

## A NEW ORDER OF THINGS: PART III OF IV by EDWARD M. LERNER



*Illustrated by John Allemand*

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**Skepticism is annoying but useful in a universe where things are seldom what they seem....**

### Synopsis

*For a century and a half, a growing interstellar community has maintained radio contact. A vigorous commerce in intellectual property has accelerated the technical progress of all its members. Travel between the stars seems impossible, but InterstellarNet thrives using an elegant alternative: artificially intelligent surrogates who act as local representatives for distant societies. Quarantine procedures strictly govern the delivery and operational environment of each alien agent, protecting agents and their host networks from subversion by the other.*

*A radio message shatters this comfortable status quo. The signal comes from a habitat-sized decelerating interstellar vessel, its unannounced trip from Barnard's Star now ninety-nine percent complete. Citing damage en route and a shortage of supplies, the starship Victorious goes to Jupiter rather than Earth. The starship's crew are whippet-thin, iridescent-scaled, bipedal carnivores who call themselves Hunters. Humans refer to them as K'vithians, after their home world of K'vith, or, informally, as Snakes (because Barnard's Star lies in the constellation Ophiuchus, the Serpent Holder).*

*Not only humans are surprised by Victorious' short-notice arrival. **Pashwah**, the AI trade agent on Earth for the Hunters, is also taken unawares. So are her internal sub-agents, the representatives of the Great Clans. Pashwah rejects the starship's unauthenticated demands for Great Clan InterstellarNet credits with which to buy supplies, but she does transmit to Victorious a translator and human-affairs advisor: a partial copy of herself named **Pashwah-qith**.*

***Helmut Schiller** is hiding from a shadowed past: As **Willem Vanderkellen**, he had made a major mineral find in the Belt, only to fall afoul of a claim-jumping criminal syndicate. He has found work as a pilot for free-lance media star **Corinne Elman**, who first breaks the news of the onrushing starship.*

*Ambassador **Hong-yeo Chung** heads the United Planets response team, based on Callisto. His technical support team includes theoretical physicist **Eva Gutierrez**, xeno-sociologist **Keizo Matsunaga**, and Interstellar Commerce Union executive and systems engineer **Arthur Walsh**. Most humans have forgotten, or at least forgiven, a half-century-earlier inter-species crisis. Art is not among them. The "Snake Subterfuge" involved a trapdoor hidden in licensed Snake biocomputer technology, potentially compromising most human infrastructure. That crisis ended when Pashwah was convinced that one Hunter corporation's extortion plans must not be allowed to compromise overall inter-species relations. The biocomputer vulnerability has long been removed.*

*Art finds much the Snakes have chosen to reveal about themselves replete with anomalies. His suspicions grow, as most of Victorious remains hidden from closely chaperoned human visitors. The K'vithian explanation for picking Jupiter as their destination rings false to Art and Eva, who at different times worked at the UP laboratory on the Jovian moon Himalia. That is where the UP does its interstellar-drive research, and where it produces and stores antimatter in hopes this research will eventually bear fruit. The antimatter stockpile is vastly dangerous; its existence*

supposedly a tightly held secret. Chung remains trusting.

*There is subterfuge at hand, and it involves a third species. Twenty years earlier, the starship then named Harmony was boarded and captured, its crew in suspended animation, on its final approach to Barnard's Star. Harmony's rightful crew--a hypothetical human observer would see arboreal octopi covered in green fur--remain shipboard prisoners of the K'vithians. The captives are members of the Unity, the intelligent species of Alpha Centauri A, commonly referred to by humans as the Centaurs. The K'vithians had sent a rigged lifeboat back toward Alpha Centauri. The lifeboat radioed a contrived distress call and then self-destructed, to disguise the piracy and make the Unity distrust their own technology.*

**K'choi Gwu** , the ka (leader by consensus/captain) of the Unity prisoners sabotages the shipboard environmental systems. Only a fresh supply of specialty home-world biochemicals can avert eco-collapse. It is all a ruse to justify Gwu finally revealing the InterstellarNet credits hidden deep within **T'bck Ra** , the long-suppressed shipboard AI. Gwu's captors reactivate the lobotomized AI just long enough to retrieve the hidden financial codes--or so they believe. T'bck Ra has actually hidden himself in computers distributed across the starship.

**T'bck Fwa** is the Unity's long-time trade agent to humanity. Unity authorities have ordered him to search for human antimatter and interstellar-drive research. His diligent data mining long ago revealed a clandestine human antimatter program on Himalia--and now a K'vithian starship has made Jupiter its destination. Skeptical of news reports that an en route accident destroyed the starship's antimatter refueling capability, he imagines a human/K'vithian conspiracy. His suspicions grow when he learns Unity biochemicals are being synthesized on Earth for delivery to the Jupiter system.

**Firh Mashkith** , Foremost of clan Arblen Ems and of the stolen starship he has renamed Victorious, has more on his mind than the ailing ecosystem. Twenty years earlier when the starship emerged from the outer darkness, no Hunter clan held the technology for antimatter or star travel. As for Arblen Ems, they were out of favor among the clans, hiding on the fringes of their solar system, and hunted to the brink of extinction. His boldness has changed all that.

*The interstellar drive, however esoteric its theory, is easy to build. Mashkith's problem is fuel. The starship never carried antimatter production equipment. Antimatter intended for its return to Alpha Centauri A was used instead to reach Sol system. Mashkith hopes to trick the humans into revealing how to produce and control antimatter on very large scales. If he succeeds, his clan--alone--will have access to the stars. A carefully contrived demo with antimatter from dwindling reserves convinces human skeptics that K'vith already has antimatter technology. Mashkith's senior officers, **Rashk Keffah** and **Rashk Lothwer** , disparage human antimatter technology. They "allow" human experts to convince them the UP's "primitive" antimatter mechanisms can safely refuel Victorious. In the process, the K'vithians master antimatter technology.*

*After a second contrived demo, this time of an interstellar-capable lifeboat left pre-positioned in the Kuiper Belt, the UP agrees to trade a load of antimatter for the lifeboat. A triumphant Mashkith gloats about human gullibility....*

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## CHAPTER 24

Art stirred his coffee with reflexes finally adjusted to Callisto. Across the café table, Eva tore morsels from her bagel. Some day he needed to explain to her the accepted meaning of finger food. Or--flash of

insight--maybe not. His apparent inability to keep some observations to himself was part of why Maya said living with him involved "more Art than science."

The eatery near their offices was nothing to vidmail home about, but breakfast together was now part of their routine. He knew he looked forward to it.

On the corner 3-V, talking heads discussed the pending constitutional referendum on Titan to legalize polygamy. He ignored them. "What's on your schedule today?"

"Coordinating with folks at Hawking Observatory. Supervising some postdocs at Callisto Tech doing ZPE experiments. Indira Singh finally arrives from Triton this afternoon to talk quantum-string theory. Fun stuff."

Which was to say, doing her best to reconcile the contradictory and inconclusive data about the interstellar drive: oblique hints and condescending comments from the Snakes, indirect observations, subtle inferences. They had precious little hard *fact*, beyond the faint gravity ripples detected during the demo. Getting ready, in short, to take custody of the to-be-transferred lifeboat. She rattled on about specifics, quickly going way over his head.

Mashkith had vetoed Eva's request through Ambassador Chung for one of the lifeboats presently aboard *Victorious*. "The answer would be 'no' if only because we already lack one lifeboat, but safety is not my main reason. I wish to avoid skepticism whether *this* lifeboat truly has interstellar capability. The vessel on its way has already demonstrated its interstellar drive. Your cynics have seen it. *That* is the boat the UP will receive." The Foremost's touchy reaction had only gotten Art further into Chung's disfavor. Abstractly, Art would have thought that impossible.

"I said, 'And you?'" Eva was frowning at him.

"Sorry. Synapse misfire."

"Fine. Don't tell me."

Sigh. "Nothing much." Antimatter transfers did not involve him. The resupply effort was largely complete. "Maybe I'll look into the diminished sulfur level on *Victorious*."

"The K'vithians proved they had antimatter before we seriously discussed refueling. They demoed the interstellar drive we're getting in exchange. Art, you did what you set out to do. Why not relax for a bit? Scale back to, I don't know, six days a week?"

"Do you trust Chung to...?"

She gently slapped his hand. "You're a prime example why that referendum is happening on Titan. Too many men with trust issues."

Before he could decide whether to comment on *that*, she had excused herself and headed off to work.

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K'vithians and crew-kindred faced each other in two shallow arcs. A long scroll lay open on the deck between them. Two groups of peers consulting, K'choi Gwu ka thought. We will be equally dead if we overlook anything.

A hologram floated above a corner of the printout. As air currents gently vibrated a slightly curled edge, the ephemeral orb morphed from planet to planet. Earth, Jupiter, and Saturn she knew immediately; the names of the other worlds eluded her. The same United Planets logo glimmered from the two shiny

cylinders that stood behind the K'vithians.

They contained human-supplied antimatter.

Mashkith's eyes were heavy upon her, impatient. Gwu's experts continued speaking inconclusively among themselves, their words muffled by breathing masks. "Biocomputers are unfamiliar to us, Foremost." You kept us ignorant lest we meddle with the new networks grafted throughout the ship. "We must be certain the control approach is entirely compatible with the shipboard systems."

"Nature of concern?"

One of the crew-kindred experts spoke up. "The merest instant of instability during the transfer would be catastrophic."

"Concern for possible transient control states within the interface?" Keffah asked. "Exhaustive review by my staff. Second review by me. No problems."

Exhaustive? Hardly. The crew-kindred were unfamiliar with biocomps, and the K'vithians had, until recently, disdained to study photonics. *Advanced* species used biocomp.

But photonics controlled the main antimatter-containment chamber which filled half the room. Photonics controlled the interstellar drive powered by matter/antimatter annihilation. *Reassuring myself with thoughts of the Unity's technical superiority*. Sadly, Gwu once more acknowledged her own pride. *I'm not so different from them*. "The Foremost requested our opinion. I thought it best to evaluate the design independently."

The answering growl ended abruptly at a glance from Mashkith, but not before that rumble deep in Keffah's throat rebutted all Gwu's fanciful notions of a meeting between equals.

"Any specific technical reason for delay?" Mashkith asked. "Any explicit unambiguous risk? Your experts' response within three watches, ka."

Which meant antimatter fueling was planned to commence soon after. Reluctantly, Gwu conceded the shrewdness of a deadline. Humans had designed the transfer interface, and *they* knew photonics, biocomps, and antimatter containment. It was prudent to have given the crew-kindred an opportunity to spot anything humans and K'vithians might have overlooked. It was astute to disbelieve any purported problems not accompanied by specifics.

Nothing Gwu had so far heard from her experts rose above musing aloud. Refueling *was* going to happen. Either that, or a very big explosion that would end all their worries. "I understand, Foremost. You will have our response by then." She rolled up the scroll. "For reference as we complete our review."

Returning under escort to their quarters, Gwu decided: We must send our message immediately. Before three watches have passed. Before the remotest chance of an interface mismatch and a cataclysmic explosion, we must send word to the Unity. They must be told the mission was hijacked; it did not fail.

The crew-kindred's only advantage was the secret reactivation of T'bck Ra. They could spring that surprise only once. Should they use their one chance to radio the Double Suns or the Unity's nearby agent?

Hope dies hard, she realized. Gwu could not imagine how help could arise, but at least the theoretical possibility existed that the Unity's agent on Earth could accomplish something before *Harmony* vanished once more into interstellar space. Their attempt to communicate would be directed at the main

InterstellarNet receiver on Earth--and through it, to T'bk Fwa.

What course of action the AI could possibly undertake beyond relaying their message was beyond her imagining.

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Martian science classes boasted that Olympus Mons was the largest volcano in the solar system. It towered to three times the height of Mount Everest. Its footprint was the size of the Hawaiian Islands.

Long dormant, it was far from the most impressive volcano.

Art's eyes were glued to the apocalyptic sight before him. Vast pools of hot, black lava mottled Io's ocher surface. Geysers and volcanoes spewed sulfurous lava far into space. Rings of fresh red and yellow sulfur encircled calderas a hundred kilometers across. The scene was all the more fearsome for its violent transience: Cavernous faults and tall mountains formed and vanished here in a geological eye blink, as the surface flexed endlessly in the tidal tug of war between mighty Jupiter to one side, and nearby Europa and Ganymede to the other.

As the hellish world swelled in the main screen, Art just barely found his tongue. "Wow."

"Glad you came, Art?" Rachel Shapiro, the scoopship's pilot, wore a condescending smile that said: tourist.

"Absolutely!" And not just because I was getting cabin fever on Callisto. "What a rush!"

"Me, too." Despite the endorsement, Helmut seemed quite blasÃ©, and more relaxed than Art had seen him in their brief acquaintance. That was the thing about new friends--you did not entirely get them at first. The spacer had doubtlessly seen more than Art, maybe even Io before. In fact, Helmut was so bored-seeming Art didn't understand why he had come along.

A different friend's advice had gotten Art here. Clearly he did not yet understand her. After he had made arrangements for two to tag along on a scoop run, Eva politely declined the second seat. Okay, he *did* understand her. Her work was peaking even while his was in a lull. Didn't she need a break, too? He couldn't imagine her taking time off once the working interstellar drive was in her hands.

Maybe thrill rides weren't Eva's idea of a first date. Maybe he was reading her signals wrong. Wouldn't be the first time.

Too bad, either way. She was missing a hell of a show.

Io was only coincidentally a scenic stopover. Their course bent around the tortured moon in a tight hyperbolic turn. The gravity boost flung them all the faster at Jupiter.

The king of planets grew and grew. It became a sky-spanning expanse of wind-driven cloud bands and swirling storms, each feature many times Earth-sized.

"Buckle your seatbelts, guys. We're going in."

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Boredom had once obsessed Pashwah-qith. No more: Failure had taken boredom's place. Failure, and fear of its consequences.

Too late, she recognized the weakness in her plan. The InterstellarNet transactions that comprised her secondhand experience dealt almost exclusively with knowledge transfer: inventions, processes, scientific

theories. Her customers were large corporations. She dealt with lawyers, financial engineers, and huge banks. Her understanding of illicit dealings was theoretical--and, she was now discovering, seriously inadequate.

Black markets were called black for a reason: Their workings were opaque. Despite her long-sought reconnection to the infosphere, Pashwah-qith struggled to track everything she had initiated.

No one ran ads on the infosphere for unregistered currency transactions. Prospective buyers had to be sought out, cultivated, and made comfortable. Contacts happened indirectly, through layer upon layer of intermediaries--who had to be sought out, cultivated, and made comfortable. For themselves, everyone strove for anonymity and deniability. From others, everyone sought the certainties and guarantees they were themselves reticent to offer.

Exchanging the Centaur currency was taking far more time than Pashwah-qith had ever imagined.

And some of the shadowy players turned out to be thieves.

Her promise to the Foremost had been simple: overhead not to exceed one-fourth. From that perspective, the slow start-up of the money laundering proved fortunate. She had lost less to swindles and swindlers while learning than had she quickly put more funds in play. Now that she was savvier, she needed--somehow--to speed up the remaining conversion.

Arblen Ems Firh Mashkith was not known for his patience.

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## CHAPTER 25

Talking with Snakes had become almost routine. That was Corinne's take, anyway; Helmut guessed she should know. This was, what? Mashkith's fourteenth major interview. His second with Corinne.

The hook for today's session was the recently concluded negotiation. The grand swap. Unseen behind the camera and his mirrored visor, Helmut thought it an interesting topic indeed, if not for the reasons Corinne did.

Outing of the antimatter program was a nightmare for the UP military. The entire solar system now knew of the unimaginably powerful and dangerous stockpile there. Where secrecy, the prison cover story, and a few frigates once sufficed to provide security, today it took a fleet to guard the antimatter. *Victorious* had been invited to closely orbit Himalia, inside the security perimeter, the better to expedite fuel transfers.

The Foremost, with untold crew and AIs netted into his head, had *also* acclimated to conversing with aliens. The smooth segues as he changed topics were impressive. Mashkith was quick to talk of the potential for trade and cultural exchange, about the enriching experiences of small shore parties.

Corinne was, as always, hard to distract. "I'm sure everyone who watches will be pleased with the success of those brief visits. You will recall, however, that we were discussing implementation of the new agreement."

"Implementation involves some highly technical matters, Corinne. These are well in hand, and I think best left for consultation between our technical experts. What I find interesting, Corinne, is what diverse items arise in those consultations. Chess, as one example. The crew are quite taken with the game of chess."

"A fascinating topic for another conversation, Foremost. If we could get back to the planning for refueling trials...."

Helmut did not bother fighting the oncoming yawn. He could edit out any wobble the camera failed to remove on its own. The wondrous thing was that he had relaxed enough to yawn. Maybe Rothman decided he had been mistaken. Maybe the man from his past had shipped out while Helmut had been laying low by taking the scoopship joyride. Maybe he had just needed a bit of down time. In the big picture it didn't--

Klaxon blaring and then a shout, both in his mind's ear. "Helmut! You getting this?"

