was.

Proctor considered signaling the marines at the door to just shoot him, but she couldn't risk it. And yet she had to act. *Something* had to be done to save Earth. It had a few minutes.

But before she had to consider further options, something unexpected happened.

Shin-Wentworth fell over.

Proctor ran over to him, keeping clear if he happened to swing out with a hand, but close enough to see his face.

The face. It was a kaleidoscope of different emotions. Rage one moment, worry the next, a smile, then revulsion, all in quick sequence.

“Commander?” she said.

He didn't reply.

She glanced up at Zivic. "Well, at least *something* is happening. Granger made his move. That means ball's in our court."

"Wait." The voice was faint. She almost thought it was coming from Reah, but then realized she heard it with her ears. She glanced down at the fallen man. "Wait," he whispered, his face still contorted in what now looked like agony.

"Commander? What is it?"

"You ... you ... you ..." his teeth were chattering as if he were in a deep freezer. "You ... you need to s—s—send us to infinity. P—p—please."

"Oh go to hell," she said, and nearly kicked him.

"Wait!" he rasped. "Admiral, it's me. A—a—and the Swarm, yes. But it's me. Shin-Wentworth. And ... and Reah. And Varus. And Jasper. And Decker. And Sepulveda. And Urda. And—"

"Commander? What is it? What are you trying to tell me?"

"Send us ... I mean, send *them*, to infinity. It's all they want. And you're right. Granger is right. It can be done without further d—d—d—death."

She considered for a long moment. "Send them to infinity. Let them ascend, so what ... they can dominate all life in all planes of existence forever?"

"N—n—no, Admiral." Shin-Wentworth gulped, as if the effort of speaking were monumental. Sweat streamed from his forehead. "Send them there, to escape the cycle of death, and destruction, and need. They want happiness, and contentedness, and ... everlasting friendship. But ... here ... but here ... here in reality, they ... they ... they ... I'm sorry, I can't describe. They just never had the ... morals. The ethics. The ... empathy. The love. But ... but now ... but now...."

"Now ... they do? Commander? Are you shitting me? You're saying the Swarm have ... *empathy*, now?" She

scoffed. “You’re gonna have to give me more than that.”

“It’s me. C—C—Commander Henry Shin-Wentworth. I love my wife. I love my boy, and my little girl. I want to see them again more than anything. So much that ... last week ... I would have *done* anything ... in fact ... I *did* it. I shouldn’t have, but I did. And we paid the price. And I’m ... I’m sorry. I would take it back if I could.”

Proctor thought hard on that. Was he bluffing?

It didn’t feel like a bluff. And what was he even bluffing about?

“Henry. We can help send them to infinity. To the inflation epoch. Whatever. But ... they’ll never return?”

“Never.”

She made her choice. “What do we have to do?”

“Save Earth. Save Paradiso. Then send us ... send them ... home.”

Proctor stood up and started barking orders. “Alert Curiel. Alert the Findiri fleet. We’re going to attempt to send Paradiso back. Wiggum! Get your ass on that computer and give me some numbers. Get those numbers to the *Independence*, and get them calculating the right geometry and singularity parameters for the fleets. You! Li! Get on the horn to *Interstellar Two*, and tell them to prep their Inflation energy f —no wait ... call Captain Scott. Tell Rayna to do it, she’ll have the right instructions for them. And get me Granger! I need to speak....”

She strung together a list of orders so long that even as she yelled them, she marveled that the bridge crew even understood her, much less carried them out. And within minutes, the miracle was starting to come together.

But even miracles have hitches.

“Admiral!” yelled Shin-Wentworth, who’d finally risen to his knees and pulled himself into the XO’s chair. “We forgot about a detail....”

“How critical? This better be—”

“Pretty fucking critical, Admiral! Earth! The anti-matter star-liner. It’s minutes away from critical temperature! It’s still on a collision course!”

“Why hasn’t Subramanian recalled it?!”

