THE BATTLE OF TYCHO UNDER

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My master, Randy Conner, let out a deep breath and wiped the sweat from his brow with the maroon sleeve of his pressure suit. "This is it," he said softly. "Mr. Riche, please notify the captain that we'll be ready for turnover in two minutes." I swallowed the great lump in my throat; the bloodshed would be starting soon.

"Yes, sir," I responded, and I rotated my body through the air to face the captain, who was standing still, looking pensively at the pressure-suited men who had been crowding the ship for weeks. He didn't wear maroon like us computermen; he wore royal blue, as an administrative officer (in fact, the only administrative officer in the boat).

"Captain," I said. "The astrogator reports turnover in two minutes." The captain's gaze didn't change, but he nodded slowly.

"Thank you, John," he replied—I was a fifth-year apprentice, so I didn't really merit a "Mr.," even though my master had been calling me that for months—and he picked up the omni-ship intercom.

"This is the captain speaking," he announced. "Turnover will be in two minutes. Personnel are reminded to seal their pressure suits and secure themselves for acceleration immediately." He put the intercom down and grabbed his helmet, which was floating in the air near him, putting it on and sealing it. Black-and-red clad infantrymen began sealing helmets and buckling down at whatever couches were closest, scrambling to find spots; Conner and I both sealed our helmets and settled into the astrogator's couches, buckling in firmly. Turnover can be a rough procedure; it didn't do to screw around with one's restraints.

As we were pulling forward our terminals and securing them against acceleration, a forest-green pressure suit, already sealed with helmet, swam in very quickly and settled directly into the couch beside me, expertly swinging around the bulkhead onto the bridge and into the couch without any change of speed. This was the engineer's mate, Nick Robinson; we'd decided we should have an engineer forward as well as aft on this haul, given our task when we reached Luna.

"Engines are ready, Captain," he said as he did so, pulling his buckles tight. "Engineering reports ready for turnover."

"Astrogation reports ready for turnover," Conner echoed,

and at that moment a black-and-red pressure suit bearing a bright silver eagle appeared at the bulkhead, swimming every bit as expertly as Robinson into a couch beside the captain.

"Infantry reports ready for turnover, Captain," he said, pulling his buckles tight. This was Colonel Roudreaux, commander of all the dustfeet running around the ship. The captain swallowed and nodded.

"Mr. Conner," he said, "the ship is ready for turnover. Please initiate countdown." We only had about thirty seconds left by this time, and Conner was focused very tightly on the calculations scrolling past on the terminal in front of him.

"Mr. Riche," he said, without turning his gaze, "please countdown to turnover." I nodded.

"Yes, sir," and I began to count. I can't remember where I started—somewhere around two dozen, I think—but I was sweating pretty heavily inside my helmet, and I hope sincerely that I didn't sound as scared as I felt. This was my first battle; I'd seen boarding disputes and fighting in space before, but this was the first real ship-to-ship clash I—or anybody less than twenty years older than me—had ever seen. I knew intellectually what to expect, I knew exactly what was expected of me, and as a fifth-year apprentice I was nearly a master myself, highly trained and skilled, ready to react to any situation that might confront me.

Be that as it may, I was scared white. I always am, every time.

I got to one, then announced, "Initiate turnover," and the engineer's response came over the intercom as suddenly our weightless bodies became significantly weighted as acceleration was applied in our direction of travel; then it was applied perpendicular to that, sending the ship into a spin; then, finally, accleration was applied opposite to our velocity, strong acceleration of several gees. So we had three different "downs" within less than thirty seconds, then after weeks of weightlessness we all weighed hundreds of pounds for several minutes before finally the engineer shut off acceleration and we were there, in orbit around Luna.

Conner hit a few keys, then looked up. "Now on a 66 quadquaGrafut periapsis, Captain," he said; that's about three hundred miles at closest approach. It had been a hundred-million-mile journey through the great black nothing; now, we

I

were ready to kill.

* * *

We hadn't *really* been weightless all that time; but we'd been nearly weightless. Acclerating at five-thousandths of a gee makes me weigh a little less than one pound in the old measurements, so we all had a little bit of weight to us. But we had also shut off acceleration entirely for a few hours prior to turnover, so all in all the weight-changing was making even the most hardened spaceman's stomach get a little queasy.