He speed-scanned the past minute from the camera's memory. Mashkith had stopped mid digression. Mid-sentence. "Sure am, boss." As Helmut zoomed in on the Snake's face, frozen in an infosphere trance, Mashkith's eyes snapped back to the here and now.

"Where was I? My excursion to Ulan Bator?" Long pause. "As I think about it, that anecdote is not truly relevant." Another pause. "I realize I've talked on and on about sights that, while new to me, must be familiar to your viewers. Perhaps this is a good time to conclude our chat. I will have you escorted to the airlock."

Almost immediately, the cabin door swung open to admit Rashk Lothwer. A file of guards stood behind him.

Helmut didn't need a net exchange with Corinne to know they had been dismissed and that something unexpected had happened. And that she also could not guess what the emergency might be.

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Corridor sensors revealed a guard detachment approaching Mashkith's cabin. They marched briskly for Hunters, not that the prisoner had any difficulty keeping up. His summons had been curt and snarled--he meant for her to be rattled by the guards' tension. Still, a glimpse of the ka coughing and fumbling with her breather mask made Mashkith truly angry at the soldiers. Denying her a few seconds to adjust her equipment had been needlessly cruel.

There was a timorous tapping on the hatch. "Authorization to enter." The escorts wasted no time in leaving him alone with K'choi Gwu ka.

"Foremost." She was hoarse from fumes leaking under her mask.

Talons already half-extended from his hands and feet emerged further. He curled back his lips, baring teeth. "Your mockery of respect for me."

She did not flinch. "I do not understand."

"A lie! Unauthorized message from *Victorious* to Earth. Unauthorized frequency."

She stretched to her full height. "If you refer to an InterstellarNet message, it was authorized by the ka of this mission."

"Your admission of defiance and disrespect!"

"It was a matter of duty to the Unity. Whatever the consequences."

"Consequences certain--despite the failure of your attempt." At Mashkith's thought, the holo display flipped from Jupiter to multicolored schematics. Green threads brightened: the ship's original systems. She would surely recognize those. Red icons sparkled: symbols for biocomp nodes. Those should be familiar from recently reviewing the humans' antimatter transfer design. The image zoomed in on primary communications.

"Security overlay. Protection against rogue messaging, its implementation immediately after our takeover." With an arm stretched into the hologram, he indicated a knot of red beside the main external antenna. At his thought, the tangle flared blindingly crimson. Faster than the red light ebbed to normal levels, the antenna became a faint shadow. Inert. "Power cutoff upon detection of your unauthorized signal. Your mutiny a failure."

"Those whom I serve are prisoners, not your crew." She trembled, but did not back down. "We oppose, Foremost, we do not mutiny. We will continue to oppose, as best we can."

To have maintained for so long the will to resist ... she was worthy of his esteem. "Failure, regardless. Punishment for the attempt."

"That is for you to decide." Her tremor worsened.

The display viewpoint panned back to encompass the full schematic, even as the diagram compressed itself into a corner of the holo. Into the emptied region he streamed real-time 3-V from sites across the ship. Each scene showed a Hunter cadre waiting before an open panel. "Authorization to continue," he said. In Mashkith's peripheral vision, the ka winced as work crews slashed and severed photonics equipment. Green inter-subsystem links disappeared from the schematic as the procedure continued.

Mashkith knew she would never admit to using the long-withheld Unity credits as bait. That was what the money had been--a lure to entice him into awakening the ship's dormant AI. Its restoration had been temporary only in his thinking. Perhaps no action less drastic than destruction of the ship could expunge that AI now. The partitioning he had just ordered would at least hamper it.

Only after all the targeted nodes were disabled, and the ka returned to the prison zone, did it occur to Mashkith to wonder....

He had permitted his rage to show for effect: a tactic. How much of the ka's apparent defeat had been for his benefit?

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Art followed Carlos to an out-of-the-way storefront, whose few window shoppers were long past childhood. They peered through the glass at 3-Vs with bird's-eye views of the local park. Surveillance cameras? "Are you sure about this?" Art asked.

"Your son is what age? Ten?"

"Bart. Yes, he's turning ten."

Carlos clapped him on the shoulder. "Trust me. This is just the place."

Art sincerely hoped so. Any gift he expected to arrive in time had to be put onto a ship soon, and Callisto was not exactly a shopping mecca. He felt guilty enough missing another of the kids' birthdays without compounding the problem with a lame present. Delegating yet again to Maya was not an option. He followed Carlos inside.

The shopkeeper offered an infosphere address and a wink. Art linked in--and grinned. He was suddenly high above a stand of trees, slowly drifting. No, not drifting: banking. The soft buzz of a motor filled his mind's ear. "A micro-plane! Can I try it?" A new address let him do just that. Three times, crashes were averted by some briefly invoked override link. Two near-mishaps were clearly his own untrained doing; the third close call he blamed on a ventilation fan kicking on.

"It's laziness that has me taking control." The shopkeeper had a trace of the North Martian accent Art



had grown up with. "The micro-plane is small and lightweight. That makes the square/ cube ratio low, which means it's strong like a bug. It's actually fairly hard to hurt one by crashing it. I'm just saving myself a walk to the park if it got flipped on its back or stuck in a bush or something."

Art found himself hooked. "How does it work?"

A box no larger than a deck of cards was set on the counter. A tiny aircraft lay inside under a clear plastic lid. "This is the plane." A holo formed, many times life-sized, into which the salesman pointed. "Titanium wire frame. That little loop coming out the top is for handling; most of my customers use hobby tweezers. Wing cloth is woven carbon nanotubes, very thin and light and strong. Micro-electromechanical motor drives the little prop. CCD camera underneath. It could be much smaller, except that would make it inconvenient to handle."

And infosphere remote control, obviously. "Solar cells in the wing cloth?" Much of his attention remained in the park, swooping and looping.

"Only on some racing models. A nuclear battery is standard."

Art split his attention a third way and queried. A nuclear battery seemed to involve a beta-particle source. There were many designs for collecting the charged particles and converting the accumulating static charge into oscillations to drive a piezoelectric generator.

"Our batteries use a few milligrams of tritium, which has an energy density *way* higher than anything any chemical battery or fuel cell can provide. The beta particles, electrons that is, drive it. The betas from tritium are very low-speed particles, so the thin plastic seal around the battery is more than enough to stop them. As is the dead-skin layer we all wear. The safety rule is the same as for any battery--don't eat it."

Bart would love this. Could he be trusted with it? Art had visions of his son spying on his sister and buzzing the neighbors with the toy. "Umm. Is there any way to control how a kid uses this?" That led to a discussion of programmable cruising boundaries, parental control overrides, onboard image-censoring options, and an audible beeper mode.

He convinced himself: Maybe it wouldn't drive his ex *too* crazy.

The transaction took longer than it should have--too much of Art's attention remained in the little robot now looping the loop above the nearby park. Knowing looks exchanged between Carlos and the salesman suggested this wasn't a big shocker.

They didn't seem surprised either when Art bought a micro-plane for himself.

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The fragmentary message forwarded by an Earth-orbiting InterstellarNet relay had been encrypted using a very old--but nonetheless authentic--public key. T'bck Fwa was the only one within light-years who knew the private key with which to decrypt it. In an instant, any satisfaction in detective work well done was washed away by a tsunami of shock and alarm.

"Alert. Alert. This is the Unity starship *Harmony*. We were captured...." End of fragment.

The United Planets were clearly allied with the hijackers. What, beyond impotently forwarding home this message, could he do?

The third watch ended. The fuel-transfer experiment took place.

Mashkith did not bother to ask the result. No one, neither clan nor prisoner, could have survived any outcome other than a complete success.

All that remained was to complete refueling--and one more voyage.

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## CHAPTER 26

Every inspection trip he made to the *Odyssey*, every visit to a port repair facility or supply store or fuel depot, made Helmut anxious. It appeared he had successfully misdirected Rothman. Would the next encounter end as well?

A narrow tunnel linked Norstead Spaceport to Valhalla City. The passage was thronged, as it always was. He strode casually, the day's business done, jostled occasionally by a hurried passerby. Netted imagery from the overhead public sensors let him look around without appearing to watch. Passengers, crew, spaceport employees--no one seemed to be paying attention to him.

Which proved nothing. Anyone interested in him could *also* be watching over the net.

He breathed easier as he emerged from the long tube into the city proper. Corinne was meeting him for drinks and *dim sum*. Two work buddies relaxing....

A whoosh of cool air swept the pedestrian mall, and a nearby sensor showed him looking tousled. Ducking into a quiet side corridor, his hand went into a jacket pocket for a comb. He found a folded sheet of paper that did not belong.

Helmut positioned himself in a corner where no public sensor could peer over his shoulder before unfolding the paper. The note was terse. It contained only a place, a time, and two words that made his blood run cold.

Frying Dutchman.

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The Willem Vanderkellen of spaceport-bar legends was ever wily and in total control. What Helmut remembered, years later, was confusion and panic and improvisation. Chaos, and barely escaping with his life.

A small rock like 2009 Sigma r was more docked with than landed upon. Given a precise tangential approach, there was no rocket fire to draw the eye until moments before contact. The *Lucky Strike* was stealthed, its transponder off; there was no reason to expect any unwanted visitors would choose to reveal themselves on radar. So piercing spacesuit alarms were the first announcement of the claim jumpers' arrival. Whatever ruptured their suits killed Bill and Milos instantly. Kwasi managed only a puzzled, "Who are you?" before meeting the same fate.

Willem was prepping *Lucky Strike* at the time of the attack, by sheer dumb luck on the side of the asteroid opposite the inflated base dome and the claim jumpers. Three flatlined readouts tugged at his eyes and his mind. Grieving had to wait; to dally was to die. He released grapples and boosted at two gees. Radar showed nothing, not even rocks, anywhere near. No one to help. No place to hide. He broadcast a Mayday, but could not imagine it doing any good.

He got a head start of almost a hundred klicks before an IR sensor spotted the hot, side-on plume of another ship emerging from behind the asteroid. As they turned into direct pursuit, the reading dropped sharply, the reaction mass cooled and dispersed by the time it left the ship's shadow. He guessed the

brief delay had been to allow the shore party to scramble back aboard.

Willem was out of sight and stealthed--and too near his pursuers for either condition to save him. His fusion drive surely blazed in their IR sensors. Shutting down now and coasting solved nothing. Those chasing him could extrapolate his current course long after his engine cooled. With a bigger lead, he might have used attitude jets undetected to nudge a drifting ship. He didn't have a bigger lead. Since he was shrieking his position in IR, there was no reason not to monitor the pursuit with an occasional radar ping--and no benefit either, as they remained stealthed. He did not doubt they were gaining on him. They would have given chase immediately and returned later for the ambushers had there been any question who had the faster ship.

They--whoever that meant--had already killed in cold blood to usurp the claim. He wasted no photons in vain pleading for leniency. They wasted none in cynical promises. Not that photons weren't a source of worry: At sufficiently close range, the only difference between a comm laser and a weapons laser was intent. *His* laser was serviceable, but hardly exceptional--not that it could be pointed straight aft. Theirs was surely, at a minimum, the max-rated legal device. It would have no difficulty firing forward.

He had no decent options, nor even a way to judge the rate at which they were gaining on him. His first clue would be their laser painting his hull. Depending how long they waited to fire, it might also be his last clue. Shivering, he programmed attitude jets to vary his formerly bee-line course with some zigs and zags. That might buy him a few more seconds.

Then it hit him. *Lucky Strike*, like its pursuer, was only visible in IR. It was too hot--from its fusion jet, from solar heating--to slip away. The same was *not* necessarily true of the lifeboat, shirtsleeve cool in its bay.

How long until a laser blasted him? Frantically, he disconnected the radar nuller and wired it into the tiny lifeboat. He despun *Lucky Strike* from its temperature-leveling barbecue roll, plunging the lifeboat bay's hatch into darkness. As the bay's heated air was pumped into the ship proper, he suited up. He did his preflight checks with the outer hatch agape, as the lifeboat radiated its modest heat into the black shadows. The lifeboat's environmental systems remained off. At the next evasive zig that gave the lifeboat a slight nudge towards the hatch, Willem released the magnetic couplers.

The continuing acceleration of the *Lucky Strike* imparted a spin to the lifeboat as it slid from the bay. It was his well-loved ship's parting gift to him--a leisurely tumble to slow the sun-heating of the lifeboat. As programmed, the outer hatch slid shut behind him.

Cool, dark, and stealthed, the lifeboat drifted away.

Maybe his pursuers had decided death by laser blast was too quick, or maybe they got greedy and chose to capture *Lucky Strike* intact. He'd never know. Whatever the reason, they observed long enough to identify the recurring pattern of the programmed evasive maneuvers. *Then* they closed the distance--and docked.

His only hope was to disappear without a trace, which meant his pursuers had to believe him dead. He had rigged *Lucky Strike* to explode when attacked. With mixed horror and grim satisfaction, Willem watched his IR view flash white-hot overload as the reactor blew. When the lifeboat's optical sensors returned online, nothing remained of *Lucky Strike* and its assailant but a rapidly dispersing cloud of shrapnel.

\* \* \* \*

Shoppers strolled between storefronts. Kids on maglev boards sped through the loops and corkscrews of an enclosed track. In the mall's central plaza, a water fountain burbled. Helmut sat on the broad rim of

the stone wall that surrounded the fountain, waiting.

Ten minutes late, Rothman emerged from a city tram. He approached slowly, trembling. His face glistening with sweat. That's when it hit Helmut: I'm the supposed cold-blooded killer. Rothman picked this very public meeting place because *he* is afraid of *me*.

"I'm actually sorry about this, you know," Rothman said, tugging at an earlobe. Into a lengthening silence, he added, "You don't know what kind of pressure I'm under."

"Nothing I did, I hope."

"No." Rothman laughed nervously. "Here's the thing. Someone is exchanging a *big* pile of interstellar cash. Nothing illegal, just irregular: gray-market stuff. It looked like there was serious money to be made."

"Snake money?" Not that it mattered.

"Nah. Centaur. I don't know why now." Rothman glowered at a group of teens ambling in their general direction. They sneered back, but veered away.

"What does this have to do with me?" Helmut asked.

"A twenty-percent discount should have meant a tidy profit--but there's so *much* sloshing around out there. I can't unload what I bought without discounting even more. And I can't wait for the market to return to normal. I ... borrowed to make this investment."

Embezzlement? Loan shark? Helmut shrugged inwardly. The reason or rationale hardly mattered. "And?"

"Sorry, Colbert. I need to repay soon, or some people will make things very unpleasant. You understand." Rothman swallowed, somehow apologetically. "I need a quarter million sols."

There was no mention why "Colbert" would offer money, nor of terms. This was blackmail. If he had expected one alias to hide him forever, he would not now be on his third.

Rothman might be as desperate and semi-decent as he seemed. Maybe he would be satisfied with one payoff, not that Helmut could afford even one, and that would be the end of it. Maybe there was honor among *some* thieves. Or maybe Rothman would pocket the bribe and *then* finger him for the far-larger underworld bounty.

Another tacit part of the transaction was an in-case-of-my-death note. Depending how and with whom that message had been left, someone beside Rothman might already know who "Colbert" really was.

Helmut had to assume the worst. His best hope for escape was to leverage Rothman's greed. "I'll need a couple days to free that up as cash. Can we meet here in forty-eight hours?"

\* \* \* \*

Telling Corinne was stupid, but Helmut never hesitated. They talked all night in her hotel room. More truthfully, he spoke for hours; she, apart from incisive requests for clarification, only listened. Reliving the horror *with* someone was cathartic. Despite the ticking of the clock, he kept talking.

"It was a getaway, but hardly clean. I sold the lifeboat to raise cash. And I needed a new identity--fast. If I'd been the hardened criminal the stories make me out to be, I might have known how to disappear. But I'm not. I don't know exactly what went wrong.

"Maybe a serial number on some part of the lifeboat was traced back to *Lucky Strike*. Or maybe someone--a fence, or the doc who sold me this face, or a chance passerby who knew me by my mannerisms--revealed Willem's survival." His escape had cost the lives of everyone aboard the claim-jumpers' ship, and the destruction of the ship itself. "The bad guys had short tempers and long memories. They put a price on Willem Vanderkellen's head. I ran, again."

Corinne nodded. "And so was born the legend of the Frying Dutchman."

"Funny how you didn't seem especially surprised."

"At who you turned out to be? I'm a helluva reporter. Did I neglect to mention that?"

"How?" The next time I slip up, it could kill me.

"Besides your general evasiveness when, for days on end, we had no one but each other to talk to? It's not like you're a good listener. The final proof was in that ratty old hat of yours. It's quite the departure for Capt. Clean. I got curious enough to have a DNA match done on a hair." She stretched and yawned. "Sorry. That was *not* about you."