Shin-Wentworth shook his head. “Maybe their engines are out. Who the fuck knows?”

She spun around, looking this way and that at the bridge crew. Looking from person to person to person, looking for a solution.

Her eyes rested on Zivic, who’d been quiet for some time.

“Batshit!”

“Ma’am?”

“Ethan, you’re relieved of duty. Return to your responsibilities as CAG, get in a fighter, and go **STOP THAT FUCKING STAR-LINER!**”

## Chapter 102

*Sol System*

*Near Earth*

*ISS Tyler S. Volz*

Ethan Zivic ran down the hall, glanced at the lift, and decided he could bolt down the stairs four at a time and get to the fighter bay faster.

He kept stumbling down the steps, and he was almost sure he twisted an ankle at one point, but he didn't even feel the pain. All he knew was that Earth, and every single person on it, depended on him getting to his fighter, and doing ... something.

Wait ... what did Proctor even have in mind?

And he immediately knew. The externally-imposed q-field. It was dangerous, yes. But he had to try it.

Except it required two ships. Like a positive and a negative terminal, except the q-space analogue.

And the other pilot needed to be the best. Simply the best.

His reckless pace took him past sickbay, and on a whim he detoured and burst through the door.

Sure enough, there she was. Sitting up in bed, rubbing her head.

“Ace! Goddammit, Ace, you’re alive! But are you Swarm, Ace? Are you Swarm?”

Her brow crunched up, and she looked down at her hands, at the huge bloody bandage on her chest, then back at him.  
“Yeah. I mean ... I think. Kinda. But not. So ... maybe?”

“Good enough for me. Come on!”

He grabbed her hand and pulled her to her feet, and together they dashed the rest of the way down the stairs to the fighter deck.

“Ethan what the hell is going on?”

“Externally forced q-field jumping. We talked about it just yesterday. The ol’ Heisenberg spit roast. Can you do it with me? Say yes, because that’s the only right answer here.”

“Uh ... yes?”

“Good. Get in your bird. We’re hightailing it to Earth. Micro-jump. No time for conventional thrusters. The bridge will feed us the coordinates. And when we get there, get into position. And hold on.”

Just two minutes later they were blasting into space. They initiated their micro-q-jump, directly into the path of the Paradiso star-liner slowly descending through Earth’s atmosphere. They each swerved, one left, one right, to avoid it as it sailed past in a blazing hot fireball.

“Okay! You trail, I’ll lead. Remember, get close! Close enough to contain their ship in our q-field envelope! But not too close! Goddammit, that thing is made out of anti-matter. Too close and—”

The nose of Ace’s fighter erupted in a massive explosion.

“TOO CLOSE!” he yelled, and his heart leapt into his throat.



When the blinding white flash subsided, he was relieved to see her bird still intact, though with its nose severely scorched with carbon scoring. “Sorry!” called Ace over the comm.

“Get close, but no closer than ... say, a centimeter. It’s gonna take a dead eye, Ace! One centimeter, and no more! And fucking no less!”

They inched closer to the star-liner, and closer, and closer....

He watched his proximity indicator tick down to two centimeters. And one point five. And one. He checked Ace’s position, and confirmed her distance. “Alright! GO! GO! NOW!”

He initiated the q-field. He trusted that she initiated hers. And in a flash, the two fields met in the middle, enveloped the entire space around the three ships....

## Chapter 103

*Sol System*

*Near Earth*

*ISS Independence*

*Bridge*

...and, from Granger's point of view on the ruined bridge of the *Independence*, he saw the three ships disappear in a flash. At another location on the tactical status screen, he saw the trio reappear in high orbit over Paradiso. After monitoring the comms traffic between the three ships and verifying that the star-liner was able to safely descend to Paradiso's surface, he signaled Zivic on his fighter.

"Ethan? It's Granger. Good work, kid. You're truly your father's son, you know that?"

"Does this mean we get to change the name of the *Volz* to the *Zivic*?"

