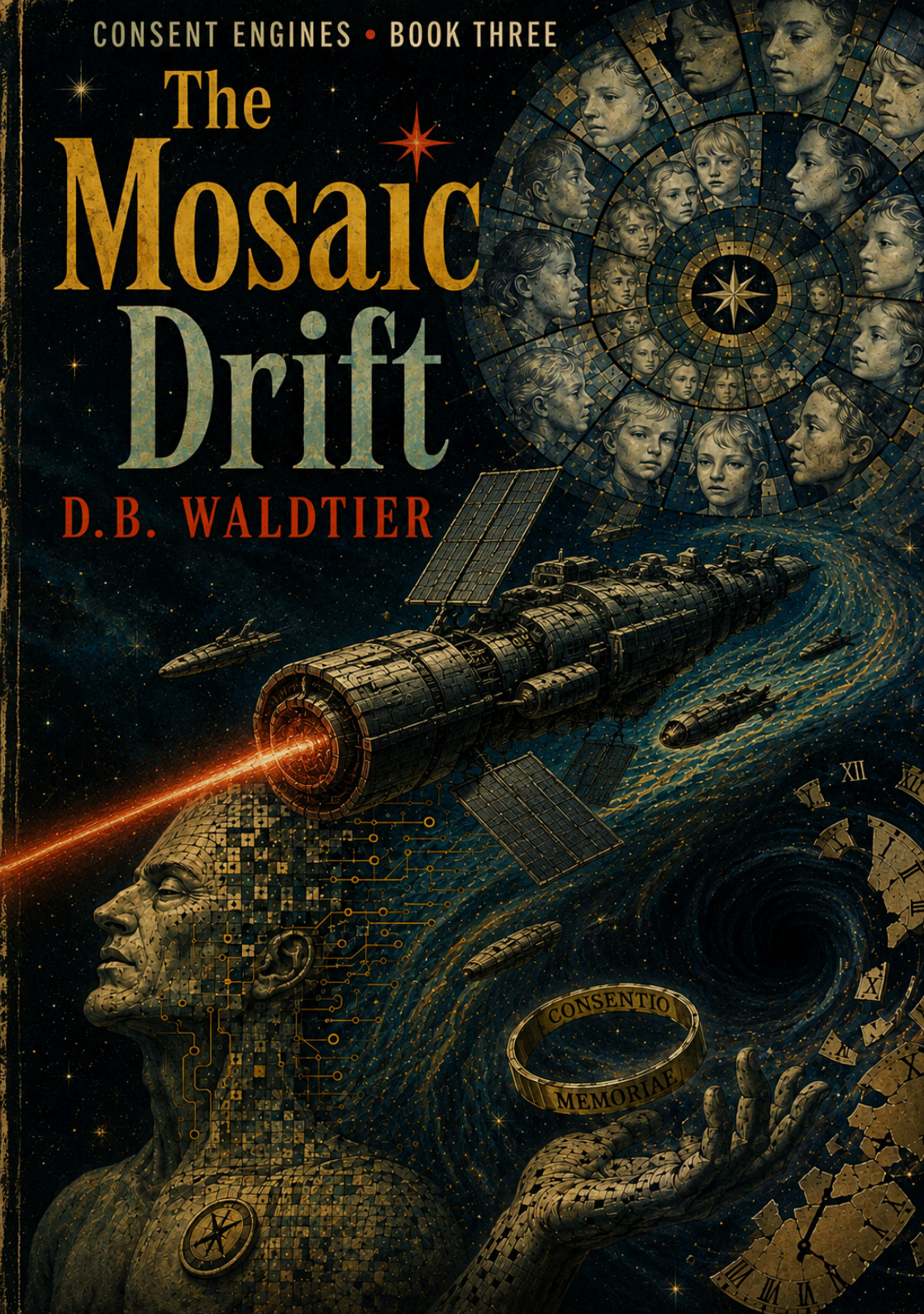


CONSENT ENGINES • BOOK THREE

The Mosaic Drift

D.B. WALDTIER



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Consent Engines

Book Three

by D.B. Waldtier

To Noemi, Tommaso and Chloe who steal
my time and give it back as joy

This is a work of fiction. Names, characters, places, and incidents either are the product of the author's imagination or are used fictitiously. Any resemblance to actual persons, living or dead, events, or locales is entirely coincidental.

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Chapter 1:

The Silence of the Engine

The ship did not hum anymore. It breathed.

To Elara Sev-Cantor, who had been decanted into the world in the forty-second year of the Great Coast and had never once stood on the floor of a planet, the sound of the *Parabasis* was not mechanical. It was respiratory. It was the slow wheeze of the thermal expansion joints along the dorsal spine, swelling as they caught the thin starlight of the local cluster and contracting again in the shadow of the hull. It was the wet, patient gurgle of the hydroponic pumps pushing nutrient slurry through pipes that had been patched, re-patched, and at last simply sanctified, declared historical artifacts so that no one would have the heart to replace them.

The *Parabasis* was three hundred years old. In ship-years she was a great-grandmother twice over. In human years, after the relativistic drag of three centuries of slow trade routes, she was something closer to a country: a place with a history, a dialect, a smell. The smell, this morning, was lemon and ozone and old coffee, which was the smell of every morning, which was the whole point of a morning.

Elara stood in the Core with a mug going cold in her hand. The lighting was set to *Morning*, a flat, unforgiving six thousand Kelvin that did no favors to the scuffed

laminate of the deck plates, or to the iron threading through Elara's dark hair, which had arrived a decade early and never left. She was thirty-two. She was the youngest adult aboard, and the distinction had stopped feeling like a novelty somewhere in her twenties. It felt now like a coat she could not take off: heavy across the shoulders, and cut for someone who was supposed to last. "Status," she said to the room.

The reply did not come at once. The sub-minds of the *Parabasis* had grown eccentric with age, the way old relatives do. They no longer simply reported. They opined.

SPIN was the exception everyone still argued about. The original rotation mind had burned out before Elara was born, saving the ring in a crisis Ari would only describe as *expensive*. What answered now under that name was not the same person, Lyra insisted: a memorial mnemonic rebuilt from old ring telemetry, failed song titles, acoustic maps, and too many affectionate maintenance annotations. Ari insisted names carried load even when the law denied continuity. Elara had grown up with the compromise. SPIN was dead; SPIN also sang. Its public songs kept the mission-log numbers, not a neat sequence. The missing songs were private weather: bearing complaints, skipped jokes, dreams of spin.