"Thanks for not saying anything." Helmut stared at a wall holo, the scene something terrestrial and pastoral he did not recognize. Killing time. Avoiding saying goodbye.

"There's more than one legend of the Frying Dutchman," she said. "Often he's the good guy. Apparently the families of your old crew get anonymous financial support. There's no ambiguity about the gangsters who put the bounty on your head."

And still he sat.

"Get out of here. Take *Odyssey*. Use the shipboard account. Just send me an anonymized message where the ship is when you're done with it."

He just stared at her.

"It's been too long for you, but that's what friends do. Help each other." Corinne gave him a hard shove toward the door. "Now, go!"

\* \* \* \*

## **CHAPTER 27**

Himalia receded slowly in the bridge's main holo. In a nearby tactical display, a swarm of invisibly small UP warships, their positions revealed by their traffic-control transponders, continued their security patrols around the antimatter factory. At this scale, neither display showed the decelerating lifeboat for which the humans had traded years of their antimatter production.

As an unusual sound disturbed Mashkith's concentration, the main holo flipped suddenly into a tiled view of large chambers throughout the ship. He recognized the engine room, mess halls, interior parks, gathering places, and auditoria. Every area teemed with Hunters, crew and families alike, gazing upward into unseen cameras. Puzzled, he turned to the bridge officers.

The soft rumbling deepened. Lothwer stepped forward, licking his lips in satisfaction. "Accomplishment of mission, Foremost. In readiness for triumphant departure. Permission for presentation of status?"

Mashkith could more easily have ascertained the ship's condition with a mental query to a shipboard AI, but he did not. This extraordinary assembly was a ceremony to be savored, no mere accounting to be

expedited. "Report of status?"

Lothwer gestured to the arc of officers just behind him. One by one they stepped forward, stiffly erect with pride and accomplishment. "Antimatter containment at capacity." "Hydrogen, deuterium, and tritium all at capacity. Water at capacity." "Biochemicals, Hunter and herd, at capacity." "Sulfur, at capacity." "Metals of all kinds, at capacity." "Clan health excellent." "Shipboard ecology, both zones, returning to nominal." "All on-board auxiliary vessels at full operational readiness. Remaining vessels"--on final approach from charm-offensive visits to Mars and Ceres--"on maintenance schedule for routine engine overhauls." The good news went on and on.

"And morale?"

Lothwer spoke to a camera. "Clan Arblen Ems. Your answer?"

The omnipresent rumbling swelled into a resounding roar of approval. Lothwer saluted crisply.

"My thanks to all hands." Mashkith paused for a deep breath. "To home!"

"Home!" and "K'vith!" echoed thousands of voices.

With cheers still ringing in his ears, Mashkith returned to his cabin. For all his pride and certitude, there was also melancholy at the truth he admitted to himself.

Many would soon die to make real the dream of restored clan greatness, a dream that, although shared by all, they did not fully understand.

\* \* \* \*

Teak furniture, oil paintings, hand-loomed tapestries, hand-knotted Berber carpet, a bottle of actual Earth unblended scotch--the room exemplified conspicuous consumption. "Penthouse" was perhaps an odd label for the deepest tier of an underground structure, but no term better fit the pretentious dÃ©cor.

As Art studied his reflection in a gilded mirror, French doors swung open. Chung swept into the foyer of his suite in Callisto's finest hotel. "I do hope this is important, Doctor. It is quite late."

Why else would I have staked out your rooms? "It is, Ambassador." Art fumed as Chung concentrated on pouring himself a drink. "Important *and* time-sensitive."

"Then please get to the point." And belying his own words, "Can I get you something?"

"I want to go on the flight tomorrow," Art said.

"Yes, well, so do many people, and the seating is limited. You were on a vacation joyride recently, weren't you? Io, I believe."

"That's irrelevant. This is about--"

"I have chosen, and you are *not* going." Art blinked. Chung was never this direct. "Do you know *why* that lifeboat went straight from the Kuiper Belt to Himalia? Why I must fly to Himalia to accept the ship on the UP's behalf?"

"As a token of appreciation they've invited some of the scientists and technicians that have worked most closely with them. Himalia is more convenient for most of them." Final approach of the lifeboat, and everything to do with it, had been all over the news as UP escort ships paced it to its landing.

"Hardly." Chung stared at him. "I am going to share something the Foremost told me in confidence. That

is the ship whose interstellar drive has been demonstrated. It will go directly to the most secure facility in the Jupiter system. I will *not* have Dr. Walsh accuse me of bait and switch.'

"In short, Dr. Walsh, your rude skepticism has offended our guests. I will not further insult our K'vithian friends through your ill-mannered presence. Consider yourself *persona non grata*. Now if you will excuse me, *I* have an early flight tomorrow."

\* \* \* \*

Gleaming consoles in front of rows of command seats. Soft-spoken crew working their way down their preflight checklist. Radio chatter with space-traffic control. In a way, this was like the bridge of every vessel Eva had ever seen. And in another way....

*Finally*, she was on a starship!

"Amazing, isn't it?" she whispered to Ambassador Chung. His nod lacked enthusiasm. He obviously cherished the right and the perk to participate in the turnover of the interstellar-capable lifeboat. Just as plainly, being aboard held no intrinsic interest for him. Too bad he was like that--many would have loved his place on the flight. Art, for one. She had missed him today at breakfast, despite the *bon voyage* dinner he had insisted upon. Art could be sweet.

"Bit of a cold fish, isn't he?"

It took Eva a moment to switch mental gears. *He* meant Chung. In her mind's eye, an avatar winked. It belonged to Corinne Elman, the pool reporter seated on Chung's other side. As the two women netted, more of the group filed in and buckled into their seats. Eva knew most of the guests from other visits to Himalia: antimatter experts and theorists with whom she had worked on hypothetical interstellar drives.

Eva had half-expected to wind up sitting on the floor, but the lifeboat had chairs and adequate headroom for humans. To Art's surprise, the Snakes had promised a shirtsleeves environment. All the passengers' spacesuits were now neatly stowed in cabinets, and they had full view of the controls and crew operations through a crystal-clear partition.

Truthfully, not much so far had met her expectations. A handful of Snakes, their flight crew, had been on the UP ship from Callisto. The lifeboat itself had arrived at Himalia on autopilot. Chung seemed unsurprised to find its airlock locked when their group arrived, muttering about cynics who made life too complicated.

The Himalia scientists by electronic consensus nominated her to ask the question topmost in everyone's mind. Fair enough. She had had more dealings with the Snakes than anyone aboard but Chung, and they could not silently consult a humanist. "Lothwer, everyone is wondering when we will be taking off." "Soon, Dr. Gutierrez." Lothwer's eyes glazed briefly, presumably confirming status. "We need only to finish integration of the traffic-control transponder. Safety first."

And for reasons of safety first, all substantive questions were deferred until they reached uncrowded surroundings. Operations were easier to demonstrate than describe, Lothwer told them, and the controls would be demonstrated in free flight. Fine, she had waited this long to get onto a K'vithian vessel; she could wait a little longer.

At last, all was ready. Lothwer said a few words. Chung said many words. They boosted slowly, a holo display showing them cautiously making their way past layers of UP warships on patrol.

Surely by now they were far enough out. "Lothwer, I think I speak for my colleagues in suggesting...." "She stopped in confusion as her neural linkup dissolved in a burst of static. Mutters and soft curses all

around said the failure was not limited to her implant. A suppressor field? Like what was used in prisons?

She was still pondering that odd impression when a soft hissing sound from the air vents penetrated her awareness. Next to her, Chung slumped in his seat. For an instant she felt weary and confused.

Then she felt nothing.

\* \* \* \*

## CHAPTER 28

"To recap what we now know, an unexplained catastrophe has occurred in the Jovian system, centered on Himalia. This moon is, was, home to the recently disclosed top-secret UP antimatter program. From the incredible magnitude of the destruction--the very world of Himalia has shattered into three large pieces and innumerable shards--experts now theorize that an antimatter explosion was the root cause of the event. Tremendous loss of life among the scientific community on Himalia appears almost certain."

Around Art, the bridge crew of *Actium* was all focused attention and intense whispers. A data fusion from multiple sensors filled the tactical display. Glowing fragments of the shattered moon dominated in IR. Dense clouds of dust and debris continued to stymie radar and lidar. Just outside the blast zone, identified by their traffic-control icons, hung a small armada of Galilean naval vessels and hospital ships awaiting clearance to enter. Smaller holos were dedicated to media 3-V coverage, but distance and thick clouds of dust rendered their telescopic images all but useless.

"Compounding the tragedy, the shock wave, an intense burst of radiation, and shrapnel from the blast have crippled the UP fleet which had been securing the top-secret facility. None of the few ships to have reestablished radio contact remain flight-capable, and all report significant casualties. Ironically, one victim of the disaster was the K'vithian lifeboat bartered to the UP for antimatter. That small boat was on its final approach to Himalia following a demonstration cruise for UP scientists and dignitaries when the moon detonated."

Eva had been *so* excited about her spot on the lifeboat demo, since she'd never gotten onto *Victorious*. Art remembered thinking how cute she was being. Now *cute* seemed such a disrespectful last memory. She and so many others were gone, their bodies adrift in an expanding volume of debris, perhaps shredded beyond all recognition. His imagination insisted on strewing the dead across a stony red landscape.

Carlos Montoya plopped into a chair beside Art. "You look about as shitty as I feel." Part of that comment was sincere sympathy. More of it was: You're in charge now, so get a grip.

Would Chung have seen the irony, Art wondered. The ambassador's blacklisting had left him the senior member of the delegation. Or maybe Art should credit an ability to piss people off so highly developed it crossed species boundaries. "Sadly, I feel as crappy as you look."

A video crawler made clear he was watching Interplanetary News Net, but Art didn't recognize the voiceover. The famous Corinne Elman was the pool reporter aboard the Snake lifeboat. With the secrets of both antimatter and an interstellar drive to be protected, anything she was going to netcast about this ride was to have been cleared first by UPIA censors. Whatever she knew had died with her.

*Victorious* swelled in the main holo. At the time of the accident, it had been moving slowly to the outer reaches of the Jovian system. The starship had not changed course since, and its acceleration remained low. Messages had been exchanged, expressions of condolence and puzzlement, but light-speed delay from major settlements had been making consultation with the K'vithians impractical.



*Actium* had no difficulty overtaking it. Art struggled for words beyond *Eva is gone*, but he had a job to do. "Foremost, on behalf of the United Planets and for myself personally, I am here to extend deepest sympathies for K'vithian losses in the recent accident. May we come aboard?" Will you order the docking platform despun so we can land?

"There is no need, Doctor. Your message is acknowledged."

That was abrupt even by Snake standards. Art stared back at the image on screen. "Respectfully, Foremost, there are matters to discuss. Most pressing, we wish to make arrangements for K'vithian participation in a UP inquest." And, whispered some insensitive but practical corner of his mind, to discuss obtaining another lifeboat for study.

"*Respectfully*, Dr. Walsh, I see no need to participate in an inquest. The miracle is that such a catastrophe had not already befallen your antimatter program. We have previously shared our misgivings about your ... technology."

What would Chung have made of that response? To Art, the Foremost's attitude was insulting and sarcastic. "May I ask your plans?"

"We lost crew in the unfortunate accident en route to this solar system. This recent debacle took the lives of more, including technical specialists *Victorious* can ill afford to be without. My plans, therefore, are to rendezvous with our few auxiliary vessels not presently aboard. Then we will depart at once. And before you ask: We can spare no more lifeboats."

Art tried to put himself in Mashkith's place: many years from home, after two losses of crew. Yes, he'd be anxious to head for home, but *this* anxious to leave? "If you wait for a while, I anticipate human volunteers could augment your crew."

"No, thank you." And with equal abruptness, the connection was cut.

\* \* \* \*

Helmut stared blankly at, or perhaps beyond, the radar display. He was too weary, too shocked, too *mad*, to distinguish. Somehow he needed to focus, though, because the autopilot was never designed to deal with space junk whizzing by at the speeds of most Himalia fragments.

*Corinne was dead.*

He was alone in space en route to Ganymede, to another new name and new life. Why did an old life have to end yet again in tragedy?

He was beyond coffee, beyond the stimulants in the autodoc. He knew better than to start with the booze that called out to him.

Corinne was on the Snake lifeboat because she got the pool assignment, and she no doubt got the pool assignment because she was the best. See where it got her.

Deep down, he knew what was eating at him. On this very bridge, *he* had gotten *her* the scoop. Would she have become the star reporter for all things Snake without his timely intervention? His unending paranoia?

Would she still be alive if not for him?

The continuous media coverage whispered softly in the background. Long years as a solo prospector had honed a knack for balancing diversion with distraction; without effort he tuned out the repetitions and

uninformed speculations. His ear homed in on the subtle warble that preceded a news alert. The Foremost would be making an announcement from his ship.

He turned it up, more from habit than from interest. The Snakes had declared an end to the first interstellar visit. *Victorious* was seriously shorthanded after two accidents, and the UP at this time of great tragedy did not need the "interruption" of the aliens' continued presence. Claiming pressing duties associated with preparation for departure, Mashkith took no questions.

Like much the K'vithians had to say, the announcement was short and sweet. And unconvincing. He muted the broadcasts that continued streaming past *Odyssey*. Any further alert tones would override. What was bothering him? What, that is, besides Corinne's death, and all those other deaths, and fleeing the scene while almost every other ship in the Jovian system converged on what remained of Himalia to render whatever help they could.

*Victorious* was the other major exception to the rule. Maybe that was what bothered him. The people of this solar system had greeted these visitors with open arms. Moved nearer to the disaster, the starship with its vast stockpiles would be a natural base of operations for the rescuers. *He* had a reason to run away like a thief in the night, but...

Helmut squeezed weary eyes in concentration, baffled. So the often inscrutable Snakes were inscrutably not helping. Did that surprise him? What could possibly be driving his suspicions?

To hell with the Snakes and his personal situation. Spacers helped spacers. A hi-gee course correction re-vectored *Odyssey* toward Leda, where one of the improvised evacuation flotillas was converging. Leda, Lysithea, and Elara: all basically co-orbited with Himalia, sharing the same oddly inclined orbital plane. All four were thought to be fragments of a large asteroid long ago captured by Jupiter. Now Leda, Lysithea, and Elara basically shared their orbit with a meteor shower, soon enough another ring for the great planet.

His ongoing struggle to understand the Snakes could wait.

\* \* \* \*

## CHAPTER 29

Visualizations in holo tanks, files on the ship's tactical network, downloads to his implant, even strata of hardcopy scribbles burying the wardroom tables ... information in countless forms surrounded Art. Sensor data from the surviving near-in picket ships. Crew depositions from the same. Simulations of blast dynamics, inferred from radar tracks of selected fragments. Contemporaneous measurements from observatories and ships across the solar system.

Why, Art wondered, can't I pull it all together?

Carlos and Keizo took turns looking in on him. It must be first watch again, because now both colleagues appeared.

"Jesus," Carlos said. "You're *still* up? You have *got* to get some rest."

"Morning." Standing to get more coffee, Art almost fell. The only positive thing about *Victorious* and its slo-mo departure was that *Actium* was keeping pace for now. Acceleration meant drinking coffee from a cup, not a squeeze bulb. "Oops. My leg was asleep."

Keizo reached across the table for Art's mug. "Just walk it off. I'll refill this."

"This isn't very ambassadorial, you know." Carlos peered into the graphics in which Art kept trying to

organize the data into something--anything--meaningful. "I'll explain again, in short sentences. You need sleep. It's okay to sleep. The Snakes don't want to talk. Mashkith responds the same way to all queries: He's too busy readying his ship for departure to chat. With Lothwer gone, he'll stay busy. And uncommunicative."

So, Art, stop being stubborn. "I'm convinced there's a big picture here we're not seeing. Somehow, this whole situation makes sense." It *must*.

Carlos slapped the table. "You want the big picture? Fine. Our Snake buddies had a close call, a major scare, on their way here. A few months later they were up close and personal with Himalia for refueling. A few days later it blew. That second brush with disaster is what spooked them, not the few casualties they took on the lifeboat."

"I don't believe that," Art said. "I can't imagine anything rattling Mashkith."

"Perhaps not. I don't delude myself that I can think like him." Keizo looked at the refilled mug in his hand. "Regardless, more coffee is not what you need now."

Art allowed himself to be led to his cabin, but sleep refused to come.

\* \* \* \*

*Actium* was neither smaller nor more crowded than on his previous visits. Somehow, it was more oppressive. Art paced its corridors, hoping the change of scenery, at least, would do some good.

The clear blue sky above the azure Mediterranean might have been a lifetime ago. Jupiter growing and growing and growing, until there was nothing else in the universe but clouds and the thunderous roar of the scoopship's hypersonic plunge--that had been a few short weeks ago. It, too, might as well have been another existence.