Granger grunted a single laugh. "If you'd died, maybe. But we only name ships after dead guys."

"I'll consider living my consolation prize then," said Zivic. "But, honestly ... that felt good. Ever since Jerusha died ... yeah. It's been a rough time."

“It’s gonna stay rough, kid. But you’re gonna pull through. I know it. Get back to the *Volz*. Granger out.”

President Sepulveda stood nearby, monitoring the progress of the GPC fleet assembling around the planet Paradiso, and looking over the shoulders of the former bridge crew of the *Independence* working on the calculations. It was odd—those crewmembers had died, and the Swarm had brought them back. But when the Swarm ... *changed*, just minutes ago, after receiving Proctor’s orders to use the ship’s immense computational power to calculate the right geometries for the fleet to send Paradiso back, they dove right in, working with Swarm-like coordinated efficiency.

“Everything progressing, Mr. President?”

“Yes. Progress is steady. I think ... I think we might make it.”

His voice was strangely calm. Proctor had told him that Shin-Wentworth seemed to be freed from the Swarm. Zivic told him that Ace was ... *kinda* free from the Swarm. And Sepulveda ... well, he seemed like a far more competent version of the Sepulveda he knew.

*Were they still Swarm, or weren’t they?* he wondered. *Guess we’re about to find out.*

He glanced down in sorrow at Varus’s body. He was dead, all right, and he could only hope that his essence—that Jasper’s essence—was now absorbed into the Swarm’s. It very clearly had, given the remarkable change that had just occurred in their mortal enemy. Of a scale of the change that happened in the Findiri.

“Calculations are ready,” said Sepulveda. “Inform Proctor and Curiel.”

Granger tapped the comms button on the command station. “Shelby? We’re ready over here. Curiel? You hear that?”

“Yes,” came both of their voices in response.

“Tim,” continued Proctor, “the GPC fleet is in place. Just waiting on Rayna with the final piece to the puzzle.”

He tapped another button. “Rayna? You there? Are you ready?”

“I’m here. Just finishing up. Tell ol’ *Interstellar Two* to put itself at the coordinates I’m sending in a sec, dearies.”

Everything was ready. “This is it, people. And once we send Paradiso back, stand by for the main event.”

The fleet was in position. The instructions sent out. The coordinates laid in. The proper energy levels and patterns applied. And in a flash...

...Paradiso disappeared.

Granger stood watching the viewscreen in awe. The fact that there was no blowback of energy from the singularity gate told them that the mission was at least a partial success—they’d sent Paradiso back to a universe of its own type of matter. But they’d never know if they got the right one, exactly. He prayed that they did.

“Next up. Findiri fleet, assume your positions alongside the GPC fleet, in the configuration just sent out by Captain Rayna Scott. Nubo? Is your ship ready?”

The newest leader of the Findiri, Varus’s lieutenant Nubo, answered through the comm. “It is ready, Granger.”

And then, after the billions of years, the endlessly laid plans, the unthinkable sacrifices made by billions, all the toil and energy, angst and worry, brilliance and resourcefulness, after all the cumulative impact the Swarm had had on so many races in the history of this universe and others, Granger almost couldn’t believe he was saying the words.

“All right, everyone. Let’s ... send the Swarm to their new home.”

“Can’t say that we’ll miss them!” yelled Rayna.

*Go in peace*, said Reah's voice, distantly, in his mind. Except because of the distance, he couldn't decide if she said *go in peace*, or *we go in peace*. The more he thought about it over the coming days, the more he leaned toward the latter.

"*Independence, Interstellar Two*, Findiri flagship, assume position in the center of the sphere of ships. Swarm flagship, Valaris fleet, disperse yourself inside the sphere at your pleasure." He watched on the tactical display as the rest of the fleet, both GPC and Findiri, spread out in a spherical shell around them. "*Interstellar Two*. Commence inflaton energy conversion process. Ramp it up to the levels Rayna sent you, and couple into the Findiri flagship."