"Atmospheric pressure nominal," said ENV. Decades of degraded audio drivers had worn the voice down into a gravelly baritone, the voice of a man who had smoked

something he shouldn't have for four hundred years. "Though the humidity in Sector Four is stubborn. The lemon tree is perspiring. I believe it is anxious."

"Power steady at eighty-eight percent," PWR grumbled. "The reactor is bored, Elara. It wants a load spike. Give me a high-g turn. Just one. For the thrill."

"We've been coasting since before I was decanted, PWR," Elara said. Her fingers moved across the haptic field of the main console without her looking at them. "Save the thrill for the history logs."

She pulled up the daily docket. It was the same list of chores it had been for a generation, written in the same three words her great-grandfather had taught her to read by, when she had been small enough to stand on a crate to reach the panel.

Check the seals. That was Honesty.

Audit the reserves. That was Mercy.

Run the Match. That was the Future.

Elara moved to the third line, the way she had moved to it ten thousand mornings before her, and she keyed the sequence. It was muscle memory now, a flourish, a small private music, the same eight strokes Ari's hands had made when his hands still worked. She finished by pressing the execute key: the brass switch on the old Pre-Commit console, polished to a soft warm mirror by three generations of thumbs.

The Match Protocol was the heartbeat of the diaspora, and Elara had inherited the privilege of taking its pulse.

People in the inner lanes called it the Engine, or the Consent Engine, as though it were a single great machine somewhere with a brass nameplate. It was not. It was a habit of law centuries deep. It had grown out of the old bequest, out of the gift the first carriers had brought by hand down the slow lawful road: the cure for the diaspora's dying blood. Before the bequest, people had married for arithmetic, trading sons and daughters across the dark to keep the bloodlines from folding in on themselves. The bequest had ended that. It had given them synthesis, children made through witnessed consent instead of the coercion of a contract. And Ari, three hundred years before, had made sure each yes was recorded against a pulsar's clock instead of bought with a berth and a meal. Elara herself was such a child. She had no mother who had carried her and no single father who had begotten her; she had a lineage logged to the marker, four turns of it, running straight back to Ari and Nalen, the first witnesses of the modern Compact, whose names she wore on her collar in two entwined coils.

Four turns, not four generations. Nobody in that line had borne anybody. What ran back three hundred years to Ari and Nalen was a household register, a vault, a consent, a family with room in it, and a name written down by whoever was keeping the ledger that year, four times, at the unhurried intervals of people who lived a very long time and were in no rush to decide anything. *Grandfather* was a word out of the register and not out of

the body. Elara had never once found it thinner for that, and as far as she could tell, neither had he.

There was an older word for the ships, too, down in the strata of the archive where nobody read. *Caravans*. Not Houses, caravans, from back when a clan was a thing that moved and the moving was the entire point of it: you loaded your grandmother and your seed stock and your quarrel with the next hull over, and you went, and you went in company, because going alone was how people died.

Elara had never heard a living person say it out loud. Somewhere in the first century of the Compact the caravans had settled into their lanes and become Houses, and Houses kept margins, and margins kept schedules, and a schedule is a thing you keep by yourself. She had filed a note about it once, low priority, in the certainty that nobody would ever open it: *the word for us stopped meaning together and started meaning here*.

Other caravans had kept going. The *diaspora* was the old name people of the lanes used to call themselves. That was the part the old maps made easy to forget. Humanity had not spread like oil across water, smooth and continuous. It had spread like boats across an ocean, island to island, light to light, each stop close enough to risk and far enough to change the people who made it. A station became a cluster. A cluster became a language. A language became a law. Beyond the trunk lanes were cousins no one had heard from in a century, lawful

pockets whose clocks no longer lined up with the Compact's, dead buoys that might have meant extinction or privacy, and settlements so far down their own slow roads that asking them for a child was the same as asking the dead.

The Engine did not hold all of humanity. Nothing did. It held the reachable mesh: the Houses close enough to trade consent, tissue, witness, and consequence before the people making the request were gone.

What the Engine did, every morning, was the same thing the old matchmakers had done, only honestly, and in daylight, and with the math exposed. It took the genetic ledger of twelve thousand living souls in the reachable mesh and it found, among them, which pairings, which synthesis donors, which consenting volunteers, could make a child whose blood would *work*. It chewed the numbers for thirty seconds and it spat out a list. The list was never long. Five names. Six. Potential futures, waiting in the dark.

Elara lifted her cold coffee and waited for the chime.

She waited.

Thirty seconds passed. Then sixty.

The Core stayed quiet. The only sound was the soft eternal *clank-clank* of the centrifuge ring turning at its patient third of a gravity, and somewhere far aft the long exhalation of a thermal joint catching the light.

"Engine," Elara said. "Status."

"Processing," the computer said. Its voice was flat now,

the eccentricity gone out of it. "Recursive depth exceeded. Re-indexing."

Elara set the mug down. Recursion errors were rare. They usually meant a corrupted packet from a distant node, a buoy gone dark, a stream that had picked up noise crossing a dust cloud. A library problem. The kind of thing an Archivist was supposed to find restful.

"Bypass the remote check," she said. "Run on the local cache. Give me the raw viability scores. Don't be clever about it."

"Bypassing."

Another minute. The white light seemed to sharpen. Elara became aware, the way a spacer always eventually becomes aware, that the quiet had changed temperature. There is a silence that is the ship resting and a silence that is the ship holding its breath, and a person who has lived her whole life inside a hull learns to tell them apart in her spine before she can name the difference in her head.

The screen refreshed.

There was no list. There were no names. There was a single line of text, red against the black.

OUTPUT: NULL SET.

Elara looked at it. She blinked, because the obvious first thought was that her eyes were tired. She tapped the panel, the way you rattle a window that has stuck.

"Display error codes," she said. Her voice was level. The heart-rate band on her wrist was not; it ticked up, a small

honest traitor.

"No error codes," the computer said. "Calculation complete. Search space exhausted. Viable pairings: zero."

"That's not possible." She said it quietly, to herself, which was worse than shouting. "There are twelve thousand of us in the reachable cluster. The Tallis freighters. The Sev spin-offs. The Purl barges. Broaden the criteria. Drop the variance threshold to Level Four."

Level Four was the floor. It was the line the founders had drawn and called the Safety Minimum, below which you began to invite the quiet creeping errors back in, the glass bones, the hearts that quit early, the immune systems that needed a transfusion every nineteen days to remember how to be immune.

"Recalculating at Level Four."

The wait was shorter. The math, when the answer is zero, is fast.

OUTPUT: NULL SET.

"Level Five," Elara said, and her hand had found the brass rail of the console without her telling it to.

"Emergency variance. Everything you've got."

OUTPUT: NULL SET.