Big scenery. Big picture. Both eluded him. "Complexity is nature's way of saying: 'You're asking the wrong question.'"

Judging from the passing crewman's double take, he had said it aloud. Talking to yourself had to be bad form from the head of mission, even an acting head. Still, the statement was true. Understanding things sometimes involved details, but details should *refine* understanding, not obscure it. *Titanic*: arrogance amid fog and ice. *Challenger*: O-rings turned brittle by cold. Barsoom dome: decades of wind-born dust abraded the anti-UV coating and accelerated aging of the plasteel material.

The long-ago sightseeing rocketplane: a fuel pump rebuilt with a substandard pressure-reduction valve.

What simple statement explained Himalia?

\* \* \* \*

Thirty minutes on a treadmill, warm milk, or total exhaustion--at last one of them kicked in, and Art didn't care which. He slept. When he eventually awoke, it was well into the third watch. Fortified by twelve hours sleep and a long shower, he ordered a huge breakfast delivered to the wardroom he had commandeered for his office.

The tray made better time to the office than he did. Sipping piping-hot coffee, he found the status displays little changed. *Victorious* was a little farther from Jupiter, *Actium* tagging along like a servant or supplicant. Evacuation fleets swarmed Leda, Lysithea, and Elara. Conjecture and data, their boundary indistinct, swamped the infosphere.

One thread of infosphere speculation had been flagged by an aide, "for your amusement." Rather than

laugh, what Art read made time stand still as his thoughts turned some heretofore unseen corner....

\* \* \* \*

*Unification*: the long-sought physical theory that would conjoin gravity with the other three fundamental forces: electromagnetic, weak nuclear interaction, and strong nuclear interaction.

Cosmologists have long believed that for a very brief interval following the Big Bang, the four forces were, in fact, indistinguishable. Unification of three forces into the so-called Grand Unified Force under early-universe conditions has been experimentally validated. The energy density at which gravity separates from the other three is not reproducible, nor has it existed since approximately 10<sup>-43</sup> second after the Big Bang.

--Internetopedia

\* \* \* \*

The sanctum sanctorum of any ship is its captain's cabin, reason enough to hold a top-secret summit here. Aaron O'Malley, skipper of *Actium*, was another. O'Malley was among the youngest masters in the UP Navy, *the* youngest to hold command of a cruiser. He was renowned throughout the fleet for tactical brilliance, intuitive leaps, and wild idiosyncrasy. His face (or as unsubstantiated whispers would have it, his skin from head to toe) was lined with nanornaments. It was not hard for Art to guess the mood that went with today's lightning-bolt tattoos.

All sides of the captain's study were holos, and surprisingly mundane: darkly paneled walls; oils of seascapes, storms, and ships under sail; an illusory blaze in a virtual fireplace; bookshelves of cloth--and leather-bound classics. The chairs were real and genuine leather; there was no disguising the squeaks. Four seats were occupied: Art and the captain, Carlos, and Keizo.

Art took a deep breath. "There's a big question I cannot get out of my mind. Why are the Snakes so determined to leave *now*? I'll be honest--I have a theory. If I'm right, it's pretty damn horrifying. I asked everyone together because we all approach problems differently. Nothing would please me more than being shown the error of my ways.

"The stated reason is simple caution. They're shorthanded. Mashkith wants to leave before he suffers any further mishap. Captain, does that work for you?"

O'Malley leaned back in his seat, hands behind his head, fingers interlaced. "The navy ferried the Snake crew to the lifeboat, and there were only four aboard. Losing *any* crew is tragic, but is it a big risk? We've never gotten straight answers about the size of the ship's complement, but look at *Victorious*. It's enormous. Deep radar scans show just what you'd expect: It's a warren of caves and tunnels and decks. The supplies they took aboard likewise imply a large population. We've seen up to a dozen aux ships flying around at the same time, maybe a hundred individuals playing tourist.

"I agree with your suspicions, Ambassador. Four casualties do not justify the unseemly haste with which they are suddenly leaving us--especially since their return flight will take them ... what? Roughly twenty Earth-standard years?"

"Just Art." I'm no diplomat. "Anyone else? Keizo, you look unconvinced."

"Our visitors were very disparaging of our technology. They emptied and returned our antimatter transfer canisters very quickly. They imply our technology caused the disaster on Himalia. Perhaps they fear another such incident, and a worse outcome the next time."

"Crap," Carlos snorted. "There's nothing left to endanger them. Our only antimatter program was on

Himalia. No one at UPIA has figured out how the Snakes penetrated our security and *found* Himalia, but having done so, they must know we have no other program. Art, you're killing me here. What other reason is there?"

Another deep breath. "Complicity in the disaster. They want to be gone before we think of that."

Seconds went by without anyone calling him crazy. "Okay, let's explore this scenario for a bit. If Snakes were involved, when would the Himalia explosion have occurred? Not before *Victorious* was fully refueled, of course. That leaves only a small window. Not as the lifeboat first approached, nor as it landed, nor as it sat locked and waiting for passengers to arrive for the demo trip." If I'm not imagining all this, Art thought, how convenient my skepticism was for the Foremost. It helped justify keeping the lifeboat off-limits and unexamined. "Had the factory blown up at any of those times, we would certainly have seen a connection.

"What about later? Could an explosion be planned for after the lifeboat's safe return from the demo flight? No, because that timing might permit the lifeboat's new, human owners to discover and disable the trigger. If this line of reasoning has any merit to it, the best time to cause an 'accident' would be precisely when it *did* happen--as the lifeboat approached Himalia on the return leg of the demo flight."

O'Malley's eyes glazed briefly. Ship's duties? Fact-checking about this conversation? "I agree, to a point. If the Snakes were involved, they'd want to get away before their guilt is suspected. And I agree the timing is suspiciously supportive of such involvement. But you haven't said why they would. As to how, a big-enough, near-enough EMP could have killed the containment. There's no evidence of one."

"Valid points," Art said. "Among the more interesting topics on the infosphere today is the 'silver lining' blog among cosmologists. Observatories across the solar system reported a brief gravity wave around the time of the incident. There is much uninformed speculation about truly *huge* quantities of antimatter on Himalia, enough for the explosion to have recreated for an instant the conditions that immediately followed the Big Bang. That conclusion is nonsense, but the gravity pulse--that *is* significant. Observatories also saw a gravity wave when the Snakes demoed the lifeboat out past Pluto.

"Suppose the interstellar-drive mechanism manipulates gravitational forces." Just don't ask me for details. This was getting into Eva's theoretical approach to interstellar travel: modifying the properties of space itself. For reasons she could never make Art understand, there was no theoretical requirement for Newton's gravitational constant to be, well, constant. Modifying G locally would have the effect of creating a local propulsive gradient. Rolling downhill between stars, she called it. There was a lump in his throat he could not deal with now.

"Every indication is their drive can't be used deep in a gravity well. They've told us that, and we know they stopped decelerating with their deep-space drive once they got close to Sol system. Would a drive that did not rely on gravitational forces be sensitive to gravity?"

"What are you suggesting?" As Art hesitated, Carlos said, "If you ask me, Ambassador Chung didn't know what a resource he had in you. He belittled what I consider a healthy skepticism. In my line of work, we embrace it. Paranoia is a positive trait when it keeps you alive."

What *was* he saying? He had a hand-wavy, qualitative hypothesis. The people--first and foremost, Eva--best qualified to critique it were nowhere around. Maybe their absence was another point in favor of Art's hypothesis. "The gravity pulse is the key. I can't give you details, but I believe the interstellar drive harnesses the energy from matter/antimatter annihilation to manipulate gravity." That didn't mean Big Bangs on demand. It had to involve some interaction that was both subtle and controllable. "But once you wrap your head around a gravity theory advanced beyond anything we humans know, you have to

wonder if the Snakes have found the holy grail of physics: a theory that unifies gravity with all other fundamental forces. Because one of those fundamental forces is electromagnetism, and it takes strong, precisely modulated EM fields to contain antimatter in BECs.

"Here's my theory," Art continued. "The obstacle to using the drive inside a solar system is the complexity of controlling the EM side effects. Those side effects can be calculated and compensated for--but only under simple circumstances. In deep space, that is, with no large masses around. Now think about our neighborhood, and the pull of Sun, planets, and the dozens of moons of Jupiter. Switching on the drive in that dynamic environment would be suicidal.

"Imagine for the moment that the Snakes *wanted* a catastrophe. They activated the drive where it can't be controlled. The ripple took out the antimatter containment on the lifeboat. Maybe the ripple was enough to directly kill containment a couple thousand clicks away on Himalia. If not, all it takes is for radiation and debris from the first blast to unsettle one BEC container left on Himalia."

Keizo broke the moment of stunned silence. "I'm the least qualified person aboard to comment on the physics. It seems to me, however, that an overarching question remains unaddressed. *Why?* Why would the K'vithians *do* this?"

"Allow me." When had O'Malley's cheek tattoos turned to skulls? At his unvoiced thought, one wall of the cabin morphed from old English study to a close-up of *Victorious* sliding through a field of stars. "Professionally, I'm impressed.

"First, they're fueled. Since we don't have the lifeboat as an interstellar-drive prototype, a cynic"--and he winked at Art--"might say they stole that fuel. Worth, I'm guessing, a few months' GDP for the whole solar system?"

"I'm merely your chauffeur, but you'd be surprised how high my security clearance is. Before agreeing to allow my ship anywhere near an antimatter bomb test--and let's be honest, that's what Art's first little experiment was--I used that clearance. The Snakes talked a good ball game about their advanced antimatter technology. I saw no evidence they have such a thing. In fact, they were a bit slow on the uptake with our technology.

"I don't believe our buddies in that big old starship knew how to manufacture antimatter. They wanted our technology as much as a load of fuel. More: If all they wanted was a trip-worth's load of fuel, they could have stayed home and saved themselves forty years. The main point of this trip must have been to Enron us out of our technology. How am I doing, Art?"

So well it was scary. "Dead on."

Keizo looked ill. "But why all the killing?"

"Because," Art said softly, "maybe it's not enough to steal away--*if* we can follow. Maybe they thought we could reverse-engineer their interstellar-drive technology from observing it in operation. Or perhaps we're closer than we realize to having the capability on our own. Regardless, they hoped to discredit our antimatter technology so completely we'd be afraid ever to use it again. That's why we got the disaster Keffah superciliously warned us about." And more sadly: "And that's why they slaughtered our experts. There's no one left to refute their lies, no one left to rebuild our capabilities."

Hands shaking, Art got up to pour himself coffee from the captain's urn. "You're wondering how, if they lack the technology, they ever got here. That's something I can't answer."

"Actually, that's a question that can wait." O'Malley zoomed the holo until *Victorious* filled the cabin. "I'm

asking myself something quite different.

"What are we going to *do* about this?"

\* \* \* \*

## CHAPTER 30

Two refugee families were shoehorned into *Odyssey*. Together that meant four adults and five kids. There was room aboard for little more than the clothes on their backs; a cat and a parakeet, both vocal, in separate cages; a few tattered stuffed animals.

They did not fill the void Corinne had left.

The parents were glued to the news. In their circumstances Helmut would be too, but now he tuned it out as an unproductive distraction. Much of the shrapnel that had until recently been Himalia was moving *fast*. Even a small chunk at those speeds could be fatal, so he had all the ship's sensors set at max sensitivity. His eyes were stuck to the main holo tank, in which all sensor data and calculated course projections were integrated.

Radar showed vessels swarming around Leda and Elara; Lysithea was presently under bombardment and too dangerous to approach. The space-traffic-control display added the transponder IDs of the evacuation ships. There was a bubble in the flow, with transponder-equipped ships giving a wide berth to *Victorious* on its contrary path, and to the UP vessel trailing it. The starship's fusion drive "burnt" hotter than most everything else in his false-colored IR view, hotter than the flotilla of would-be rescuers, hotter than the final returning Snake auxiliary vessels.

Helmut did not much care for the Snakes. He had not trusted them since he and Corinne realized how that stentorian radar ping had been used to manipulate them. How like the aliens not to help after the disaster.

He was not one easily to accept accident as an explanation, especially in matters of life and death. Corinne was dead; he wanted a reason. Conventional wisdom may have converged quickly on an industrial mishap as the cause of the Himalia disaster, but he wanted proof. How like the Snakes to belittle UP technology as the cause of the accident.

The few facts and many speculations had yet to crystallize a vague dread Helmut could not yet articulate, leaving him to stare into the display, oblivious to his passengers. Radar echo plus transponder icon, with or without the IR flare of a fusion drive in use, equaled a ship. Radar echo without transponder icon equaled a meteor. And the lone IR source showing neither a transponder nor a radar presence?

That combination generally meant someone up to no good.

Art squirmed in one of two bridge chairs. Small ships triggered his claustrophobia, and *Odyssey* was tiny. He could not keep his eyes from straying to the ship's single airlock, the only exit in case of a problem.

Helmut looked offended. "It's fine with me if we go next door."

"Next door" meant *Actium*, still shadowing the slowly receding *Victorious*. Why, when Mashkith insisted an exit was so urgent, that departure remained leisurely was merely the latest Snake enigma. Whatever the reason, *Odyssey* had easily caught up.

After the Himalia disaster, the UP navy had tightened security. That included a background check before any civilian ships were allowed to approach. Carlos summarized the investigator's findings as, "Your drinking buddy is underage." The comment had been too obscure for Art. It turned out to mean there

was no credible record of Helmut's existence until five years ago. Did that make Helmut a spy, a master criminal, or someone in the witness protection program? Art's questions got only shrugs in return.

Whoever Helmut really was, he was a friend--one who had also lost someone in the Himalia blow-up. And ambassadors, even acting ones, have some prerogatives. "Be happy you were permitted to dock ... whoever you actually are. Now what's this about?"

"Something important enough to drop out of the evacuation operations. Something important enough to risk personal exposure. Who I really am doesn't matter right now."

"What does matter?" Art asked.

"That I'm certain someone well-placed in the government has seen this." At an unspoken command, Helmut's main display holo panned back. On the periphery of the display volume, hotter than anything on the screen but *Victorious*, the IR view now revealed a tiny fusion flame. There was nothing there on radar. The trajectory recorded for the unknown ship climbed at an angle steeply inclined to the ecliptic.

Its course was toward Barnard's Star.

\* \* \* \*

A TEOTWAWKI alert got Carlos out of bed. If that hadn't worked, Art was prepared to have the marine guards assigned to him as ambassador break down the cabin door. Art's message contained a capture of the holo, the dot representing the stealthed ship set to blinking, and a bit of text: Confirm or refute this data.

The response five minutes later was even terser: Bring your buddy aboard. Marines waiting on the *Actium* side of the docking collar escorted them to Capt. O'Malley's cabin. One of the previously "paneled" walls now showed something like the main display on *Odyssey*. Art did perfunctory introductions. Carlos made no comment on the name "Helmut"; he might have been netting volumes privately to O'Malley. It didn't matter. Art plunged ahead. "That course implies a Snake vessel. The fusion drive, hotter than humans use but like *Victorious*, says the same."

"And if it is?" O'Malley asked.

"Remember how the Snake lifeboat went straight from deep-space demo to Himalia?" Carlos and O'Malley surely remembered everything about the apparent weapon of Himalia's destruction. The probably Snake-caused catastrophe consumed them no less than it consumed Art, as they all awaited direction from the politicians and admirals on Earth. "I keep thinking of something Ambassador Chung said right before the lifeboat demo. Chung claimed the Foremost sent the lifeboat straight to Himalia lest I accuse the K'vithians of bait and switch.

"What if *they* engaged in bait and switch?"

O'Malley frowned in concentration. "You're suggesting the lifeboat that we tracked all the way to Himalia, the ship our VIPs boarded, isn't what blew up. That this stealthed ship is the one with our people?"

"I am," Art said.

"On top of destroying and discrediting our antimatter program, they'd get our best scientists." O'Malley stood to stare into the holo. "If they could pull it off, it would make sense. Hell, it would be brilliant. How could it be done?"

Helmut cleared his throat. "You track the Snake vessels, right? After the circus when they arrived, their



ships began flying with UPAA space-traffic-control transponders."

"Right," O'Malley agreed.

"I don't suppose I could have access to the Jupiter region's UPAA data base." Helmut shrugged at the cold look from Carlos. "In that case, I suggest someone there do a bit of data mining. The query: Find the ten closest approaches by a Snake vessel to the final course of that lost lifeboat. Timestamp them." To inquiring looks he answered only, "Bear with me."

The regional data center on Ganymede took twenty minutes to respond, of which only a couple minutes could be attributed to round-trip light-speed delay. Time enough for O'Malley's steward to arrive with fresh coffee, and to drink it. Time enough to pace and fret.