We'd left Martian orbit a little less than three weeks prior, from a parking orbit, and accelerated at (as previously mentioned) 0.005 gee for more or less the entire time. The accleration is tiny, but its effect is great; by the time we were approaching Luna, we were travelling nearly 200,000 miles per hour. That's way faster than we'd normally want to come in; typically turnover would be more or less halfway there, so we could decelerate just as leisurely as we'd accelerated, and have to do very little boosting to get into an acceptable orbit. But this was different; this was war. The enemy would be waiting for us, and we didn't want to give them more time to prepare than we needed to.

Tycho's ships would be waiting for us; that much we knew. And we knew they'd probably ensure that they were on the opposite side of Luna to us as much as possible, so as not to provide us with a target. We had no such advantage, of course, so theoretically we were a target, too; but in practice long-range combat in space just doesn't work. While there's nothing stopping us from launching a missile at them from Mars's orbit, or vice-versa, there's also nothing stopping them from shooting it down, and they've got all the time in the world to do so. No; real combat has to be relatively close, in this case with both of us in orbit.

Of course, we'd launched several satellites into far-lunar orbit well in advance of our arrival, in an attempt to get a full view of the far side; Tycho had predictably destroyed them before they'd even gotten into position. But L1 and L2 Stations, though officially neutral, were backing the Martian side—Tycho was a near neighbor and a bit more powerful than they would like—and were providing us data on the Tychonian fleet's location. This gave us an advantage that the Tychonians didn't know we had; it meant that we couldn't be surprised.

But we couldn't let them know that. And what does a fleet do when approaching orbit and hoping not to be surprised? It comes in as fast and hard as it can, parks in orbit as quickly as possible, and tries to get all the way around the planet before the enemy fleet can execute its trap. And it makes sure it's in a low orbit, so that there's less chance of sneaking a missile around the curve of the planet while still too distant to be effectively attacked. So that's what we did.

So we boosted hard—fortunately for us, we didn't have to come to a complete stop relative to our beginning, since Luna itself is in motion, or we'd have needed a lot more time at high-gravity deceleration—and parked ourselves. Thing is, we knew exactly when the Tychonian fleet was coming around,

so we didn't need to race around our orbit; we just needed to point our jets at them and get ready for combat. So we did.

* * *

"Infantry, lock and load!" Roudreaux shouted into his helmet mike, unstrapping and pulling his weapon from his back. The captain also unstrapped, as did Robinson beside me; Conner and I stayed in the couches. We were both armed, of course, with sickles and sidearms, but we really were hoping not to use them. We were computermen, not dustfeet; but when we boarded, as junior astrogator it was my responsibility to take control of the other ship's systems, and we might be boarded ourselves, so we both needed weapons.

"Let's get those fuckers!" shouted one of the lieutenants, to much fanfare from all the dustfeet aboard. Conner glanced at me with a look of some disdain; this wasn't really our fight. Tychonians were just folk, after all; we'd both been in Tycho Under many times, done business there many times, and would probably do business there again once all the unpleasantness was over. But for these redfeet, it was personal; they wanted revenge and blood.

Of the two, Conner and I had figured the Hellene boys to have the better part of the dispute; but in the end it didn't matter much to us. We were guildsmen; we weren't really allied to either.

"Mr. Conner," the captain said, "what's our position?"

"Our jets are at them, Captain," I responded for Conner; it's best to keep the master computerman undistracted, especially when a battle's brewing. Motion is inertial; we were travelling in one direction regardless of which way the ship was pointed. So we made sure that our jets were pointed at the enemy, so we can give them a good dose of radioactive exhaust in minimal time if need be.

"Close our shields, Mr. Olafssen," the captain said into the intercom; that was our engineer; I heard the affirmative reply through the intercom from aft. These were impact-absorbing plates to cover our engines; we wanted the exhaust option, but we didn't want to expose ourselves.

"Infantry ready, Captain," Roudreaux said over the radio. "Planes ready for launch."