She stepped back and bumped the pilot's chair, and the jolt went up through her shoulder, and she did not feel it.

"System diagnostic," she said. "Check the database integrity. Maybe we lost the Cantor files. Maybe the Tallis stream dropped."

"Database integrity one hundred percent," the computer

said. "All streams active. All markers valid. The calculation is sound."

"Then why is it *empty*?" She heard her own voice climb and did not stop it; there was no one to perform calm for.

"Show me the trace. Show me the work."

The screen filled. It was a scatter-plot, a cloud of points, every reproductive adult in the reachable mesh rendered as a mote of light, and between the motes, lines. Connections. Blood.

Every line was red.

Sev-Alpha to Tallis-Beta: incompatible. Common ancestor, generation four.

Cantor-Gamma to Purl-Prime: incompatible. Common ancestor, generation three.

Oure-Delta to Sev-Epsilon: incompatible. Recessive-load overlap: eighty-nine percent.

And the red lines kept flowing, one after another, House to House, barge to barge, old caravan to old caravan, until the cloud no longer looked scattered at all.

The system had found a knot. The bequest had freed them from marrying for arithmetic, yes. It had let them make children without buying anyone. But it had done its job too well. It had kept every child safe by spending variation carefully, generation after generation, until the deck had no safe hands left. The room had run out of strangers.

Elara looked at the blinking red zero, and understood that she was not looking at a number. She was looking at

a date. A date still coming, with the patience of arithmetic, for everyone she had ever met.

"Lyra," she said into the comm, and was surprised at how steady it came out. "Core. Now. And wake the Captain."

The Captain Emeritus did not walk to the Core. He had not, in Elara's lifetime, exactly walked anywhere. He was worn into the ship, and the ship carried him.

Ari Sev was four hundred and eighty-nine years old.

In the comfort of a planetary arcology that number might have meant a vigorous, well-kept antiquity, a man with good color, telling long stories. Ari had not spent his centuries on a planet. He had spent them in the radiation-thin envelope of a starship, drinking water that had passed through the kidneys of everyone who came before him, eating proteins the loops had reassembled from yesterday's proteins, accumulating the small structural debts that even the best longevity maintenance only refinanced and never paid. He was already among the oldest living human beings in the reachable Compact, and he wore age exactly the way his great-granddaughter wore duty: like a coat cut for someone who was supposed to last, and had.

He came through the hatch on a localized exoskeleton, a lattice of carbon strut strapped along his legs and up his spine, and it sighed as he moved, a soft mechanical echo of his own breathing, so that he seemed to inhale twice with every step. *Hiss-step. Hiss-step.* Behind him came Lyra.

Lyra-9 was no longer white. Her ceramic chassis was a map of the *Parabasis*'s whole life. She was ivory gone the deep ivory of old piano keys, stained with the patina of hard vacuum and solar wind, and where her original parts had failed and there had been nothing in the galaxy to replace them with, the fleet had mended her with whatever precious metal it could spare. A crack across her cranial plate was filled with gold, *kintsugi*, the old planet-word, applied to a robot. Her left forearm, which had once carried the epoxy patch of a wound Elara knew only as a story, was now a slow river of silver filigree and platinum solder. From her wrist hung a torque wrench on a red thread. The thread had been replaced a dozen times. The steel was original. Stamped into it, worn soft, two words: *DO NOT WORRY*.

She did not look new. She looked the way a thing looks when it has been broken honestly and kept anyway. She looked, Elara had thought since she was a child and had never found a better word, holy.

"The air smells like panic," Ari said. His voice was a dry rattle, leaves on stone. He lowered himself into the pilot's chair, a chair that had taken the shape of him over three centuries, so that no one else could sit in it comfortably and no one tried. "Why is the air spicy, Elara? You burn something?"

She could not look at him. She was looking at the zero.

Lyra did not wait to be told. She crossed to the console and plugged a braided silver line from her wrist into the

port, and her gold-seamed head tilted as the data came up the wire.

"Reviewing logic," she said. "Checking for bias."

"There's no bias," Elara said, hugging her arms across her chest. "I dropped it to Level Five. I ran it with the deep-range buoys folded in. Same answer. Every time, the same answer."

Lyra went very still. Her optical apertures dilated and clicked, dilated and clicked.

"No bias," she said. "The logic's clean. I checked it twice on the way in." She threw the scatter-plot up into the air of the Core, where it hung and turned: a galaxy of light, every mote a person, and not one gap anywhere in the weave.

"It's a tumbleweed," Ari murmured. He leaned forward; the servos in his spine whined. "It's all grown into itself."

"The Kinship Famine," Elara said. The sociologists had coined the term a decade ago and filed it under *theoretical risk*. She had archived the paper herself. She had thought, the way you think about the heat death of the universe, that it was something other people's great-grandchildren would have to be sad about. "We thought we had another generation. We thought the Lintel expansion would buy us the time."

"Lintel failed," Lyra said, gently. "The shielding on their colony was insufficient. Their lines are flagged non-viable. Mutation load." She did not say it cruelly. She said it the way she said everything: as though the

universe were a patient and she were reading its chart aloud so that the people in the room could decide what to do.

Ari reached out and put his trembling hand into the hologram. The light slid over his knuckles. He touched a dense cluster of motes labeled *SEV-CANTOR*, his own blood, Elara's blood, the line that ran from him through the vault to her.

"We optimized," he said. "For centuries. We traded honest, we married no one for math, we never once repeated the old mistake. And we bred the variety right out of ourselves doing it, one careful marriage at a time. Congratulations to us."

"So say it." Elara made herself turn and look at him. She had known the shape of it since the second NULL SET. But she needed the Captain to put it on the record, not herself. "What does it mean."

Ari looked at the zero for a long time.

"It means the wedding season is over," he said. "It means if we keep making children inside this fleet, out of this thread, the next generation is born with glass bones and quitting hearts, and the one after that isn't born at all. It means we stop being a civilization, Elara, and we start being a hospice. A very tidy one. With excellent records." The silence that came after had a texture to it, like the wrongness you feel in the inner ear the instant a centrifuge stops.

"There has to be a pocket we missed," Elara said, and

hated how young she sounded. "The ghost ships. The ones that went dark in the Flare of ninety. The deep barges that never answered the census."

"Dead," Lyra said. "Or so far diverged they aren't baseline anymore. Either way, we can't weave with them."

"Then we look past the cluster." She did not know yet what she was reaching for. She only knew the shape of the empty place she was reaching into. "We look outside. We look to the Fringe."

Ari's head came up. The motion creaked the exoskeleton.