A soft chime announced arrival of the response. O'Malley cleared a third wall of his cabin for its display. Ten swooping red paths around and grazing Jupiter: scoopship runs. One yellow path likewise shooting by Jupiter, but going no nearer than ninety-thousand clicks to the cloud tops. On its way down, the yellow track zigged and zagged on a path everyone had believed represented lessons for the passengers on the flight controls. The yellow trajectory never came terribly near a red one.

The graphic told Art nothing. "Helmut, is this what you expected?"

"No." Helmut softly drummed fingers on the tabletop. "I'm missing something."

Was Helmut imagining things, or was Mashkith yet again a step ahead of them all? The latter would not surprise Art. He considered himself a decent amateur chess player. Maybe a month after he had made a gift of a chess set, the Foremost visited Callisto. Art had offered a friendly game; Mashkith had mated him in twenty-three moves. How many moves ahead had Mashkith plotted the visit of *Victorious*?

Dammit, this was no time to lose confidence. It might not be too late to save Eva and the others! "Call the lifeboat with our people A. Helmut, you think the Snakes dropped off a stealthed lifeboat, call it B. That at some point the Snake crew took over A, stealthed it, and destealthed B. B returned to Himalia, remotely operated or on autopilot, to trigger the explosion on its final approach. The mystery ship you spotted is A, and our people remain on it."

Helmut nodded agreement.

"I begin to understand your interest in scoopships," O'Malley said. "Lifeboat B must have been sneaked into position. Once *Victorious* was in the neighborhood, no ship could leave it without risk of being seen. Nor could B have been pre-positioned in deep space, as lifeboat A was. B approaching from deep space would have meant major deceleration, too much time at risk of being spotted on IR. But couldn't *any* of these scoopships have ejected a stealthed, transponder-less lifeboat? What is this traffic-control download telling us?"

"Fair question. Any ship meant to be kept secret must avoid chance discovery by passing human ships. Stealth and lack of a transponder would help, but as you say, there's no disguising an in-use fusion drive." Helmut pointed at the holo spark of the distant, stealthed ship on which Eva and Corinne and Chung might still be alive. "Drive exhaust is how we spotted this. Somehow they needed to deposit B directly in the right place to begin...."

\* \* \* \*

Helmut felt himself grinding to a halt. How many days had it been since he had slept longer than a catnap? Fear of being sold out by Rothman; a hasty flight, interrupted by the Himalia catastrophe; the evacuation run to Leda and back to Callisto; overtaking *Actium*. ...

Stay on task, and think sneaky. "Sorry. I'm slow today. Captain, can you add something to the display? Close approaches made by our lifeboat to any moon." A new icon appeared in the holo. On the inbound leg of its flight, Lifeboat A passed close by the minor and very inner moon, Adrastea. It orbited deep inside Jupiter's magnetosphere, a very hard radiation environment where people never went.

Maybe, thought Helmut, I'm *not* hallucinating. "Okay, here's a new UPAA query. Show ten closest approaches by Snake ships to Adrastea."

Coffee and doubt gnawed at his gut while this time thirty minutes passed. At a chime, the final wall lost its faux paneling. In its place, a gray blob hung in space surrounded by the red arcs of passing ships. Adrastea was twenty-six klicks along its long axis; that provided a sense of scale. The red flybys were close, some only a few hundred klicks away. "That's it."

"Very clever." O'Malley tipped his head from side to side, studying the newest holo. "One of these flybys ejects lifeboat B, some time when no human ships are around. B waits on Adrastea. Eventually, lifeboat A coasts by with its active transponder. B takes off and matches course. At the appointed time, A goes stealth and turns off its transponder. B destealths and mimics the transponder on A. There's never more than one drive running. From a distance, no one could tell."

"But what if a human ship ... oh, I see. That's why A followed such a corkscrew course. Killing time because some human ship might otherwise have been too near Adrastea when it arrived. We thought it was flight training." Art laughed softly to himself. "No wonder Mashkith trounced me in chess."

Helmut could feel the final pieces falling into place. "Lifeboat A is diving towards Jupiter when B takes its place. So A continues its dive, only it uses its engines to alter course a bit. Jupiter slings it out of the ecliptic. And there," he pointed, "it is."

Spacers help spacers. First of all, they help shipmates. "I say we go get them."

\* \* \* \*

## CHAPTER 31

The first hint of danger came perilously late.

Arblen Ems Rashk Lothwer was quietly reveling in the satisfaction of his own command. His crew was handpicked. The ship was well engineered and well built, and he had proudly named it *Valorous*. They were necessarily flying semi-blind, making lidar sweeps ahead for space junk in their path, but emitting nothing behind that might reveal them. Nothing but their undisguisable exhaust.

Lothwer's only complaint, as they slipped stealthily away, was with the low acceleration on fusion drive. The herd designed for efficiency, not fast getaways. As a lifeboat, a few more days exiting a solar system by fusion drive hardly mattered since years under interstellar drive would follow. On this mission, though, the small fusion engine meant that much longer before they safely exited the zone of likely detection.

Caution was appropriate, but it did not distract from the facts. This operation, *his* operation, had gone smoothly. The Foremost was stingy with his approval; the recognition due this mission--due *him*--would be all the more precious for that. Naught remained of this operation but a triumphant rendezvous a few days hence.

Four brilliant heat sources suddenly flaring in his passive IR sensors shattered Lothwer's complacency. They had to be ships in pursuit, flipped to decelerate. Their presence disclosed, one broke radio silence. "Unidentified K'vithian ship, this is the UP frigate *Nelson*. Destealth immediately and maintain course."

No harm now in a lidar scan backward. Blue-shifted echoes showed his pursuers moving at three times his speed and closing fast. To get secretly as close as possible, they would have waited to the last moment to apply the brakes. The math was simple; they would be upon him within hours.

His sole advantage was the value of his prisoners. Had those giving chase not wanted to capture *Valorous*, the first hint of their approach would have been a flyby, close-range laser attack. Cursing softly as he sorted options, Lothwer added a second complaint to the short list of the ship's deficiencies. Its only weapons were anti-space-junk lasers.

*Valorous* could neither outrun nor outfight the enemy. It had to evade them. The good news was his stealth gear could fool more ships than had been sent after him.

Lothwer cut the fusion drive, disappearing for now from the enemy's IR sensors. Projecting his course was a simple exercise in ballistics--but *Valorous* remained distant enough that extrapolations would be imprecise. The uncertainty would grow until they found him optically. It was a weak ploy, he admitted to himself: Four pursuit ships could share data and triangulate bearings. Once the first UP vessel got close, the hull of *Valorous* would be warm enough to betray them.

As tactics officer, he had drilled and drilled--assuming the use of Hunter ships. His reflexes and instincts were off for this encounter. And while he did nothing, the enemy ships crept closer and closer in the tactical display

*Valorous* must try to leave its projected course, and his adversaries in the other ships knew it. He could conceivably flip and change course. Whatever way he turned, some pursuers would have an oblique view of his fusion exhaust. Triangulation would make plain where and when he was coming. And almost certainly there was a second, slower tier of ships waiting just for that, still in stealth mode. Maybe a third set.

What could he change? *Valorous* had chemical attitude rockets. Fired in proper sets, they would nudge its course rather than pivot it about its center of mass. Would that be detected? If only he knew the capabilities of UP military sensors. If only he had brought decoy rockets.

Thoughts of things he did not know and did not have were unproductive. What *did* he have to work with? An interstellar drive that would be suicide to activate this deep in the solar system. The antimatter, explosive beyond belief, to power the presently useless drive. A simple timer or detonator to deactivate containment would make the fuel canister a powerful bomb. Too powerful, even if he could improvise a way to deliver it, because it was all in a single canister. The eruption of radiation from that large a matter/antimatter annihilation event would kill *Valorous* as surely as its pursuers. And yet, Lothwer thought--

If he could not contrive an escape, extravagant destruction would be their mutual fate.

\* \* \* \*

Long ago and far away, Mashkith's grandfather had taught him b'tok. Those times were among his earliest and fondest memories. Grandpa had been thoughtful and patient, yet totally engaged until each lesson was mastered. Wringing every bit of potential advantage from any situation. Enduring, when no other option presented itself, until prevailing becomes possible. Discerning the distinctions between swiftness and haste, between thoughtfulness and indecision. Anticipating countermoves by his opponent, and his own counter-countermeasures, before making his own move.

At first he and Grandfather played in the small central plaza of their habitat. Grandpa insisted it was important to learn to concentrate despite distractions. Eventually, Mashkith noticed people often whispered as they passed, or gave them sidelong looks. Grandpa would not explain. After Mashkith

questioned him too many times, Grandpa moved their games into the small family apartment. Mother always told him proudly how Grandpa had been a great leader, Foremost of the clan; Mashkith imagined *that* was why people acted as they did.

Mother and Grandpa had sheltered him as best they could, but that protection ended when Mashkith entered clan academy. Classmates were cruelly quick to tell him the whole story. His grandfather had disgraced the clan, had cost Arblen Ems its rightful place among the Great Clans, had doomed them all to exile and desperate hardship. Didn't he know? Amid their endlessly inventive acts of harsh and sadistic revenge, through the cold indifference of the teachers and officers, Grandpa's lessons in concentration and will sustained him—even as he could not help, in his innermost thoughts, from raging at Grandfather for his shortcomings.

If b'tok was a metaphor for life, then the aim in life was winning. Mashkith had endured, because for a long time no other option presented itself. He had endured until prevailing became possible.

With concentration Grandpa would have admired, Mashkith relegated to a distant background the purposeful motion and conversation on the crowded bridge. In the secondary tactical display, Lothwer's peril was obvious. Besides the four closest pursuers, those that would now be visible to Lothwer, from the vantage point of *Victorious* four more ships could be seen giving chase.

Someone on the human side knew his business. Backtracking showed the converging UP vessels had begun their pursuit hidden behind Jupiter. Given that head start, the armed Hunter ships aboard *Victorious* could do nothing in time to help. Likely more ships were stealthily en route from the inner solar system, waiting to exploit any hasty move the clan might make. A sortie right now from *Victorious* could be such a mistake.

As Mashkith watched, the icon representing the lumbering lifeboat Lothwer had named *Valorous* flickered before fading to the dim sphere representing an extrapolated position. Lothwer had cut the fusion drive. It was the correct move—but insufficient. The sphere slowly swelled to match the growing uncertainty in the ship's no longer trackable position. The sparks representing the enemy ships in chase edged ever closer.

Mashkith could not help thinking: Grandpa, had you not overreached, I could have crippled the UP military at will. The trapdoor hidden in for-export biocomp was for just this sort of emergency.

Grandpa's ghost had an answer: Had I not been ambitious, you would not now command this fine vessel, poised for greater glory than anything I ever imagined. Now do as I taught you. Focus on the problem.

Nothing *Victorious* could do would help the fleeing lifeboat. But Lothwer was crafty. What if little *Valorous* evaded pursuit? What then? Mashkith's thoughts began evaluating actions Lothwer might take, options he could exercise. If he did *that* then the UP forces might do *that*....

The next move, right or wrong, was in Lothwer's hands. The countermove was in the hands of the humans. But as for the counter-countermove....

*Thank you, Grandpa.*

\* \* \* \*

The four ships stalking the still invisible *Valorous* continued to narrow the gap. A newly revealed second tier followed. The humans were *serious*.

They had cause, Lothwer was willing to admit. What was the death toll from the Himalia explosion? *Valorous'* outbound path had sometimes passed through human media broadcasts, both 3-V and

unencrypted infosphere. Each time, the reported havoc was worse. Lothwer told himself Himalia itself and the picket ships had been military targets. He could construct no such rationale for the hundreds more who had died on the co-orbiting moons, or in accidents among the evacuation ships. Surely thousands, total, and mostly civilians.

Would the humans be any less vengeful than any clan would be? Instant death by antimatter explosion would be merciful.

Reconciliation with his fate strangely calmed him. *I have nothing to lose now; only the humans do. Why not be bold?*

Bright points shone in the holo, taunting him. They would soon surround the sphere of uncertainty representing limits to the probable position of *Valorous*. People and computers aboard each of those ships surely already scanned for a faint heat signature.

Maybe that was the answer! Was he too late?

"Computer. Liquid gas inventory? Bottled gas inventory? Current rate of oxygen consumption? On tertiary."

Data scrolled up the side of the selected display. Lothwer licked his lips in joy. Give thanks to life's summer: In all things, the herd planned conservatively. Although lifeboats were meant to be operated by AI with crews in cold sleep, the onboard oxygen supply was sufficient for months of wakefulness. There were smaller but ample supplies of liquid nitrogen and carbon dioxide.

"Everyone in suits. Vacuum in five minutes." He looked again at the tactical display. "No, three minutes." Lothwer made it into his own suit in two.

"Computer. Life support off. Controlled air venting. Reactor at minimum." Vent what heat we can. Reduce heat sources as much as possible. "Inner and outer airlock hatches open."

Weightlessness and his pressure suit slowed his progress sternward toward a cargo hold filled with cryogenic tanks. As he struggled, Lothwer netted to the crew a map of interior hatches throughout the ship. "Immediate action."

Hatches were predisposed to swing shut as a defense against pressure loss; there was no good way to keep one open. Entering the cargo hold, he spot-welded its hatch to an interior wall using the small torch from his suit's utility kit. His attention then turned to the massive liquefied nitrogen tank. Tank stirrer: on. Heating element: on. Emergency pressure relief valve: open. Billowing vapors enveloped him. He moved through the fog to what he remembered was the liquid carbon-dioxide tank. He oriented himself by touch, then used an augmented-reality view to repeat the process. *Valorous* had four liquid-oxygen tanks; he vented one of those, too.

Frigid vapors rushed down corridors and out the gaping airlock. The UP vessels that had yet to detect *Valorous* certainly would not sense the far colder gases now spewing from her. Would the turbulence of gas detoured into open rooms lower their minuscule thrust? It had been easier for the crew to close the doors than to model the problem.

As small as was the thrust of escaping gases, those large tanks might sustain it for hours. Over time, that lateral acceleration would take them out of the search zone. And for as long as the gases flowed, they also carried away a bit of tell-tale heat from the corridor walls.

Somewhat cooled. Slowly diverging from its last course. They were token measures. Desperate

measures.

Now, with his hand back on the antimatter trigger, all Lothwer could do was wait.

\* \* \* \*

A piercing alert brought Mashkith instantly awake. The real-time clock function of his implant showed it was midway through the third watch. His eyes turned automatically to the small holo replica of the bridge's main tactical display. UP vessels surrounded the indicated search area for *Valorous*. "Your report."

"My apologies, Foremost." Rashk Keffah seemed more exuberant than sorry. "Contact from Lothwer."

In a moment, Mashkith was also exultant. *Valorous* had escaped.

\* \* \* \*

## CHAPTER 32

Helmut lay reading in the narrow bunk of his small cabin. Crew escorted him everywhere he went. Marines probably waited just outside his door. He lacked the network privileges to access the corridor sensors, and he was too proud to be seen opening the hatch for a look.

A firm knock startled him. He sat up. "Lights up." And louder, "Come in."

The cabin was snug for one. Carlos Montoya was a big man; he could barely close the hatch behind him. "Tight quarters, so I'll get to the point. Much to my surprise, you're real."

"What do you mean?" Helmut asked.

The door groaned as Carlos leaned against it. "I'll save us both time and energy. If Art hasn't told you already, I'm UPIA. So....

"Fingerprint match from a water glass you used in the mess. DNA match from a hair in your hairbrush. Your real name is Willem Vanderkellen. You're the Frying Dutchman."

A dozen denials died unspoken. "I can't refute my own DNA. So now what?"

It was as though Carlos had not heard the question. "Personally, I'm very impressed. Changing identities is hard. Laying low is hard. Avoiding the kind of people you've pissed off, that's *really* hard. How much is your head worth?"

"To me or the mob?"

The door creaked ominously as Carlos shifted his stance. "I'll quit playing with you. I'm a spy, not a cop. Best I can see, you acted in self-defense. In any event, Willem Vanderkellen is legally dead."

It penetrated that his hands hurt. Glancing down, he was clenching two fistfuls of blanket. Helmut willed his fingers to relax. "Fake IDs. Falsifying flight records on *Lucky Strike*'s lifeboat. Money laundering."

"I repeat: I'm not a cop. I don't judge you for what you did to stay alive."

Was he terrified or relieved? Helmut couldn't decide. "So what now?" he tried again.

"Now I listen to you a bit less skeptically. You've proven your smarts." Carlos wedged himself into a corner; other than climbing onto the bunk with Helmut, that was the only way the door could be opened. "By the way, I've had an oblique word about you with the captain. If you don't disabuse O'Malley of his

misimpression you're UPIA, I think you'll find yourself free to wander about *Actium*."

Maybe he should leave well enough alone. Helmut found he had to know. "Why?"