"Launch," the captain replied, and Roudreaux let out a shout of redfoot pride that was echoed by his men. From both sides of the ship we could feel the vibrations of the planes releasing from their mounts on the hull; twelve of them, mounted directly across from one another on all four sides of the ship. They were directly opposite one another in an attempt to prevent their launch from screwing up our trajectory; after the last one detached Conner swore loudly.

"Our orbit's corrupted, Captain," he said. "We need..." The computer cranked out our answer. "Johnny," Conner said, and he moved to some other work.

"Captain," I reported, sweating dripping down into my eyes inside my helmet, "We need o.or gee for four biquaTims at one and a half unciaPi aft." That's about a hundredth of a gee, for a few seconds, at two hundred and seventy degrees aft. "Preparing for boost, Captain," came Olafssen's voice. "Will fire when ready."

"Fire, Mr. Olafssen," the captain stated, and we all got a little extra weight for a few seconds at another odd angle.

"Fleet is cresting, Captain!" Conner shouted. "Johnny, identify our target."

"Target acquired," I responded. Each ship in the fleet had been preassigned a target, to prevent duplication of effort; I had picked out which one was ours. "Trajectory is computed."

"You may fire when ready, Mr. Olafssen," the captain said, and Olafssen confirmed it. Again, we could feel the vibrations of our first two missiles leaving, directly opposite one another; Conner refigured our orbit.

"Still on course," he said.

"John?" the captain inquired.

"Missiles away and on course, Captain," I responded. "No response from target." Apparently our L1 and L2 friends had come through for us; we'd taken the Tychonians by surprise.

"Ready to fire again, John," the captain said, and I nodded inside my helmet.

"Target hasn't changed trajectory, Captain," I replied; and even as I said it, the radar showed it moving, applying acceleration into higher orbit. "Trajectory changed... target ceased acceleration. Ready to fire, Captain."

"Fire." Olafssen confirmed, and the vibrations from the missiles shook the ship again. The radar was lit up with countless of our fighters heading toward the enemy fleet; as I watched, the first few flies detached from the Tychonians and started heading our way.

"Enemy fighters released, Captain," I called out, hoping my voice wouldn't crack; I was *really* scared now. But even as I spoke Conner called out,

"Orbit corrupted, Captain," he said, "but within acceptable limits."

"Very good, Mr. Conner," the captain replied.

"Relative velocity ready, Captain," Conner continued, as I watched the swarms of gnats on the radar coming together. "Boarding range in seven biquaTims." That was only a litle more than three minutes.

The computer reported to me that our first two missiles were no longer responding; I checked and saw that their transmissions had ceased prior to reaching the target. "First two missiles destroyed, Captain," I called out. Then two new blips appeared on the radar screen; the computer informed me that we were being pinged by two new entities. "Enemy missiles en route," I stated.

"Calculating," Conner responded; then, in a second, "Suggest apply boost of 0.03 gees at one and a half unciaPi forward for one unciaTim." Two seconds and two-seventy degrees forward.

"Ready to boost, Captain," came Olafssen's voice.

"Fire when ready, Mr. Olafssen," the captain stated, and we gained weight in another direction again for two seconds. The trajectory alteration wasn't to avoid the missiles; they were

radar-directed and locked on us already. But there was a whole lot of stuff moving around out there; moving a bit made it harder for their computers to lock onto us again. If the combat had been happening nearer to us, and we'd had to keep track of every one of hundreds of fighters, all shifting velocities in three dimensions, *plus* every main ship out there, our computers would be heaving; I could only imagine what theirs were doing. Sluggish and swapping like whores, if the tactic were working.

We toasted the two missiles heading toward us without trying; our automatic systems took care of them, intercepting them with a couple of drones. I noticed that one of our remaining two missiles stopped transmitting. "Prepare to fire again, John," the captain stated, and our second missile reported that it was about to make contact with the target's hull.

"A hit, Captain!" I called out, and at that moment Colonel Roudreaux clicked back into our main circuit.

"Hot damn!" he shouted. "She's gaping open like a sandworm!"

"Prepare to board, Colonel," the captain responded. He was staying calm, but you could see some exhiliration through his faceplate. The fight was going well; I'll admit I was even feeling some excitement.