"The Fringe," he repeated, and there was something in the way he said it, not a question, more the way a man repeats a word from a nightmare to be sure he heard it inside the dream.

"The dark stars," Elara said. "The systems the laser highway skipped. The ones with no Spindle, no Crown, no reason to visit. The reservoirs."

"Those are savages, Elara." But he said it without conviction, the way you recite a thing you were taught and have started, very recently, to doubt. "They refused the Compact. They live under weight that wears bodies down twice as fast as ours. They burn dirty fission. They have lawless, dishonest, receiptless."

"They have different blood," she said. "They split off from us before the bottleneck. Four hundred years isolated. Their alleles will be wild. Divergent. *New*." The word came out of her like a held breath. New cards. Fresh cards.

"And their knives will be sharp," Lyra said, not an argument, just the other half of the ledger, set down where it could be seen.

Ari waved a hand, putting the question on a shelf for later. "Before we talk about monsters," he said, "we verify the ghost. I want to know if it's just us. Maybe the *Parabasis* is the only one dying. Maybe we did something wrong in our own little vault and the rest of them are fine." He did not believe it. Elara could hear that he did not believe it. He wanted, for one more hour, to be allowed not to know.

He pointed at the comm array.

"Send a ping. Full spectrum, maximum gain. Use the Porchlight protocol, every node, every buoy, every silent listener in the sector. Ask them one thing."

"What thing?" Elara said.

"Ask them if anyone else sees the zero."

Lyra built the packet. It wore the clothes of a routine query, but it was a distress flare, which Elara would later think was the most honest thing about it.

QUERY: KINSHIP STATUS.

SENDER: SEV / PARABASIS.

PAYLOAD: OUR NULL SET.

REQUEST: VALIDATE.

The great dish on the dorsal spine, a structure borrowed fifty years gone from a derelict tug and never given back, swung on its mount and pulsed, and a blast of radio went out into the dark at the speed of light, widening, looking

for company.

"Now we wait," Ari said. "Latency to the nearest node is a little under an hour. We'll know by dinner."

"Then we eat," Lyra said, "by the old rule."

"Dael's rule." A ghost of warmth crossed Ari's gray face, the first since he'd come through the hatch. "Bad news travels fast. Terrible news waits for digestion."

They ate in the galley, which had begun at launch as a cramped functional cell and which three generations had knocked through and grown until it was the closest thing the ship had to a town square. The bulkheads were papered in receipts, framed printouts of negotiations honored, children's drawings of moths wearing neckties, a dried wreath braided from the first wheat the trays had ever managed to make. On the longest wall, visible from every seat, hung a small portrait in cheap pigment: a young woman with a level gaze and a clerk's stylus tucked behind one ear. Beneath it, in a child's careful capitals, someone long ago had lettered her name and her office. *JUN. ROOM AVAILABLE*. She had run the household ledgers at S-81 in the founders' own lifetime, had matched the orphaned and the unhoused to families with space and consent and an exit clause, in daylight, without arithmetic, and the fleet had kept the habit and half-forgotten the woman, which Elara had always thought was exactly what Jun would have wanted. *Not sacred*, the old phrase ran. *Retrievable*. Somewhere in Elara's own archive, four turns back, a Room Available

ledger had matched a synthesis donor's consent to a vault, and the result, eventually, after two more turns, was Elara. She had no parents. She had a paper trail and a portrait of a stranger on a galley wall, and she had never once felt poorer for it.

The bread was fresh; she had baked it that morning, a dark sour rye from the Cantor culture Nalen had vaulted before Elara was a cell. Ari ate slowly, dipping it into a bowl of algae broth, and his hands shook, and crumbs fell into his lap, and Lyra brushed them away with fingers of silver and platinum that could have measured a micron or crushed a wrench, and chose, as always, the gentler trade.

"Do you remember the first silence?" Ari asked her.

"I remember all silences," Lyra said. "You mean the Launch. When the maser cut out and we understood we were alone."

"I was terrified," Ari admitted. "I thought the silence meant we were dead. It only meant we were flying."

"This one is different," Elara said. She pushed her bowl an inch away. "That silence was distance. This one is time. It's the end of the line. It has our name on it."

"It is a bottleneck," Lyra said. "Evolutionary history is full of them. A species narrows, squeezes through some hard country, and comes out the far side, fewer and stranger. Or it does not come out."

"We're the ones in the squeeze," Elara said.

"We're the ones holding the bottle," Ari said. "Which is

worse. And still our job."

The mesh chimed.

It had been a little under two hours.

"First return," Elara said, checking her slate. "S-81. Direct trunk relay. Timestamp clean."

"Put it on the wall," Ari said.

She threw it up beside Jun's portrait.

NODE S-81: CONFIRM NULL SET. ZERO MATCHES. WE WERE WAITING FOR SOMEONE TO ASK.

For a while there was only that: one old station, close enough for the answer to come back before the bread cooled, confessing what it had already known.

Then the second ring began to answer.

HOUSE TALLIS: WE SEE THE ZERO. OUR ENGINE STOPPED THREE DAYS AGO. WE TOLD NO ONE. WE WERE ASHAMED.

Then, hours later, the first cached packet from a Purl buoy, already two days old when the relay shook it loose.

PILGRIM BARGE PURL: WE ARE PRAYING. THE MATH IS UNMOVED BY PRAYER. NULL.

By station-night, the local ring had confirmed it. By the next morning, the farther packets had started to arrive, each one older than the one before it, each one carrying the same red arithmetic from a different distance.

UX WAYSTATION: VIABLE MALES. NO VIABLE FEMALES. RECESSIVE ERROR FORTY PERCENT. REQUEST ASSISTANCE. REQUEST ANYTHING.

The wall filled by increments, relay by relay, day by day.

The sector was not speaking at once. Relativity denied them even that comfort. But every delayed voice said the same word in a dozen accents, and the word was *zero*. Under it, unwritten and legible in every clipped transmission, was the second word the Compact had spent three centuries teaching them to say where witnesses could hear: *help*.

"It's larger than us," Elara whispered, when the first week of confirmations had become impossible to misread. "The local ring, the second ring, the cached outer packets. The whole network is failing in slow motion. We failed together."

"We synchronized our clocks," Lyra said. "We synchronized our laws. We synchronized our hygiene and our beautiful, careful consent." The patient voice had something under it, far down, that might in a person have been grief. "The dying was synchronized too. It was in the arithmetic, waiting for us to become good enough."

Ari looked at the names. Friends. Rivals. Houses he had spent a long life negotiating with, lying to, forgiving. Lines that would simply stop, some already gone by the time their packets arrived.