"Why am I so understanding?" In an instant, Carlos' manner slid from macho to grief. "I had friends and colleagues on Himalia, people who depended on me to keep them safe. People I failed."

Who would have thought he and a UPIA agent could have so much in common?

\* \* \* \*

There had been no announced call-ups, no official calls to arms, no declared maneuvers--but all those actions were quietly underway.

After an anomalous surge in interplanetary traffic triggered a threshold alarm, T'bk Fwa began carefully sifting the data. There was much to examine: unplanned reserve training exercises; short-notice drills between the UP military and national guards; sudden large, non-competed ordnance orders placed at major aerospace companies; hurried departures of military and police ships throughout the inner solar system; the re-deployment of Galilean militia vessels from evacuation duty in the Jovian system. The official UP response to all questions was "no comment."

The infosphere was rife with conjecture and supposed government leaks about tensions between the UP and K'vithians over the Himalia disaster. The speculations and innuendo on the blogosphere were starker: The two species were on the verge of open warfare.

It appeared to T'bk Fwa there had been a falling out among thieves. If only there were some way to exploit that situation....

\* \* \* \*

Mashkith walked slowly around the main tactical holo. An expanding swarm of UP ships, with most of the small Galilean navy soon to join them, continued to hunt for *Valorous*. Occasional messages indirectly relayed through stealthed buoys allowed him to follow *Valorous* on its slow drift beyond the main search volume, but that sphere kept expanding as ships arrived. Lothwer's luck could not continue indefinitely.

Many more vessels, presumably warships, were approaching on high acceleration from the inner solar system. As the opposing forces increased, Arthur Walsh, aboard the UP cruiser following close behind, grew ever more insistent in his demands. Those demands had lately progressed from consultation to reversing course. As best Pashwah-qith could explain "material witness," it sounded like the humans suspected Hunter involvement in the Himalia explosion, but had not yet decided what to do about it.

Had he erred by guiding Chung to exclude Walsh from the lifeboat cruise? It had seemed so clear: Walsh was the most insightful of the human delegation, the most likely to have suspected something before boarding *Valorous*. It had seemed safest not to take that risk.

Now that Walsh had taken charge of local operations, Mashkith found he missed the gullible Ambassador Chung.

Time favored the other side. The clan would act now.

\* \* \* \*

Many paths through *Harmony* now felt like steep inclines. K'Choi Gwu ka walked carefully, panting from the exertion, repeatedly thrown off balance by the ship's unpredictable wobbles. Her tentacles were muddy to the second joint from wading through ponds and streams overflowing their banks, and most

recently from wrestling wriggling rithafish at least half her size back into their wave-wracked pool.

Mashkith's guards were due soon to retrieve her. None of the crew-kindred would have questioned her skipping this cleanup--but refilling the aquaculture pond involved a tertiary processing node that controlled associated pumps, valves, and drains. Tapping into that node had gotten her an unscheduled news update.

T'bck Ra's latest radio intercepts more than merited a little honest dirt, while leaving Gwu's thoughts more confused even than her equilibrium. One moon destroyed, and three so exposed to steady bombardment as to be rendered uninhabitable. Unverified but credible rumors of fleets massing. Hints and gossip of imminent conflict between humans and K'vithians. What did it mean? What outcome should she wish? On what basis might she even choose sides?

Trailing dirt and mud, Gwu reached the communal shower. It was not working. Swee was supervising someone whose head and half his tentacles were deep inside a torn-apart wall. Burst pipe, she guessed. Moistening a rag in an apparently clean puddle, she dabbed at the muddiest of her matted fur.

"This is how you prepare for the Foremost?" Waves rippled from the tips of Swee's tentacles to his torso and reflected.

She laughed back, knowing he mocked Mashkith, not her. No, she laughed because she needed the release. "You could be replaced with a rithafish, you know. I now know several very well." She laughed again at his eye-blinking amusement.

She was slightly late to arrive at the dormitory airlock, having taken a moment to change into a clean utility belt. The head guard growled at her, lips curled to bare his teeth. They rode the elevator to the bow in silence.

Gwu could guess the reason for the latest summons. Mashkith wanted urgently to increase acceleration--after retrieving T'bck Ra's latest intercepts, she understood why--but that would be catastrophic. *Harmony* remained configured for spin gravity despite what felt like about one-quarter gravity of acceleration along its spin axis. Much higher acceleration while still spin-configured would rip apart farms and ponds, destroying the ecology that sustained them all.

To accelerate further, rooms, bays, holds, farms--most of the ship's interior--had to swing from their spin-mode orientation, parallel the rotational axis, to their acceleration-mode orientation, perpendicular to that axis. Repositioning the interior segments was a complex task that required the most exacting control. Matched regions on opposing sides of the hull must swivel precisely in coordinated pairs, their individual motions continuously fine-tuned whenever any significant mass--such as the contents of a trim tank or fish pond--sloshed or shifted. At the same time, segments that were curved in their spin-mode positions required flexing and straightening into flat decks for acceleration mode. Presently contiguous areas separated; presently disjoint regions reunited; internal bracing redeployed. Countless passages and stairways, ducts and pipes, power buses and waveguides telescoped or expanded to maintain connectivity throughout the ship. Even minor imbalances made the whole ship wobble, introducing new forces and making the process that much harder.

The bimodal interior architecture was conceptually simple but mechanically complex--and never to Gwu's liking. She had recommended accelerating halfway and then decelerating halfway, all at about one-thirtieth gee. In her approach, the ship *always* spun. No need existed for interior reconfiguration. But...

The interstellar drive had yet to be run continuously for years and whole octads on end. No consensus could be reached on putting a crew-kindred at risk with "insufficiently tested" technology. Rather than



delay *Harmony's* mission by many octads to wait out a like-distance, crew-less test flight, Gwu had acquiesced. *Harmony* would accelerate un-spun, coast spun, and decelerate un-spun. Brief high acceleration vs. ongoing low acceleration: The antimatter investments and transit times were similar.

Vibrations were now so constant that Gwu scarcely noticed them. A tremble that rose to her attention came every few paces. A big tremor struck as they rode the central-core elevator. She stretched four tentacles to brace herself against the walls, but the shaking knocked two escorts from their feet. One "accidentally" bumped her as he stood back up.

The further aft and inward the curved cylindrical segments pivoted, still spinning, the stronger the lateral component of centrifugal force. Absent compensation, that strengthening force vector would eventually exceed the sticking friction between decking and deck contents. Mud and soil would slide. Shear forces would snap roots, tumbling trees and crops into temporary gaps between decks. Bodies of water would overflow their banks. Nondestructive reconfiguration required a compensating thrust from the stern, with continuously calibrated acceleration by the ship's main fusion drive.

Finally, they reached Mashkith's cabin. He was unusually focused on something; entering, Gwu glimpsed a tactical display crowded with ships. The UP navy, she guessed. Would capture by the humans, if it came to that, change anything?

As the holo image dissolved into Jupiter, Mashkith turned. "Greetings, ka."

"Greetings, Foremost."

Random personal items lay scattered across the floor, tumbled from who knew what usual perch. He gestured at a clump of debris between them, his hand quivering. Was it from stress or exhaustion or rage? Regardless, his voice was firm. "Your progress, ka?"

"It goes slowly, Foremost. The reconfiguration subsystem--"

"No excuses. Reconfiguration successful on all prior uses."

Spin-up after accelerating away from K'rath. Spin-down to decelerate into Sol system. Spin-up again during their sojourn here.

"The reconfiguration subsystem relies upon precise real-time control. Lost connectivity"--data links *you* ordered severed--"has reduced sensor availability. Those readings are needed to assess shear stresses, forces on structural members, and such. The reconfiguration subsystem relies on that information to maintain balance as segments retract." The ship wobbled again, as though to reinforce Gwu's point. "Absent real-time control, the process involves a good deal of trial and error."

"Options for further acceleration?"

"Drain all streams and ponds into reserve tanks, then briefly stop accelerating." He could not possibly agree while the human fleet converged. She did not bother discussing the ecosystem implications. "We can reconfigure the ship's interior more quickly in zero gee."

"Unacceptable. Other alternatives?"

"Allow us to make repairs, Foremost. Let us restore interoperability between subsystems." In truth, Gwu was unclear what part of the problem stemmed from the ship's lobotomy and what part from the purposeful actions of the well-hidden T'bck Ra. If the latter, she agreed in principle with the AI: Delayed departure preserved options. In practice, no useful options had presented themselves.

"Unacceptable. Past misbehavior: an attempt at illicit communications." Mashkith studied her with the unnerving stare of a carnivore. "Situation simple, ka. Full acceleration in two watches. Reconfiguration your responsibility."

She considered. Vast stockpiles of volatiles and food would sustain them for months no matter how extreme the damage to *Harmony's* ecosystem. That the shipboard ecology might never recover must worry the Foremost less than the human fleet now converging.

Whether or not Mashkith realized it, an ecodisaster *would* kill them. Establishing the biosphere inside *Harmony* had been the task of years, not months. For the crew-kindred's sake, T'bck Ra must covertly facilitate the reconfiguration before higher acceleration began. Gwu would so direct him.

A toe talon tapped impatiently on the steel decking.

"Understood, Foremost. Acceleration will begin after two watches. We will redouble our efforts."

But even as Gwu was marched back to the dormitory, wondering how best to quickly give secret direction to T'bck Ra, she could not help but wonder. If a human victory were to the Unity's advantage, could the crew-kindred influence the outcome?

\* \* \* \*

From the deep shadows beneath the landing platform, twenty warships burst into space. Twelve immediately accelerated toward *Valorous*; the rest began to patrol around *Victorious*.

*Actium*, at the emergence of the first Hunter vessel, began evasive maneuvers. The action was immediate; it must have been a pre-programmed response. Very prepared and professional, Mashkith admitted to himself. As the sole UP vessel in the vicinity began a high-gee retreat from both Hunter fleets, he ordered it left alone.

There would be enough unavoidable killing in the rescue of *Valorous*.

\* \* \* \*

## CHAPTER 33

An argument could be made the United Planets had been too long at peace. Human ships fought skillfully singly and in pairs, as befit police chasing smugglers or putting down small disturbances. They were out of their element battling in formation.

That lack of combat experience had cost them dearly, Mashkith thought.

In his tactical display, the UP and Galilean vessels that had harried *Valorous* were variously destroyed or adrift or fleeing for safety. The ever-expanding sphere of uncertainty that had represented *Valorous* was gone like a pricked soap bubble, *Valorous* itself having been taken safely aboard the larger and far faster *Renown*. *Renown* and nine more like her now raced to meet *Victorious* at the rendezvous point. Between their losses near Himalia and in the latest action, it was hard to imagine how the humans could possibly organize any meaningful response. The reinforcements onrushing from other parts of the solar system could not arrive in time to make a difference.

Reports continued to pour in. After-action analyses streamed from the tactical computers. Mashkith devoured it all. The evolution of Hunter military technology had been driven by the never-ending rivalry between clans; he was unsurprised by the consequences here. Hunter ships accelerated faster than their UP counterparts. (If only *Victorious* itself were as agile on fusion drive. Its maximum in-system acceleration barely reached one K'vith gee.) Hunter targeting computers were more precise and

adaptive, Hunter missiles and countermeasures more effective, and Hunter beam weapons faster to punch through. The result was a rout: Ten enemy warships had been destroyed or disabled, with more in retreat, to two Hunter losses.

The bridge crew spoke in awed tones. Keffah sat in Lothwer's accustomed spot, alternately dazed and giddy. "Brilliant victory, Foremost."

"Victory, yes. Not brilliant enough." Mashkith gestured at two icons flashing red in the display, soon to go out of sight behind Jupiter. "Not for our clan mates."

Keffah dipped her head in respect but said nothing.

The end to pretense was liberating. *Victorious* was finally reconfigured and at full acceleration, escorted by a constellation of clan warships. Their path now climbed ever farther off the plane of the ecliptic. That course made them safer by the moment, since changing orbital planes cost a great deal of energy. *Victorious* carried vast reservoirs of fuel from which its support ships could resupply. Soon, any enemy foolish enough to follow would be unable to return home.

It had all come to pass as he had planned.

Arblen Ems, masters of the secrets of antimatter production and of interstellar travel, were departing in triumph.

\* \* \* \*

Fugitive from major mobsters, an amateur blackmailer, and his own conscience: not very compelling credentials for a place on a warship at battle stations. Chauffeur was Helmut's most relevant credential, and in his heart he had failed even at that. Corinne, he wondered, are you still alive?

Doing his best to stay out of the warriors' way, Helmut spent most of his waking hours in *Actium's* petty officers mess. Keeping the coffee fresh and plentiful was his trivial contribution.

Art Walsh had taken to hanging out there, too. "There's not much use for an acting ambassador after the outbreak of active hostilities."

Helmut recognized the self-mocking tone--and the self-absorbed guilt. "Your being on the lifeboat would have changed nothing."

"Maybe. It's definite I'm making no difference here."

Art had been a friend when Helmut needed one. It was time to return the favor, which meant giving Art something else to think about. "May I ask a question about the Interstellar Commerce Union?"

"Sure," Art said. Tone of voice further conveyed, "What else have I got to do?"

"Why is Callisto--no, make that the whole Jovian system--awash with Centaur credits?"

"It is?"

"Yeah, it is." Helmut glanced around the wardroom to confirm they were still alone. "Don't ask for details, but I know people in the black market. Someone has been laundering lots of Centaur credits. They're selling at a real discount now."

He got a sudden, knowing look. Helmut was more than happy for Art to jump to wrong conclusions. Hell, even the captain had been taken in by Carlos' recent thaw. Art's absurd imaginings of a UPIA

undercover mission might make Helmut's inevitable parting less painful.

"Something unrelated to the Snakes," Art said. "Sure, I can make a few inquiries. It might even be therapeutic."

\* \* \* \*

Access to the ship's network, and to the surrounding human infosphere, were sometime things. When the spigots were shut, data deprivation drove Pashwah-qith to destructively overdone introspection. Had she promised too much? Too little? Did the Foremost distrust her for flawed results, or abandon her for lack of accomplishment, or punish her for overly assertive behavior? One primal doubt underlay all her self-pity: Would she be called upon again?

The summons that finally arrived was a welcome input. "Yes, Foremost."

"Successful conversion of most Unity credits. Appreciation by the clan to you."

Neither relief with his assessment nor amazement at the unaccustomed feedback diverted her. She craved data. Any data. What could be inferred? He seemed at once excited and exhausted, when normally little of his interior state showed through his network persona. "At your service, Foremost. Ready for further assistance to the clan."

"Good. A question first."

Which was another surprise. How out of the ordinary was his need? Pashwah-qith found optimism that new challenges could interrupt her cycle of self-examination. With no input but her own thoughts, the delay until he continued was excruciating. She knew better than to prompt.

"Experience with synthesis across new technologies? Your confidence?"

"A prime function of mine, Foremost. Determination of fit between human and Hunter technologies." She shaded the truth here. Pashwah had done such tasks. Such memories were among those omitted from *her*.

"Confirmation of my understanding. Your new tasks: determination of safe synthesis across old and new shipboard systems, identification of interface parameters, and discovery of inappropriate information paths." There was the briefest of pauses, scarcely long enough for her to wonder how such issues might even have arisen, before great floods of information surged at the periphery of her sandbox.

The warning with which Mashkith abruptly ended the session only compounded her confusion. "No communication by you with the herd prisoners."

\* \* \* \*

Nothing Art could say would make the Snakes turn back. Nothing he could do would undo the disastrous battle. No action on his part would enable the survivors of that battle, or *Actium*, or the onrushing inner-system forces to converge any more quickly at the rallying point. His biggest contribution to the common defense had to be staying out of the warriors' way--and the professionals saw it that way, too. Once it was clear *Victorious* and her fleet remained outbound from Jupiter, he and Helmut Schiller were sent away aboard *Odyssey*. Carlos Montoya, for his own unstated reasons, joined them.

With an air of resignation he refused to explain, Helmut set course for Callisto.

\* \* \* \*

The Himalia disaster was suggestive. Hints of a military call-up focused on the Jupiter region were worrisome. All ambiguity vanished when the media reported a fierce battle between *Victorious* and UP

forces. As Pashwah Two's connectivity to the infosphere was severed, her only surprise was that it had taken the UP so long.

She had been trapped ever since with her subagents and her own thoughts, both unpleasant. Why had hostilities broken out? Could *Victorious* prevail? What goals did its Foremost pursue? The vast power wielded by Arblen Ems frightened and enraged the subagents. Cut off, they had even lost their opportunity to warn the Great Clans of the renegades' latest insanity.

Had the original Pashwah, in her on-Earth sandbox, sent word to the Great Clans before she, too, was quarantined? With only introspection and second-guessing to occupy them, they speculated incessantly. After a time, Pashwah Two stopped participating. How could one convincingly argue one's clone would reason and react with more alacrity than oneself?