"Damn right!" Roudreaux switched off again.

"Range, Mr. Conner?" The captain's voice was back to its steady, even keel; my master responded equally calmly.

"One minute to contact, Captain. Suggest full boost, one gee straight aft, plus 0.09 gee at 1 unciaPi aft, for three dozen Tim." About six seconds.

"Shields retracted and ready to boost, Captain," came Olafssen's reply.

"Fire when ready, Mr. Olafssen," the captain responded, and all of a sudden we had a *lot* of weight, then returned to weightlessness.

"Trajectories equalized, Captain," Conner reported, and Colonel Roudreaux switched back in.

"We've got two connected," he said. "Units two and seven. Turning over control to the ship." The fighters don't have the computers or the expertise to equalize velocities with the main ship, and a mistake in doing so could be disastrous, so once they'd harpooned the target vessel they ceded their controls to our computer to guide them back to the boat.

"Units two and seven under control, Captain," Conner stated. "Contact in 4;9 biquaTims." About two minutes.

"Prepare to board," the captain replied.

"Preparing to board, Captain." Conner glanced over at me, only briefly, as he had more than enough work in front of him. "You're up, Johnny." I took a deep breath; now came the *real* trouble. I unbuckled and pushed off the bulkhead; Robinson, next to me, did so, as well.

"Permission to leave the bridge, Captain," I said, swallowing; Robinson echoed it, and the captain gestured at the door.

"Granted," he said. "Good luck, Mr. Riche, Mr. Robinson." I almost didn't know he was talking to me, having used

the "Mr." for the first time; but then Robinson was on his way out the door, and I swam out behind him past the two dustfeet standing post there. I switched to the boarding officers' circuit on my helmet radio, and as I did so I caught Robinson's final words.

"...so don't sweat it, Johnny," and I swallowed as we swam. That was all well and good; but I was sweating bullets just the same.

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We entered the cargo bay, a huge room with a large door on the side and a small door embedded in it. We couldn't get straight in, of course; the large door was opened, showing the inky, empty blackness of the great void. What we spacemen have always just called "the black." I know we're supposed to love space, and I do love being a spaceman; but looking straight into the black gives me the willies, no matter how long I've been sailing the void.

The airlock cycled, and the interior door popped open; Nick looked over at me, and I could all but see him grinning through his polarized visor. "Here we go," he said, and pushed open the door, bracing himself against the inevitable Newtonian reaction by placing his feet against the opposite wall. I followed him out, then hit the button on the inside to shut the airlock door; we were latecomers, I could see, and there likely wouldn't be anyone following.

The airlock was full of two dozen dustfeet, all armed and chattering over the enlisted circuit, which I couldn't bear to stay on for very long. These men were bloodied and thirsty for revenge; I was more or less a mercenary, just a contractor paid to drive a boat. I nervously felt for my sidearm, a simple old-fashioned bullet-slinger, and my sickle, in a secure sheath at my side. The gun was more or less for appearances; the sickle was the real weapon. Cut a suit, and its occupant dies; that's the ticket. And those sickles were designed to kill.

Our fighters had harpooned the Tychonian ship; more fighters could be seen swarming all around us in the chaotic battle of fleets still going on. The lines from the fighters had been reattached to our boat when we'd reeled them in; now spacewalkers had attached lines to those harpoon lines from our cargo exit, which we would now use to board the ship. On my best day I don't like spacewalking, even with magnetic boots holding me to the only terra firma I'd ever really belonged to, a metal hull; ziplining through the black toward that Tychonian beast terrified me.

"Officers," Roudreaux announced over the officers' circuit, "prepare to board." Nick and I began pushing our way through to the front of the crowd, joining up with Roudreaux and our guards. Each of us had two dustfeet assigned to us, to make sure we didn't get dead while taking control of the ship; Nick was to head for the engine room, I to the bridge.

"Ready, spacebabies?" Roudreaux laughed shortly and wrapped his hands around the line nearest him. "Here we go!" He turned on his suit jets, which launched him out into the black, travelling along the line. His two men followed close

behind, whooping in some Hellene fashion; Nick went next.