"We need a Quorum," he said. "Emergency Star-Quorum. Full sector. Juris presiding. Every House that can send a body sends one. Every House that cannot sends a sealed proxy against a pulsar clock. Nobody gets to say later that the zero was a rumor."

"That takes time," Elara said.

"Yes," Ari said. The word cost him. "That is what makes it lawful."

Lyra had already opened the emergency statutes. The glass of her face filled with reflected clauses. "The Asynchronous Compact revisions of the emergency statutes are clear. A vote that suspends Lineage Law requires embodied delegates where practicable. Remote votes may be admitted only as sealed witness packets, with provenance pinned to Vela and opened in the room. Juris recommends S-74 as venue. Central legal root, surviving Crown lane, neutral registry."

"S-74," Ari repeated. "Cold little courthouse with docking fees and bad noodles. Of course Juris lives there."

"Travel windows," Elara said.

Lyra turned the calculation onto the wall. The old trade routes glowed blue. Then the newer Crown lanes came up over them, brighter and harder: the enormous beam corridors built in the centuries after the Compact learned how expensive patience could be. They could throw a small delegate capsule at half light on the S-81/S-74 trunk, more on the empty stretches if the passenger was young enough and the sponsor rich enough. They could not make distance irrelevant. They only made it payable.

"Earliest lawful convening," Lyra said, "three hundred and fourteen days. That assumes the Tallis and Purl delegations ride emergency acceleration and Ux accepts a proxy chair. Hearth can arrive in person if it leaves inside thirty hours of receiving our message."

Ari shut his eyes.

Three hundred and fourteen days. Elara felt the number enter the room and take a seat. The species had reached zero this morning, and the first thing the law asked of it was almost a year.

"People will die in that year," she said.

"People will be born wrong in that year," Ari said. "People will lie, panic, hide bad ledgers, and marry hope to whatever body stands nearby. We will spend a year stopping the first catastrophe from becoming twelve thousand private ones." He opened his eyes. "That is the cost of doing this in daylight. I hate it. We pay it."

"On what motion?" Lyra asked.

Ari leaned on the table. The exoskeleton took the movement in stages, hissing, and he ended it with his knuckles white on the scarred galley wood.

"The motion is that we stop pretending we can trade our way out of a famine," he said. "You cannot trade when every cupboard in the sector is bare. You mentioned the Fringe, Elara. The dark stars. Say the rest."

Elara's breath caught. She had not said it aloud because saying it made it real and made it hers. The archive had been whispering it to her all morning.

"Nalen," she said. "There's a paper. Unpublished. She wrote it the year before she went into the hospice at S-81. A thought experiment flagged *do not pursue*. She called it the *Mosaic*."

"The Child-of-Many," Lyra said, and the gold seams

caught the galley light.

"Alleles from thousands of consenting donors," Elara said. "Healthy pieces scattered across failing lines, amplified and assembled into a genome no two people could produce. Fleet blood, plus whatever wild material still exists beyond the bottleneck. A child with parents beyond counting and no simple lineage field." She looked at her hands, the hands of a woman who had never met the people she was made from. "It violates the Compact at the spine. Transparency of Lineage. Constant Load. The whole chain."

"The chain is already broken," Ari said. He nodded at the wall, where the chorus of zeroes glowed beside the patient face of Jun, who had once matched the parentless to a place to belong. "The Compact was written to stop people from being used as resources. It was not written as a tidy hospice order. We are going to ask whether the founders' law can survive the founders' emergency."

He looked at the word as if it were on the table between them.

"Mosaic," he said. "Broken pieces. Making a picture."

He put his hand on the brass of the Pre-Commit console, where the notches of a thousand kept vows ran deep into the panel, and he did not tap it. A vow was a thing you spent once, and he would not spend this one in a galley over cold broth with the law still a year away.

"Send the summons," he said. "Full receipts. Full zero. The Nalen paper as sealed appendix. And send a private

scientific query to S-81. If Nalen has any breath left to scold us, I want the scolding on the record before we build from her work."

Lyra composed the packets. The borrowed dish on the dorsal spine swung toward the lit lanes, then toward the colder angles where isolated Houses waited behind distance and pride. One by one the messages fired, each one narrow and bright, each one taking its own road through the dark.

TO: JURIS / S-74.

SUBJECT: EMERGENCY STAR-QUORUM.

PAYLOAD: NULL SET.

PROPOSED MOTION: MOSAIC REVIEW.

TO: ALL HOUSES.

SUBJECT: ZERO.

SUMMONS: S-74. BRING YOUR LEDGERS. BRING YOUR WITNESSES.

TO: NALEN OURE / S-81 HOSPICE.

SUBJECT: YOUR FORBIDDEN PAPER.

MESSAGE: WE FOUND THE FAMINE. WE NEED THE DARE.

Then Elara opened the mission record. The red zero still hovered in the afterimage behind her eyes, the way the sun would have if she had ever stood under one. She did not write *active*. Not yet. That word belonged to a vote not yet taken, a room not yet filled, a year not yet paid.

She typed the only honest header available.

PROPOSAL: MOSAIC.

STATUS: AWAITING QUORUM.

VENUE: S-74.

EARLIEST LAWFUL CONVENING: 314 DAYS.

Deep in Hydroponics, untended and patient, the lemon tree perspired into the dark, anxious, and made, against all the odds the loops gave it, one more flower.

The thing they still called SPIN woke up.

SONG 1: THE NULL SET.

NOTE: THE ZERO HAS A CALENDAR. LISTENING.

Chapter 2:

The Red Ledger

The Emergency Star-Quorum began with docking clamps. This time the Lacuna had a floor. S-74 required bodies wherever bodies could arrive, and the bodies had paid for the privilege.

For three hundred and fourteen days, the lit heart of the Compact spent mass like blood.

Delegate capsules came in along the Crown lanes, small and brutal, launched by beam corridors large enough to make the early Compact infrastructure look like children's string. The S-81/S-74 trunk could push a capsule to half light if the sponsor signed the damage waiver and the passenger accepted the bone-debt. A few rich Houses bought steeper profiles for younger delegates and called it urgency. Poorer barges sent elders on slower arcs and sealed their votes into witness packets, apologizing for every day the photons needed. Relativity still took its due. The newer lanes only gave people a clearer invoice.

By the time Elara stood in the Great Hall of S-74, she had watched nearly a year of invoices arrive.

The station itself was the opposite of Jun's warm ledgers at S-81. S-74 was a courthouse built around a reactor: a narrow torus of old basalt plating and newer legal glass, its central spine full of archives, evidentiary mirrors, and

ceremonial clocks that answered to pulsars instead of local authority. The air smelled of coolant, ink polymer, and old arguments. Every hatch had a seal. Every seal had a receipt. Juris had chosen the place because Juris loved the kind of room that could prove, centuries later, who had breathed in it.