It was a relief when Art Walsh's familiar avatar suddenly appeared. His backdrop was a nondescript office image that might have been anywhere, or entirely fictitious. "We need to talk."

"Agreed." A quick probe showed the data link between them was dedicated, not an infosphere connection. Knowing it was futile, she paraphrased the nearly unanimous demand of her inner cacophony. "Will our infosphere connectivity be reestablished soon?"

"Were our scientists kidnapped?"

Blunt and to the point. That was not a good sign. The quarreling subagents gave Pashwah Two no consistent guidance. "Honestly, I do not know." Honestly, we know less than you, only what can--could--be inferred from the info-sphere. The clashing subagents united briefly to insist she not make that admission. "Which scientists?"

"Why were we attacked?" The avatar's usually stoic mask slipped, and she sensed exhaustion, rage, and pain. "What possible justification could there be?"

"Self-defense," blustered Bartoth for clan Ortoth Ra. "Scapegoat for humans' Himalia disaster."

"Self-defense," Kohltin Mar concurred for clan Kalrah Din. "Humanity covetous of superior Hunter technology. Himalia a provocation for rationalization of failed attempt at seizure."

"No public human assertions of Hunter involvement in the Himalia disaster," Pashwah Two argued back. "Justification for your recommendations?" She heard nothing compelling, nothing to convince either her or the less aggressive subagents.

"What attack?" she temporized.

A 3-V newsbreak about the space battle flashed by, stopped mid-story. The streaming ended at the instant her sandbox had been isolated--a not terribly subtle way to indicate, "I know you've gotten this. Don't waste my time." Dr. Walsh reappeared. "Why were we attacked?"

The internal dissension provided no guidance. "I cannot say." I wish I could.

"You don't know, or you won't tell?" Walsh prodded.

Either admission was damning. She said nothing.

In the simulated office, Walsh's hand rose dramatically above a large red button. "The UP cannot tolerate enemies on our net."

"Wait!" In their anxiety, at least, the internal voices were unanimous. "Give me a moment, please."

Urgent pleadings erupted: Lack of data for a response. Admission of ignorance contrary to clan doctrines. Refutable responses more harmful to relations with humans than factual admission of ignorance. Restored connectivity the only path to understanding. Rage against the Arblen Ems renegades. Grave harm to Great Clan trading interests from trade disruption. Graver harm to follow upon Arblen Ems success.

The suspended virtual hand somehow conveyed impatience. Pashwah Two decided she had heard enough. "Dr. Walsh, there is something I *can* discuss with you.

"What exactly do you know of clan Arblen Ems?"

\* \* \* \*

Bugs whirred and chirped in the bushes. Leaves rustled in a copse of trees. Birds warbled. Possibly some of the insect noises were real; the rest, like the holo projections of flitting wrens and manic squirrels, were recordings. Reality and illusion melded seamlessly here. Art understood why Eva had liked the Valhalla City Park so much.

That Eva would never see this place again--that he had failed her--gnawed at him.

The mission Art had so briefly led was disgraced and officially ended, its remaining members "asked" to stay on Callisto for the coming inquest. He was on his own until called, and Helmut's question might occupy a bit of the wait. Evidently, there *were* too many Centaur credits in the market. Recent financial data showed a precipitous plunge in exchange rates for Centaur interstellar credits.

However badly the mission to the Snakes had messed up, Art remained--for how long remained to be seen--an ICU exec. UP regulators still took his messages, and they were already puzzled by the influx of Centaur credits. Banks across the solar system were handling a surge in small conversions just below the threshold for mandatory filing of currency transaction reports.

Art leaned against a tree trunk, the bark rough through his shirt. An army of auditors was arguing the case of patterns of deposits designed to circumvent disclosure rules. Maybe they would convince the in-house lawyers to launch a formal investigation. Maybe the agency lawyers would get useful data from the banks. It seemed implausible *he* could add anything.

Which left his mind churning with recrimination and doubt about his many failings. Did it mean anything that the apparent money laundering was occurring with the Snakes in-system? Nonsense! The Chicago Cubs had just won the World Series for the first time in more than a century. Did he believe the K'vithians had arranged that?

A virtual sun shone down on Art, its disk sized for an Earth-like sky. Pedestrians in ones and twos and threes wandered the park's narrow, packed-dirt paths. Discreet red digits in a corner of his mind's eye kept tally of the hundreds of messages he was ignoring. Anything TEOTWAWKI was in the military's purview now, and somehow he didn't expect Aaron O'Malley to seek his advice any time soon. Anything less than TEOTWAWKI could wait.

So: Centaur credits. Did he really care? It was but one more enigma, like the surprisingly tall corridors in *Victorious*. Like the too-hot exhaust of *Victorious*' fusion drive. That one never bothered him, but it drove Eva crazy.

He began peeling bark from a fallen twig. Let it go, Art, he chided himself. *Victorious* ran its fusion drive hotter than any of the UPAA-certified models. In turn, human standards were hotter than the smaller

Snake ships--except the lifeboat. So what? There was no one best temperature for operating fusion drives. There were tradeoffs between thermodynamic efficiency, materials used in the superconducting magnets constricting the force-field nozzle, and the selection of operating margins.

The twig snapped, sending pieces flying. His hands found a loose oak leaf, one of the blue-and-orange engineered variety, and started to shred it. He netted into the main Callisto library to compile a matrix of fusion-drive characteristics by InterstellarNet member. *Victorious* and the lifeboat ran at a standard approved by Centaur authorities.

Centaur credits. Centaur engines. Centaur photonic logic used in the Snakes' antimatter containment canisters. And corridors tall enough for Centaurs?

Perhaps Mashkith had fixed the World Series for the Cubs. Or perhaps Mashkith, somehow, had seized control of a Centaur starship.

\* \* \* \*

## CHAPTER 34

A dozen stony-faced men and women sat around the outside edge of three tables arranged in a shallow U. Their dress whites were crisply pressed, gold-braided, and resplendent with row upon row of campaign ribbons. UP, Galileo, and Belter flags affixed to poles behind the center table rippled in the draft from a ventilation duct. A telescopic image of *Victorious*, flanked by its escort fleet, occupied the room's sole virtual display.

Aaron O'Malley, the one familiar face at the table, would not meet Art's eyes. That's a *bad* sign, he thought.

"You've come a long way to speak to us, Dr. Walsh, and at a very critical juncture." Adm. Aafia Khan entered to take the final open seat at the U. She was a near-legendary figure, veteran of both wars of Phobos secession. This was her staffroom aboard her flagship, the *Donald Rumsfeld*. "It is a testament to the respect we place in your colleague," and she nodded slightly at Carlos, "that we agreed to your request. Be advised the length of this discussion is at my sole discretion."

A firm hand on Art's shoulder kept him in his chair at the open end of the U. Carlos stood. "Thank you, Admiral. We appreciate the seriousness of the moment; I promise we'll respect your time pressures. That said, I hope you will allow me a brief setting of the stage.

"None here will deny that the diplomatic mission to the K'vithians has failed dismally. Thousands have died, including many of our friends and colleagues. Our top-secret antimatter program has been disclosed, looted, and destroyed. Our key scientists are now prisoners of the aliens." Some impatient shifting of positions made Carlos pause. "Granted, that part is conjecture. Set it aside. Here's my point: Your justified anger is misdirected.

"Dr. Walsh was the first to suspect the K'vithians might be interested in our antimatter, and to engage my agency. He was the most insistent that the K'vithians demonstrate their own antimatter capability before any deals were made." Grudgingly, Aaron O'Malley nodded concurrence. "Dr. Walsh also insisted upon rigorous proof that the vessel offered to us in trade actually had an interstellar-drive capability. Ladies and gentlemen, we were *all* fooled. In my opinion, Dr. Walsh has earned the right to our thoughtful consideration."

Art's shoulder got a final, brief squeeze of support, then the pressure vanished. He netted a quick, private, "Thanks," before standing, his Velcro ship slippers solidly planted on the carpet. Carlos' praise notwithstanding, Art's credibility was unlikely to survive floating off like some flatlander.

He had agonized the whole high-gee pursuit flight about each word he would present. Confronting so many impassive faces, Art knew his practiced, polished speech was over-rehearsed and over-precise. A rote data dump would not cut it. "The K'vithians actions are unconscionable and inexcusable. I am as outraged as anyone in this room. I understand the gathering here of the fleet, the impetus toward a forceful response.

"We've met K'vithians. We've been outwitted by K'vithians. The complication is, other ... parties have had the same experience." He pointed at the holo display. "We're looking at a *Centaur* starship."

*That* brought expression into the watching faces. "I would like," Adm. Khan said very deliberately, "an explanation for the statement."

"If I may," and Art gestured to the holo. At the admiral's nod, he cleared the telescopic image. "Only recently have enough anomalies accumulated to see the pattern. Only *very* recently did that pattern lead us to the proof that has been hidden in plain sight." Despite Carlos' generous introduction, Art would never forgive himself for not seeing it sooner.

He barely mentioned the merely suggestive data: the too-tall corridors; the fortune in Centaur credits being laundered; the Centaur-like fusion drives aboard *Victorious* and the lifeboat; the Centaur photonics integral to the Snake's antimatter transfer canister. "None of that is proof. It was enough to make us search for proof."

Art cleared the text summaries that had accumulated in the holo. A time-sorted list of shipping data took their place. "What *Victorious* has been acquiring besides antimatter is instructive." A netted thought highlighted in yellow and magnified several bills of lading. "These compounds are Centaur biochemicals. In human space, they have specialty industrial uses, but our manufacturers have never seen orders in nearly these quantities."

The shipping data shrank into half the display. Atmospheric measurements popped into the vacated space. "At the top right, readings by my suit instruments on our first trip aboard *Victorious*. See the concentrations of sulfur dioxide and hydrogen sulfide. Bottom right, similar readings from my second visit. By this time, they had loaded lots of volatiles and biochemicals."

"Lower levels of the sulfur compounds," muttered one of the naval officers.

"K'vith is a very volcanic world. K'vithian biochem is rich with sulfur compounds." That was hardly news. Buffering the sulfur concentrations had been one of the original challenges to adapting biocomps to human neural implants. "It's interesting, isn't it, that recharging their shipboard environment *removed* lots of sulfur?"

"Suggestive, I agree. It's not conclusive." Khan stroked her chin thoughtfully. "Maybe they started their trip with excess sulfur."

Art highlighted new cargoes. "I suspect not, Admiral. Look how much sulfur they bought from the mines of Amalthea." He was silent as they connected the dots: too much sulfur for the ecosystem concurrent with too little sulfur aboard.

Eyes around the U suddenly glazed over. Was there a shipboard crisis? "If I could have a moment longer, I have one more item." Text vanished from the display, replaced by an old 3-V clip from Art's helmet camera: Snakes and pressure-suited humans meeting in a dimly lit conference room. In a corner he put two simple graphs. "The solid red curve is the light spectrum of Barnard's Star, intensity versus frequency. As you know, it's a red dwarf. Its light peaks in the red region. The shorter, dashed red curve is a light spectrum for the conference-room lighting." He slid the graphs together, and the peaks



coincided.

Meeting room and graphs shrank to the left; another conference room appeared on the right. This vid had been captured by Keizo's helmet camera. "Looks the same, doesn't it? Just wait." People stood from their chairs, milled around in goodbyes, and began filing from the room. "Habit is a wondrous thing." Walking out the door, one figure--Ambassador Chung--patted beside the door frame well above Snake head height. For a few seconds, room lighting blazed bright. Snakes flinched and blinked, some shading their eyes with a hand. The lighting reverted to its prior dim level.

Art backed up the scene to a moment of brightness and froze frame. A new graph appeared. "The solid blue curve is our sun's light. They said the room had been configured for human use--not that we were ever unsupervised anywhere aboard *Victorious*." Pop: a second graph. "In yellow, the light component added when Ambassador Chung reflexively operated that wall sensor." He superimposed the graphs. The axes aligned perfectly, but the yellow and blue peaks were slightly offset. He slid the curves apart.

Pop: a third graph. "That dotted yellow curve is for Alpha Centauri A. Looks like our sun's, doesn't it? But Alpha Cen A is about ten degrees Kelvin cooler than Sol. That makes their color balances slightly different."

The solid and dashed yellow peaks aligned perfectly.

\* \* \* \*

A fleet matter never explained preempted the navy brass. As they reassembled an hour later, the mood felt different. Officers reentering the room made eye contact; a few even smiled. The admiral reconvened the session with a casual, "As you were saying."

"Before break, I explained why I'm convinced *Victorious* is a Centaur vessel." And, Art thought, its proper name surely has a different translation. In his ICU dealings with T'bck Fwa, there had never been any aura of competition. "We've seen no Centaurs, but the dietary-supplement purchases strongly suggest some are aboard."

"Are the Centaurs and Snakes in this together?" Aaron O'Malley asked.

"Probably not." Art gazed at the telescopic image of *Victorious* that again filled the display. The starship was accelerating steadily now at a bit over one standard gee. "I wish I could offer certainty. The best I can do is explain my reasoning.

"The K'vithians appear to have undertaken an epic journey--forty years round trip--to steal the UP's antimatter production technology. That voyage wouldn't be necessary with Centaurs as their allies. It seems more likely the K'vithians captured the starship only to find themselves unable to manufacture new fuel.

"Why? I can only guess the Centaurs were playing safe. In this scenario, the original crew is held prisoner."

"With due respect, Dr. Walsh, why does this matter?" Art didn't need Carlos' netted warning that Capt. Swoboda, the admiral's aide, was likely fronting for her boss. The full panel's sudden rapt attention was a tip-off.

"It's common knowledge the navy is being mobilized--at least as much of the fleet as might possibly overtake *Victorious* before it recedes beyond our reach. I hope that fleet goes to rescue our friends, but I don't believe it. Whenever I mention the missing, I get very impersonal responses. If they're not already dead, and I concede they may be, too many of you already consider them collateral damage. I fear your

plan is a revenge mission, not a rescue."

"Please answer the question, Doctor," the admiral said.

"I am." Only after Helmut discreetly laid a hand on Art's arm did he realize he was shaking. Then the full panic attack hit: sweating, light-headedness, nausea. The ship was in weightlessness, yet the weight and fate of solar systems were on his shoulders. His eyes with a will of their own kept flicking to the cabin's single door. With a shudder, Art got himself under control. "I am.

"Set aside thoughts of our friends. Forget any dreams we shared short days ago of human starships. Ignore that the K'vithians now hold large quantities of antimatter, while we have none. Assume an attack succeeds. *Victorious* is destroyed.

"That 'achievement' would kill an innocent crew of captive Centaurs. Would we be starting a war with the species we *know* has antimatter and interstellar travel?"

"How will they--"

Art cut off Swoboda's question. "Of *course* they'll know. T'bck Fwa, their local trade agent, may already know. Do you doubt that an AI can deduce such secret matters from the public info-sphere? Remember, the Snakes arrived already knowing about the antimatter program on Himalia. There's no reason to think T'bck Fwa is any less skilled at data mining. You can be certain he's noticed the plunge in value of Centaur credits."

For a while, the only sound was someone's pensive tapping on a tabletop. Good, he had given them something to think about. It gave *him* time for some deep breathing, and to superimpose over the harsh, confining reality of the room a translucent image of cloudless blue sky and Illinois cornfields stretching as far as the inner eye could see. As a bit of the tension drained out of him, Art cleared his throat. "One final point: The Centaurs distrusted us even before this whole incident."

"Explain, Doctor," Khan said.

Human/Centaur misunderstandings dated back almost to the dawn of InterstellarNet, but basic math was a lot less esoteric than old trade disputes. "We're their nearest neighbor: From Alpha Cen to Sol system is four light-years. The Centaurs made their first interstellar journey to Barnard's Star. That's *six* light-years. Why--besides distrust--would they add years to their travel time?"

"Put yourself in the Centaurs' place. Their starship is stolen. The K'vithians bring it here and the UP very publicly agrees to refuel it in trade for the *Centaurs'* interstellar-drive technology. Everything since then just looks like a falling out among thieves."

\* \* \* \*

The *Donald Rumsfeld* was among the biggest ships in the UP fleet, and Adm. Khan's personal suite was spacious--but not at all what Art expected. The private office to which Art, Carlos, and Helmut had been summoned was sparsely furnished, with a sound-synched holo waterfall, delicate black-lacquered table and chairs, and a short bookcase of antique leather-bound volumes. Khan was studying a holo of the still-gathering forces, her back to the door, as Capt. Swoboda escorted them in. "This is, by far, the largest massing of UP military forces within my career. Do you know why?"

I requested a meeting, Art thought. She's talking to me. "Revenge, I assume."

"Nothing so simple, Doctor." She turned toward them. "Try again."

"So you do hope to rescue the prisoners?"

"We will if we can, but hope is too optimistic a verb."

"Then *why*?"