"Don't sweat it, Johnny," he said again; but I was. I was sweating it a *lot*. And then it was my turn.

"Sir?" I looked over; my dustfoot gestured gently toward the line. No enlistedman should ever board an enemy ship without a commanding officer already in it; and that was me. So I took a deep breath and grabbed the line, offering a quick prayer and swallowing the vomit that almost, but not quite, soiled my helmet. I kicked the jets.

And there I was, a small force on either side of the small of my back, at the back of my neck, and at the bottom of my torso, flying through the great nothing to a hole in the Tychonian ship. One warm, isolated spot of life in an endless emptiness, a speck in an infinite void. Terrifying.

Nothing felt better than planting my feet on the inside of her hull and feeling—not hearing, of course—the clank of the magnets in my boots taking hold. I let out a huge breath—I'd been holding it some thirty seconds, I realized vaguely, my whole way over—and pulled out my sickle just in time to see one of my dustfeet cut open the suit of a nearby Tychonian, who dropped his own sickle and futilely grabbed at his throat and floated there, his boots still stuck to the deck. The dustfoot looked at me.

"Sir, we need to move."

The Tychonian still gasped hopelessly for air, sucking in vacuum as he struggled with himself; like a rubbernecker at a shipwreck, I could only look away with the greatest effort. But I nodded; we needed to move. The boat was a standard model, familiar to me; we immediately started off toward the bridge.

Explosive decompression had jettisoned an awful lot of the Tychonians on board; but of course, they were pressure-suited just as we were, and those who'd remained on board were still fine, and many were ready to fight. We ran into a few more on our way through the boat; I knew that behind us two dozen infantrymen had likely boarded by now and were combing through the ship to wipe out the last of them. Indeed, two more dustfeet had joined up behind us; I started, despite my intense fear, to feel confident, and I could see the bulkhead to the bridge ahead.

"Engineer reports engine room occupied," I heard Nick announce over the officers' circuit, and then things got *really* ugly.

I'm not really sure what happened; but I saw several Tychonian-marked pressure suits appear at the bulkhead to the bridge, as well as another room behind us; and I saw lots of sickles flying. I was sure I was dead; but I fought as best as I could, cut at several people, disarmed at least one, and when the mess cleared, I had two dead dustfeet and four dead Tychonians around me. I grabbed the shoulder of one, who was standing beside a disarmed and choking Tychonian with blood floating through the vacuum from a slash in his suit like grotesque bubbles, and pointed my sickle at the bridge.

"In!" I said over his circuit, and he nodded and detached his boots, pushing off the bulkhead toward the door. He grabbed his living companion on the way, who also detached and pushed off, and they swung into the bridge, with me behind them. Half a dozen more dustfeet were approaching, only a little behind me by that time.

I got inside just in time to see the sickle-wielding captain cut down by one dustfoot, and the computerman with his hands up, menaced by the other dustfoot with gun drawn. I sheathed my own sickle and clumped over to the computerman—a fellow guildsman, a brother—and put my helmet against his. I shut off my radio and saluted.

"Jean Riche, apprentice astrogator, the *Reliable*," I announced. "I relieve you, sir."

That close, I could see his face through his polarized visor; he was a middle-aged man, a long-experienced computerman; and he saluted back to me.

"Paul Rubombo, master astrogator," he responded. "The ship is yours, sir."

And we embraced; I almost teared up. We were brothers,

after all; guildsmen, not soldiers. Why should we let a stupid war get between us?

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The battle was a resounding Hellene success; most of the Tychonian fleet was destroyed or captured, and Tycho was making noises about coming to terms almost before we finished mopping up. And mopping up was a *long* process; shuttles had to run around in orbit picking up men jettisoned by decompression but still alive in their intact pressure suits, debris had to be collected, captured ships repaired sufficiently for travel to the nearest non-Tychonian shipyard; and, of course, the dead needed to be sent on their final orbits, once they were collected. All of this involved some pretty intense work for all of us, computermen in particular; though the engineers had some pretty hairy work, as well, particularly when reactors had been damaged.

It had been the largest space-born battle in a generation, and I'd had my part in it, however small it might have been.

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