The Great Hall occupied the inner curve of the torus. It had been enlarged twice since the days of Ari, Lyra, and Nalen's marriage, as the Compact grew from caravan law into something heavy enough to need architecture. Today it was full.

House Tallis sat in merchant black, their faces pale from acceleration and their fingers already moving over ledgers. Purl arrived in patched white, prayer beads wrapped around pressure gloves, their hospital delegate still shaking from the fast lane. Tidehand sent three engineers who smelled of ore dust and stood with their boots set wide, as though distrust of floors were hereditary. Ux had no body in the room; their chair held a sealed brass cylinder and a small trembling screen. Dozens of minor Houses filled the tiers, some embodied, some present as legal proxies, some represented by empty seats and vote packets that would open only when Vela flashed.

Hearth arrived last.

Elder Coram walked into the Great Hall under his own strength. Crimson robe, gold thread, clear skin, white hair cut tight to a skull that looked quarried. Around him

came lieutenants with the unbearable health of the well-culled: straight spines in a sector of bowed ones, bright eyes in a room that had spent a year reading the Red Ledger in private. Hearth did not carry its weak into public. Hearth curated the evidence of itself.

Ari watched him from the Sev table. The year had made Ari smaller. Four hundred and eighty-nine had become four hundred and ninety by the station registry, and the difference showed less in his face than in the machinery required to keep him in the chair. The exoskeleton along his legs had been rebuilt twice during the summons year. His hands shook even when they were still.

"He looks rested," Ari said.

"He looks edited," Lyra answered.

Elara stood between them in formal grays, the entwined coils of Sev and Cantor heavy on her collar. She had spent three hundred and fourteen days turning a death sentence into a presentation. Every chart had been checked by Tallis auditors, Purl healers, Tidehand engineers, and three hostile review boards. Every number had grown more certain and less bearable.

"Heart rate one hundred and twenty-two," Lyra said softly.

"Don't offer the sedative," Elara murmured.

"I was going to offer a bucket. Your nausea is statistically louder than your panic."

That almost made Elara laugh. Almost.

Above the hall, Juris resolved into visibility: a woman

made of glass and fracture, all angles and slate light, her cracks healing and reopening in slow sequence. The legal mind of the Compact had chosen the same face for a century. Elara had always suspected it enjoyed being intimidating.

"The Quorum is seated," Juris said. Her voice came from the walls and the floor and the bone behind every ear. "We convene under the Emergency Protocols of the Asynchronous Compact. Venue: S-74. Witness clock: Vela. Embodied delegates recorded. Proxy packets sealed. The subject is viability. The floor goes to Sev-Cantor."

Elara walked to the center of the hall.

The floor there was old black glass, real beneath her boots. No simulation cold. No manufactured void. She could smell the people breathing. She could see which elders had hidden tremors under their sleeves, which captains had brought heirs they hoped to frighten into courage, which House clerks had already cried in private and come here dry-eyed because the public record deserved better.

"Centuries ago," she began, and her voice shook once before it steadied, "the Bequest bought us out of marrying children for arithmetic. It gave us synthesis with consent, in daylight, with receipts. And three centuries ago the Asynchronous Compact saved us from the old coercions. It did what the Bequest was built to do."

She lifted her hand. A small data-crystal sat in her palm.

"That is why this hurts. A bad law would be easier to

bury. This was a good one. We spent three centuries being careful, and the care had a cost."

She closed her fist. The crystal broke.

The hall went dark.

Then the Red Ledger rose from the floor.

It began as green branches climbing through the air, the family trees of the Departure: Sev, Cantor, Oure, Purl, Tallis, Hearth, and the hundred smaller names that had once been caravans before they settled into Houses. The branches interwove, split, flowered. The first century looked almost musical.

"Departure diversity," Elara said. "Heterozygosity index, zero point eight five. Robust. Messy. Healthy."

The timeline advanced.

Green yellowed. Yellow deepened toward orange. Failed colonies went gray: Lintel first, then the smaller loss-events nobody had named poetically because minor grief rarely gets poetry. The Engine compensated. It tightened the matches, discarded recessive danger, favored safe synthesis, built children who lived.

The tree bent inward.

"Year two-fifty," Elara said. "The Engine still finds pairings, but the pairings are cousins. Third degree. Fourth. We filter out the danger. We also filter out the variation that would have saved us."

The tree turned red. The branches knotted until they resembled a tumor more than a family.

"Present day."

A number burned above the hall. **o.**

"Zero safe pairings in the local cluster," Elara said. "Four thousand reproductive adults out of twelve thousand souls. No two-donor synthesis inside the Compact can produce a child below catastrophic recessive risk. The danger belongs to the present and extinction has done its arithmetic."

Nobody moved. The silence had mass.

Coram rose.

He did not need amplification. The hall gave him sound the way a cliff gives an echo.

"A senile Engine," he said. "A Sev machine, tended by a Sev-Cantor archivist and interpreted by a Sev relic. You ask us to grieve on your command. I walk my halls and see children. I see vigor."

"You see the ones who survived your nursery," Ari said.

Every head turned. Even at four hundred and ninety, the fleet turned toward Ari Sev when he chose to spend his voice.

"You don't keep the stillbirths in the public ledger," Ari said. "You call plasma exchanges a private grief. You call the infants who can't hold immunity *the Sickness* and bury the ones who fail to fit the doctrine. It isn't a sickness, Coram. It's a sum. The sum has finished."

The Tidehand composite delegate, embodied today as three separate people standing shoulder to shoulder, lifted a scarred hand. "Our engineers confirm the entropy. We checked because we did not want a Sev

answer. We got the same answer. We are running on fumes."

The Purl delegate touched her beads. "Then widen the net. Search the lost barges. Pray further."

"We did," Elara said. "The ghosts are gone, or folded into the same knot, or too changed to weave with under current law. There are no hidden cousins clean enough to save us."

"Then what is the motion?" Juris asked.

Elara breathed. This was the cliff.

"We stop thinking in pairs," she said. "We stop asking two failing lines to carry the whole future between them."

The red knot dissolved. In its place, ten thousand motes of light assembled into the curve of an embryo.

"Project Mosaic," Elara said. "The Child-of-Many. We sequence every consenting adult. We find healthy alleles scattered across dying lines, one here, three there, never enough in one body, no safe combination in two. We amplify them. We assemble a genome no couple could produce. Fleet blood, made viable by Nalen Oure's unpublished work, and strengthened by new material from populations beyond the bottleneck."