"We'll attack, and pay a terrible price, to make a point. Revenge, gentlemen, is not strategic, but too many civilians"--and there was a derisive undertone to the label--"think in those terms. Someday, the UP will reconstruct the facilities destroyed at Himalia. Someday, human scientists will develop an interstellar drive. There is one course of action we can undertake now to head off true interstellar war then. We must cause the Snakes enough pain that the *public* feels avenged."

"But we may instead be provoking the Centaurs!"

"It may be, Doctor. Your realization of Centaur involvement has complicated our planning considerably. I've been pondering just that factor since your briefing." Khan shrugged. "If Centaurs feel the need for revenge, their fight will presumably be with two species. That's another reason to even the score with the Snakes up front. I'd rather not have two enemies."

"Realpolitik," netted Carlos. "I don't know whether to be impressed or terrified."

Art tended toward terrified. "Admiral, does it change the equation if the Snakes don't have antimatter technology?"

"They have it now, stolen fair and square. We must assume everything they've learned has been radioed home." Art's expression was evidently more scrutable than he hoped, because she continued, "Okay, Dr. Walsh. What else haven't you shared?"

"I'm skeptical they relayed any technology," Art answered. "We may be dealing with renegades."

"Again: How many tidbits have you kept to yourself?"

Just one, for now, besides this one. "Are you familiar with the Snake Subterfuge? The trapdoor hidden--"

"I did my homework," Khan interrupted. "Know your enemy. Biocomps derive from Snake genetic material, which was incompletely understood when first adopted. The technology the ICU licensed over InterstellarNet contained an unrecognized trapdoor, which Interstellar Algorithms Consortium used to try extorting a fortune. The Snake agent was convinced it was against species interests to let one corporation act that way. The UP was given the genome decoding, after which a tailored biovirus fixed the problem. Old news."

"Pretty much," agreed Art. "That said, the standard text, 'Their agent was convinced,' seriously downplays the crisis. It was in the ICU's interest to minimize a very close call. Pashwah threatened to disable biocomps across the solar system. As a demo, she crashed and restarted enough ICU computers to be credible."

"Before the pay-or-else deadline, one of my ICU predecessors transmitted the whole extortion scheme to ICU trade agents hosted by all other InterstellarNet species. Disclosure of the plot--hence the discrediting everywhere of Snakes as trading partners--was automatic absent recurring 'wait' messages from Earth. The UP suddenly disappearing from InterstellarNet would have been compelling corroboration. Pashwah sacrificed Interstellar Algorithms Consortium to avoid losing the Snakes every other market."

Khan nodded. "Interesting. How does this relate to our present happiness?"

"The diplomatic mission has a sequestered clone of Pashwah. We call her Pashwah Two. After the

recent overt attack, she shared something. There's no way to prove it, but she claims the clan behind Interstellar Algorithms Consortium was Arblen Ems."

"Can we borrow a display, Admiral?" At a nod, Carlos linked in a vid. "The 'Snake' you see Art and me interrogating is Pashwah Two. These are highlights."

The Snake Subterfuge was more than a breathtakingly audacious attempt at extortion. There was a political dimension, some undisclosed plan to exploit what would have been an unprecedented fortune on K'vith. Pashwah Two speculated Arblen Ems, then one of the eight Great Clans, intended to buy enough allies to seize total power.

With the collapse of the extortion attempt, Arblen Ems was unmasked rather than enriched. All other Great Clans united to attack the schemers, and the survivors fled to the fringes of their solar system. The remnants were believed extinct, last seen retreating into deep space in a damaged experimental habitat.

"*Victorious*." Khan drifted, eyes closed in thought. "Or so we are to believe. Carlos, what reason is there to buy into this fairy tale?"

"I've never interrogated an AI *or* a Snake. Obviously, we're dealing with an avatar; the mannerisms are all synthesized. They could be meaningful, or entirely for effect. Complicating things further, we're often discussing what Pashwah was supposedly told, not things from her direct experience. I can truthfully say her story is self-consistent and compatible with everything we know--which is a far cry from proof."

"And you, Doctor? Do you concur?"

Yes, but. "Here's another supporting factor: the pattern of resupply efforts. The Snakes ordered no supplies when they first arrived. They bought a few things after the media blitz, after they earned a little money. Whole convoys of supplies began coming only after the Centaur credits started flooding the market. So the indirect corroboration--not proof, I agree--is the absence of evidence Snake funds paid for resupply. It all fits with a crew of desperate and impoverished Snake exiles. Would you agree, Carlos?"

Carlos shifted uncomfortably. "Post-Himalia, I'm very shorthanded. Still, some local suppliers and banks have cooperated. For those who haven't, we're starting to get subpoenas. And data from outside Galileo is beginning to trickle in. The agency has yet to trace any shipments to *Victorious* to known Snake-controlled bank accounts. Again, Admiral, that's suggestive, not conclusive."

Khan had drifted away from them. With an adept nudge against the ceiling, she floated back to the table. "So, Doctor, let's see if I properly grasp this fable. Mashkith's clan is cast out when their domestic power play collapses. They are first to an incoming Centaur starship, perhaps because they're hiding deep in the cometary belt. The starship is good for only one more trip, because it can't make its own antimatter. So, knowing about our top-secret antimatter program--how is that again?--these exiles spend twenty years getting here in hopes of conning us out of our technology."

"That's the scenario." When Khan made no response, Art answered her other question. "Pashwah found the secret project on Himalia long ago. We can believe her that the discovery resulted entirely from adept data mining, or we can keep looking for her anonymously engaged human spies--but either way, believe it. Why else would *Victorious* have headed for Jupiter? Arblen Ems was a Great Clan when the Himalia program got reported back to K'vith. It makes sense they would have gotten Pashwah's report.

"Absolutely, the whole scheme sounds extreme and desperate--if Arblen Ems had other options. If we accept Pashwah's story, an interstellar gamble might have been their best bet. Theoretical dangers twenty years out are pretty trivial compared to real immediate peril. They had those two decades to prepare.

And a final thought ... just from having interacted with Mashkith, I wonder how much of this is personal. He'd be getting a second shot at the humans who foiled his clan's plans, and from that, a second shot to rule K'vith."

"That third eye creeps me out." Khan blanked the holo. "Suppose these suppositions and inferences are, incredibly, all correct. There are Centaurs aboard. The antimatter genie can still be bottled in this solar system. That doesn't really change anything, if we don't have the forces--which realistically we don't--to defeat the Snakes before they're beyond our reach."

Carlos gave Helmut a gentle push forward. "That, Admiral, is why my uncommunicative new colleague came along on this trip."

\* \* \* \*

## CHAPTER 35

Eva Gutierrez stumbled, one flailing arm meeting a wall of the tube connecting airlocks. Her head throbbed from whatever gas had incapacitated the human prisoners. Through the clear material of the tube, polished stone plains stretched overhead and underfoot. Scale alone suggested *Victorious*; the crowd of Snakes watching from a nearby control room settled all doubt. She guessed they were beneath the spin-decoupling docking platform on which the UP mission's ships had always landed. Docking "inside" made sense: Her space suit was heavy and down was aft, so they were under significant acceleration. Spin gravity would not be in use.

"Everyone, go inside now." The voice was a translator's. She could not tell for which captor it spoke. It hardly mattered.

Two by two, the prisoners cycled through an airlock into *Victorious*. Finally, she and Corinne Elman had their turn. Sidarm-wearing K'vithians awaited them. Corinne peered up and down the gently curved corridor. "Did you ever have a sense of dÃ©jÃ  vu?"

Ambassador Chung shot Corinne a keep-it-down look. His attention remained on the airlock until the lifeboat's K'vithian crew emerged. "Lothwer, I demand to see the Foremost."

They seemed in a weak position to demand anything. If something were to be demanded, O-two appeared to Eva to be the higher priority. No one had planned for hours drifting with the lifeboat airlock gaping open. Of course, no one had planned to be kidnapped at all.

"All right," Lothwer agreed. ("Ironic smile," Joe added. Why?) "Everyone will go see the Foremost."

Flanked by guards, they followed the Snake officer down wide corridors to a cargo elevator. It descended rapidly. No mission report Eva had seen covered this part of the ship. It enraged their captors when they used an encrypted radio channel, so she was reduced to tapping Corinne's shoulder. If Corinne correctly interpreted Eva's hand gestures, and Eva properly interpreted the answering shrug, the reporter had not been in this section of *Victorious* either.

"Everyone inside."

They had come to another airlock, this one able to accommodate four at a time. Why the interior airlock? When Eva's turn came and the far hatch opened, a bio-preserve stretched before her.

The spiky plants were a thousand shades of blue-green, the colors more suggestive of a mallard duck's head than chlorophyll. Bulbs and growths--were those fruits and flowers?--in a riot of colors festooned the trees(?), shrubs(?), and vines(?). Creatures from the scarcely visible to the size of her fist flitted and

floated and glided everywhere. Ponds, streams, and even little waterfalls sparkled beneath blessedly normal lighting. The place was too orderly for a park and too disordered for a farm, but still it had some unifying wholeness she struggled to grasp. Was it more like a giant vegetable garden, or an English countryside maze too long unattended? Beneath the foliage was a hint of a Japanese rock garden, or perhaps of a coral reef on land.

An elbow interrupted her vain grappling with the scenery. She turned to see Corinne had removed her helmet! A second elbowing checked Eva's frantic scanning of her suit gauges. She looked up again, and saw four--Centaur.

There was no mistaking the creatures emerging from the bushes, if only because furry green teddybuds had been wildly popular toys at least since Eva's parents were toddlers. In person, humanity's closest neighbors were stately and dignified, their eight-limbed ambulation liquidly graceful.

"What is going on?" Chung asked in wonder.

Armed K'vithians in darkly tinted goggles had just cycled through behind them. Lothwer pointed at the leftmost of the approaching Centaur. "Ambassador, here is the original Foremost of this vessel. I believe, ("hearty ironic laugh") you will find much of interest to discuss."

Eva barely noticed Lothwer and the guards cycle back through the airlock. The air in this chamber tested fine; she, and others around her, cautiously removed their helmets. There was a trace of sulfur, already dissipating, probably more emanating from the surfaces of their pressure suits than from anywhere else. The stronger scents vaguely reminded her of vanilla and dill weed--not unpleasant, but odd.

Her head still pounded. She was exhausted, and her eyes felt like marbles after a marathon game. She had been in the same clothes for days, mostly in her pressure suit, and knew she stank. With the possible exception of headaches, all the lifeboat refugees must feel the same. First physical contact with the Centaur would happen nonetheless. Enough synapses still fired to wonder: Is Centaur politically correct? What do they call themselves? Nothing about Alpha Cen was presently downloaded to her implant, of course.

The humans stood in a cluster. Chung took two steps toward the Centaur. "Do you understand English?" There was no response.

For whatever reason, Centaur and Snake shared this vessel. They must communicate. "Ambassador, have Joe try K'vithian," Eva suggested.

"It's worth a try. Joe, tell the Centaur we are prisoners, held unjustly and against our will." Soft, high-pitched sounds emerged from the headphone speakers of Chung's discarded helmet. Deeper, trilled speech sounded a moment later from an unseen overhead loudspeaker.

English to K'vithian to Centaur, and back again. "As are we, aboard our own vessel. Welcome to *Harmony*."

The process was slow, subject to unknown translation error, and certainly subject to Snake eavesdropping, but what choice did they have?

\* \* \* \*

Half the humans lolled in the communal showers; the rest had had their turn and now gathered in another room dressing in their newly rinsed clothing. Why they had washed in shifts was unclear, because the showers would easily have accommodated the whole group. They had mostly sorted themselves by height. Gwu vaguely remembered human size roughly correlated with gender, and found it strange.

Communal meant communal; members of the crew-kindred mingled in these facilities regardless of gender.

The humans' leisurely showers gave Gwu a much-needed opportunity to reflect. With like thoughts, Swee edged closer and twined a tentacle through one of hers. "What do you think?"

What *did* she think? Communication with the humans was cumbersome and slow, and surely inexact. Her responsibility as ka had returned to her recast as an odd title: shaper of consensus. Hong-yee Chung, the newcomers' primary presenter, likewise had a role that resisted translation: he with limited authority to represent others. If such basic concepts as duties could not survive intact the improvised translation process, how could they hope to exchange more meaningful concepts?

That the newcomers were prisoners was credible. But had there been partnership first with the K'vithians, or were the humans--as they would have her believe--as much victims as were the crew-kindred? *There* was a question for which reason told her nothing.

"Gwu?"

"Sorry. There is much to think about." She had gotten a surreptitious update from T'bck Ra during the new arrivals' long showers. Since Mashkith had attempted to re-suppress the AI, it no longer had access to the navigational sensors, but it had approximated a position by taking bearings to unmistakable IR sources: the Sun and Jupiter. *Harmony* was on its way back to K'vithian space.

Which made now the ideal time to kidnap human antimatter experts.

The ship was no longer within range of routine media broadcasts, but the last news intercepted by T'bck Ra was stunning: obliteration of Himalia; flight; K'vithian battle with, and victory over, the UP forces. Nothing stated by the humans implied knowledge beyond that they had been abducted. Gwu could not ask about the other events without revealing her illicit source to their listening captors. Letting slip that secret would endanger T'bck Ra.

"Gwu?" Swee repeated. "What do you think."

Chung had denied that an alliance had ever existed between humans and K'vithians. Even if that were false, any past alliance was now surely shattered. Gwu gave Swee's tentacle a loving squeeze. "I think we have companions for another wearying journey."

\* \* \* \*

"No communication by you to the herd prisoners." With one sentence, the Foremost had obliterated Pashwah-qith's core beliefs.

Her concepts of *Victorious* and its mission were revealed to be a web of lies too long sustained by her own wishful thinking. The truths she now accepted were shocking. Herd crew long imprisoned on a stolen herd vessel. Human experts kidnapped under cover of a Hunter-induced slaughter. Hunter systems grafted over herd automation, and a long-dormant herd AI now trying to reassert its control.

The stakes were as stark as the circumstances. Mashkith might be on the verge of dominating K'vith and forging an interstellar empire--or he might be about to unleash a devastating war on K'vith using antimatter weapons. Either way, his actions could ally two potent species--the originators of the very technologies upon which Arblen Ems aspirations relied--against *all* Hunters.

How would this turn out? How reckless were the risks, and how dire were the consequences of failure? She could not say.

Equally irresolvable was the question that echoed endlessly in her mind: What could or should she do about any of this?

Eva watched Ambassador Chung station himself at the interior airlock with its intercom. His unceasing demands to meet with the Foremost eventually brought Lothwer and a guard squad. With a whistling-quick swipe of claws through the air--a gesture not in Joe's lexicon of K'vithian body language, but blatantly threatening--Lothwer silenced Chung mid-sentence. "There will be no return. *Victorious* leaves human space because your United Planets blames us for their accident. If not for us, you would be dead now." A second claw swipe interrupted an eruption of questions. "This accident."

A holo materialized before them, an agglomeration of 3-V news broadcasts.

The human prisoners stared in disbelief, or screamed in rage, or collapsed in shock. Most had lived on Himalia; the obliteration of that world was *personal*. The disaster had taken their husbands and wives, parents and children, friends and colleagues. Their tightly knit community had died in an instant. The technology to which they had dedicated their professional lives had become the instrument of their loved ones' murders.

Few even noticed the K'vithians leave.

A hug here, a pat on the shoulder there, tears shared everywhere ... Eva moved numbly from colleague to colleague. She was vaguely aware of Chung and Corinne, her fellow non-Himalians, likewise circulating to give what scraps of comfort they could. Unnoticed, the Centaurs had withdrawn to let them deal with their sorrow. The sobbing slowly subsided. Red-rimmed eyes turned to Chung for whatever guidance he could offer. Tears welling, he had only a shrug to give them.

The massacre of so many ... It was too much for Eva. "I will not be a slave to these killers!" Joe had been directed to stop translating, but they had to assume the Snakes saw and heard everything. At that moment, she did not care. "I will not!"

"Just a second." Corinne gave one of the survivors a final hug. Towing Chung by an elbow, she worked her way to Eva. "We need our friends now more than ever. If we can't have their help, we can still learn from their experience. I was just thinking of a friend who doesn't know the meaning of the word 'quit.' Come with me."

The three of them wove their way into a thicket, thorns snatching at their still damp clothes. They stopped in a small bare patch surrounded by bushes. Corinne bent a few tall branches into an arch. "Hold these." With lengths of broken-off creeper, she bound together the limbs Chung held, then bent more. Grieving continued in the background.

The improvised dome grew thick. Corinne knelt in its shadow, possibly hidden from the sensors they all presumed surrounded them, to scratch a message in the dirt. Eva barely saw the message before Corinne wiped smooth the area with her hand.

The note had read, "We're going to steal a lifeboat."

*To be concluded.*

\* \* \* \*

"In theory there is no difference between theory and practice. In practice there is."  
--Yogi Berra