He could almost see the crackly glow build up inside *Interstellar Two* and in the space between it and the Findiri ship as the energy transferred inductively, but he knew it was only his mind imagining the vast nova-sized levels of energy. But the energy levels soon had an effect. One two-dimensional singularity appeared on one side of the sphere of ships, and soon another appeared opposite it. Inside the regions bounded by the rings of the singularity, he saw what he would describe as chaos. Like static on the ancient television receivers, or like watching the white rapids in a raging river. Except it wasn't white, but all colors, or perhaps they had no colors and his mind simply assigned them colors.

Either way, the main Swarm ship accelerated toward one of the singularities. The Valaris robot fleet shot away toward the other.

When they disappeared, Sepulveda slumped into the chair nearby, as if exhausted. "They're gone. I felt them leave."

"So you were still connected to them?" said Granger.

"Very much so, Captain." Sepulveda breathed heavily. "And right there, at the end, I felt the first wave, the first inkling, the first hint of what they were experiencing on the other side."

“Can you describe it?” asked Granger when Sepulveda fell silent.

“No. Because it was as if an infinite amount of time holding an infinite amount of emotion and thoughts and experiences was glimpsed all at once, as if it all existed as a single thing, at a single, unmoving point of time that exists and has existed forever. But all I know is ... it felt ... content.”

The door to the bridge opened suddenly, and Granger almost did a double take. “Commander ... Qwerty?”

“The one and only!” He clapped his hands and looked around the bridge, his eyes popping a little wider when he saw President Sepulveda. “Got stuck in a malfunctioning escape pod. What did I miss?”

## Epilogue

*Thirty-eight months later.*

*Earth*

*North America*

*Puget Sound Region*

*Emerald Speedway*

Granger stayed seated in the stands as the crowds roared around him. He didn't cheer, but he smiled and clapped. A few people around him had eyed him when he first sat down—some nervously, some warmly with wide smiles, and a few with scowls. But that had subsided when the race had begun, and now, near the end, hardly anyone paid him any attention.

Just as he liked it.

The crowd roared again, even more excitedly, and the horns blared. The announcer blasted over the giant speakers overhead. "It's over folks! Dex has done it again! My oh my! Dexter Ahazarius with his twelfth circuit win of his career!"

Granger waited for the crowds to disperse a little before he stood and started making his way down the stands, toward the exit where a horde of people was gathered around the victor and the runners-up, all with their motorcycles. Photos and

laughter and backslapping and cheers all happened, and the people trickled away.

Finally, he stood by the motorcycle leaning on its kickstand. He felt the side—the fairing that housed the batteries, and it was still hot from the sustained discharge.

“Careful, buddy, wouldn’t want your hand to melt off!” said the rider. Dex himself. He smiled at Granger, and then his face froze with his jaw hanging open. “Oh. It’s you.”

“Hello, Mr. Cornelius Dexter Ahazarius,” Granger began, and extended his hand. “Pleased to meet you. Again.”

Dex took the hand and shook it, never peeling his eyes away from Granger’s. “You remember me.”

“How could I forget? Little kid like you? Running around the *Constitution* during one of the most pivotal battles in Earth’s history? Yeah, I remember you.”

“Oh! Well!” He appeared at a loss for words. “Well thanks for coming! Always love it when fans introduce themselves.” He withdrew his hand and pulled a pen out of his pocket, as if he were going to sign something of Granger’s.

Granger chuckled. “Cut the crap, kid. I met Jasper. And he told me everything. Well, *almost* everything. But maybe you could fill in the details.”

Dex’s face changed again as he realized that Granger knew that he was, in fact, his stepson. “Jasper. Miss that bastard. Told you everything, huh? Did he tell you we had a bet, me and him? And I won. Bet me that he’d go off and help you out a few years ago with *the troubles*, but be able to keep his status as your son on the down-low. I told him he was full of shit, that he’d break down and tell you within a day. Bastard owes me five hundred grand. Too bad he’s dead. Feel like paying up for him?”