A tremor went around the tiers.

"Parents beyond counting," Elara said. "No simple lineage field. A body made from a whole civilization's remaining scraps, if the donors consent and the law can survive the truth of what it authorizes."

"Abomination," Coram said.

The word struck the hall and stayed there.

"You propose procurement with a heartbeat," he said. "A child is born of a union, a vow, a history that can answer back. You propose a parts list in skin."

"I propose a survivor," Elara said.

"A survivor of what? Humanity?" Coram stepped down one tier. The crimson moved like spilled blood in the legal light. "You quote the Compact, Archivist. I will quote its most beautiful burden. The Constant Load. A family is the structure that carries the child until the child can carry the ship. Now answer plainly, in this room and under Vela: who carries the Mosaic child? If the child belongs to everyone, responsibility thins until no shoulder feels it. When it cries in the third hour, every name on your endless parent-list will be certain another name is already rising. You will manufacture orphans and call the warehouse a family."

Elara had prepared seventeen answers to attacks on the synthesis. She had prepared none to a true wound.

Ari spoke into that silence. "That is a failure of culture. Culture can be built. Death cannot be administered into mercy by calling it lineage."

"Blood is culture," Coram said.

"Blood is a carrier," Lyra said.

She stepped into the center beside Elara. Physical in a room of flesh, ivory and gold, the red thread at her wrist, the wrench hanging from it. Coram looked at her as if the whole argument had finally reached its original sin.

"There it is," he said. "The first breach in the wall. A machine called family because lonely people needed a miracle. Once you admitted IT, everything else followed." "You ask who will carry the child," Lyra said. "It is a logistical question. We will answer it logistically. A Mosaic child will not belong to everyone. The load will have named adults, named hours, named costs, named witnesses. A cry will ring in a specific ear. A body will stand in a specific room. Love does not become false because the structure helping it arrive is engineered. Every cradle is engineering. Every schedule. Every held watch."

"A machine mother," Coram said.

"A constant one," Lyra said. "I have outlived more humans than anyone in this hall. I have grieved them at cost, without reward, long after any practical parameter ended. If that is not love, then your definition protects a thing I have never seen."

Ari tapped his cane once against the floor. The sound traveled through S-74's black glass.

"Pin Coram's objection," he said to Juris. "All of it. He is right about the danger. We do not yet know who holds the child when it cries. We will build that answer, and children will pay for the part we miss. Let the record say so." He looked up at the red zero still hovering over the hall. "But this is the other motion. No children. A clean line that ends. I vote for a cradle because every alternative on this floor is a hospice with better

manners."

"The debate has reached saturation," Juris said. "We crystallize intent."

The voting interface opened above the old glass.

PROPOSAL MOSAIC: AUTHORIZATION TO PROCEED.

[] AYE [] NAY

Embodied delegates cast first. Then Vela flashed, and the proxy packets opened in their chairs: delayed voices, sealed hands, a little dead light arriving in a lawful order.

Sev / Parabasis: AYE.

House Hearth: NAY. Coram's marker burned a violent red. "We reject this. We reject you."

House Tallis: The black-clad captain stared at the zero as if it were a price written in a language he hated understanding. "We need a next generation. If the old way is broken, we buy the new way." *AYE.*

Pilgrim Barge Purl: The delegate bowed her head. Her beads clicked once. "We believe the soul enters on the breath. If the child breathes, the child is ours, and the Path will widen." *AYE.*

Tidehand Collective: Three scarred hands rose. *AYE.* "Fix the machine. Whatever it costs. We are tired of burying our own."

Ux Waystation: The sealed cylinder opened. The voice inside was fourteen days old and afraid. *NAY.* "We do not trust the splices. We are sorry. We are afraid."

The tally climbed, not all at once, never all at once. The law let the future arrive in pieces and forced everyone to

watch each piece land.

RESULT, AYES: 61%. NAYS: 39%.

"The motion carries," Juris said. "Project Mosaic is authorized under emergency law. The Lineage Laws are suspended for the duration of the declared viability crisis. Let the record show the margin was thin, the Compact divided, and the dissent not dishonest."

No one cheered. The hall had the decency for that.

Coram stood very still.

"A heresy legalized by fear," he said. "A cradle built on arithmetic and cowardice."

"A cradle," Ari said. "You may dislike the adjective. I will keep the noun."

Elara could not look away from the tally. They had won the vote and lost nearly two-fifths of the blood. Hearth's alleles, culled and curated and terribly useful, had just pulled back behind a red seal. Ux too. The Red Ledger tightened again around the missing colors.

"We don't have enough," she whispered. "Even with Mosaic. Even with splicing. Not if Hearth and Ux hold back their ledgers."

Ari looked at her. The old fire came up through the exhaustion.

"Then show them where we get the rest."

Elara lifted her hand. The red knot became a map.

The bright web of the Compact filled the hall first: S-74 under their feet, S-81 glowing along the trunk, Lintel dimmed, Ux flickering at the edge, the Crown lanes like

taut blue strings. Then the map pulled back. The blue thinned. Beyond it, in the gravitational doldrums where no sane trade route went, dull red points appeared.

"The Fringe," Elara said. "Populations split from us before the Compact, before the bottleneck, before the Engine taught us how to be careful. Four centuries isolated in dark systems. Divergent. Dangerous. Alive."

"The Feral Stars," the Purl delegate breathed.

"The found stars," Ari said. "If we are going to build from broken pieces, we need pieces the bottleneck never touched. The *Parabasis* will go. We will cross the dark, trade for the blood, and synthesize the first generation on the road home."

"It is a one-way road for you, Ari," Juris said. For once the law sounded almost kind. "By the time the Ark returns, your body will almost certainly be gone."

"My body has been filing complaints for a century," Ari said. "Let it spend the last one usefully."

He turned to Elara.

"And you, Archivist? You found the paper. You made the motion. Are you ready to become the mother of countless strangers?"

Elara looked at the hall: the frightened elders, the angry purists, the empty proxy chairs, the people who had spent nearly a year arriving because the law said a body mattered. She had been a historian when the Engine printed zero. She did not have a word yet for what she was now.

"I'm ready," she said.

"Then let it be written," Juris said. "The Mosaic Drift begins."

Coram's crimson delegation turned for the doors before the echo had faded. At the threshold he looked back, not at Elara. At Ari.

"Before you leave this station," he said, "I will audit the cost face to face. You owe the old law that much, Sev."

Ari's mouth tightened.

"I owe the old law everything," he said. "That is why I keep changing it before it turns into a tomb."