“I do owe him a lot, so ... yes. I guess I will.” Granger laughed again. “Did you know? When you and your class visited Lunar Base for that decommissioning?”



“Shit, I was ten. Mom arranged for me to go somehow. Said you were a distant relative, but not to tell a soul. I didn’t learn the truth until years later.”

“Your mom. Reah.” Granger sighed. “I’m gonna want to hear a lot about her.”

Dex waved him over to a waiting ground car. “I’m sure. Why did it take you so long to come see me? War’s been over for two years.”

“Three years, actually. And it’s because I wanted to finish my prison sentence first.”

Dex shook his head. “Can’t believe you agreed to that.”

“It was a promise I kept. To a widow. A widow I kept avoiding until the day after the war.”

“A promise? Prison?”

“A promise, yeah. And no, not prison. Accountability. Just so happened that the legal system determined prison it was, and I accepted. Can’t say I hated it—I had a lot of sleep to catch up on. And books. So many damn books.”

Granger stooped to get into the ground car and Dex followed him in after a quick conversation with his agent, closing the door behind them. “Seattle,” he told the driver. “No rush.”

“Motorcycles, huh? I think you mentioned that on *Lunar Base*. Good to see a kid stick to his convictions.”

Dex shook his head. “Especially in the face of a mother’s wrath. She *hated* the idea. Said I got the danger streak from my father.”

“Died young, your dad,” said Granger. “I did my research during my downtime the past few years.”

“Is there *uptime* in prison?” asked Dex.

“Son, you have no idea.” Granger caught himself, seeing Dex’s reaction. “Sorry. I won’t call you son.”

“No! It’s fine. In fact ... yes. Call me son. Jasper was my brother. My mom was your companion. Apparently for hundreds of years. I think it would be ... appropriate.”

“You sure?”

Dex nodded vigorously. “Yes. In fact, I like it. I like it a lot.” He stopped and considered for a moment, as if deciding whether to say what he wanted to say. “I think Timothy’s going to like you.”

“Timothy?”

“Well, if you call me *son*, then you’d call Timothy your grandson.”

*Grandson!* Granger couldn’t believe his ears.

And he felt something he’d never felt before. Or maybe he had, but had just forgotten. He couldn’t tell. And he couldn’t even put a word to the emotion.

They rode in silence for a few minutes, as if taking in the new reality. They each had a family again. Improbably, after all this time.

Dex broke the silence. “What do you mean, *you have no idea?* About the quote unquote *uptime* in prison?”

“Oh! That. Yeah, I thought you’d heard. Figured it would be in the news.”

“I don’t watch the news. Can’t stand hearing about politics. Current events. None of it.”

Granger chuckled. “I think I’m gonna like you. And now that you bring up politics, I was going to ask for a ride to New York City. I know you’re going there for your next race.”

“Sure. Why?”

“Because I’m the new president of the frickin’ Galactic Union of Worlds, son. The new assembly voted me in a year ago when it formed. They knew I couldn’t assume office until I finished my sentence, but the bastards did it anyway.”

“You’re shitting me.”

“I shit you not. I mean, it’s literally a powerless post. A figurehead. The president’s sole duty is to appoint the prime minister, who’s voted in by the assembly anyway. They just hold me up like a puppet. Or a statue. Or ... whatever. Oh, and they attend state funerals. Wonderful. Because god knows I haven’t been to enough of those. But they insisted, and I’m not one to say no these days, it seems.”

“Galactic Union of Worlds? Prime minister? Where the hell have I been?” said Dex. “Who is it? Anyone I know?”

Granger snorted. “If you haven’t heard of Prime Minister Proctor and her triumvirate of deputy ministers Krull, Curiel, and Kharsa, you’ve truly been living under a rock, kid.”

“You mean a brick,” quipped Dex. “Bricklayer.”

“Attaboy,” replied Granger with a wide grin.

The End of the Legacy Fleet Series

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