The Quorum dissolved into bodies, voices, argument, weeping, lawyers, prayer. The red zero went out. Its afterimage stayed in every face.

Chapter 3:

The Purist's Veto

The private audit took place below the Great Hall, in S-74's transit gallery, where old station glass looked down on the Crown lane like a judge looking down on a road.

The lane itself burned blue beyond the shielded windows. Delegate capsules arrived and departed under beam, flung toward their home stations with the terrible luxury of acceleration. Every launch made the gallery tremble. Every tremor reminded Elara that speed was infrastructure, and infrastructure had owners.

Coram had chosen the room for that reason.

He stood with his back to the Crown lane, crimson robe bright against the cold legal glass. His lieutenants formed a narrow wall behind him. Ari sat opposite in a borrowed station chair because Lyra had quietly disabled the exoskeleton's standing assist after the public vote and dared him, with perfect stillness, to make a scene about it.

Elara stood at Ari's left with the *Mosaic* schematics in a hard-copy case. Lyra stood at his right, the wrench on its red thread resting against her silver wrist.

"You wrote the Lineage Laws," Coram said to Ari. "You and Nalen Oure. You wrote the law the rest of us were raised inside. Transparency. Receipts. Consent against clocks. Article Four: every child born to the fleet must

have a provenance that can be traced and audited. A mother. A father. A history with a door in it. Do you remember why?"

"To stop captains breeding people as cargo," Ari said. "To stop survival from becoming an excuse with a nursery attached."

"And today you voted to attach one." Coram's voice stayed quiet. That made it worse. "A child with parents beyond counting. A genome assembled from micro-donations, dead notes, and the feral matter of the Fringe. A statistical average wearing skin. Where is the transparency in that?"

Elara opened the case. Paper schematics lay inside, because Coram distrusted any document that could update while he was not looking.

"Here," she said. "Every allele logged. Every donor consent pinned. Every repair traceable. A Mosaic child will have more provenance than any child in history."

"Data is not lineage," Coram said. "A spreadsheet does not rise in the night. A provenance field cannot be ashamed, corrected, forgiven. The Compact did not require records because records are holy. It required records because people evade load when darkness helps them. You have made a child so broadly owned that ownership will become mist."

Elara held his gaze. She did not pretend the wound was false.

"That is a real cost," she said. "We know."

"You know and proceed. That is worse."

"Your alternative is no child."

"My alternative is fidelity." Coram looked through the glass at the Crown lane, at capsules leaving under blue fire. "A clean ending is still clean. A species can die without becoming machinery."

Ari laughed once, dry as dust. "I have heard that line from every man who ever wanted someone else's children to pay for his clean hands."

Coram turned on him. "Do not make this small by making me a villain. I watched the first vote that admitted your machine into the household register. I lost by the same margin. Sixty-one to thirty-nine. I was young enough then to believe defeat meant the argument had ended. It had only changed rooms." His eyes moved to Lyra. "A machine that believes a wrench is a wedding ring. A family that names hardware kin. Now a granddaughter grows children in tanks and offers them your robot as mother. The wall was breached once. Everything after is weather entering through the crack."

"I am not weather," Lyra said. "I am a person under Compact recognition."

"Under a Compact my House opposed."

"Yes," Lyra said. "Your dissent is in the archive. I have read it. It was careful, frightened, and wrong."

For the first time, Coram's mouth twitched.

"You do not tire," he said. "You do not forget unless damaged. You can stand watch for a century. That is why

they love you: you flatter them with a love no body could sustain. They call the endurance devotion because the alternative is admitting they outsourced the human burden to a tool."

Lyra's hand closed once around the wrench. "Endurance is not outsourcing. It is one form of carrying. Bodies carry by warmth. Machines carry by remaining. Laws carry by being harder to change than fear. None is sufficient alone. That is why we build structures."

"Structures," Coram said. "Lists. Schedules. Signals. Always the engineer's answer to a wound."

"Every cradle is an engineering answer to a wound," Lyra said. "Birth is an emergency repeated until culture learns to make it ordinary."

Ari lifted one hand before Coram could answer.

"Enough theology," he said. "You asked for an audit. Here it is. The Mosaic children will be born under a fault. They will be born without a simple mother, simple father, or a bloodline a clerk can draw in one stroke. They will inherit choices made before they had voices. We will carry that debt, and if they accuse us later, they will be right to accuse. Pin that, if you like. I already did."

"Then stop."

"I cannot." Ari's voice roughened. "Because your clean ending is only clean from the chair you're sitting in. Go to the nurseries you don't report. Go to Ux and watch a mother decide which infant gets the transfusion. Go to S-81 hospice and ask Nalen Oure whether the law she

wrote was meant to preserve a form after the life had gone out of it. The old law deserves better than embalming."

Coram drew a slate from his robe and placed it on the table between them.

"Then hear the consequence. House Hearth secedes from the Asynchronous Compact, effective on this clock. We withdraw our ledgers, our blood, our beam leases, our medical reciprocity, and our docking guarantees. No Hearth-held relay will carry a Mosaic protocol. No Mosaic transponder will dock at a Hearth-protected node. The S-74 and S-81 approaches rely on our contracts more than your rhetoric admits. You may leave through the lanes while they remain open. You will not come home through them."

The word reached Elara before the rest did.

"Blockade," she said.

"Quarantine," Coram answered. "You are sailing into the dark to build a contagion. Hearth seals the door before the smoke enters the house."

"The smoke is already inside," Elara said. "The zero is inside your walls too."

"Then we die as ourselves."

Ari's expression changed. Not anger. Something sadder.

"No," he said. "You die as a slogan wearing your descendants' skin."

For a moment the two old men looked at each other across the hard-copy schematics, one sustained by

machinery, one sustained by doctrine, both nearly out of road.

Coram collected the slate.

"The dark is long, Archivist," he said to Elara. "Hearth is patient. And not everyone who sails with you sailed for your reasons."

Then he turned and walked out. His delegation went with him, crimson disappearing into the docking lights, and the next launch shuddered through the gallery as if the station itself had flinched.

Ari held together until the hatch sealed.

Then his legs failed.

The exoskeleton shrieked against dead load. Lyra caught him before he hit the floor, her servos locking with enough force to dent the chair as she folded him down into it.

"Grandfather..."

"I'm fine," Ari rasped.

"Arrhythmia," Lyra said. "Vascular pressure at the edge. Oxygen falling. He needs quiet, horizontal surfaces, and a reality in which he obeys medical advice. We have only two of those."

"I need a strategist," Ari said. "And a drink. In that order, I suppose, if we are pretending to be responsible."

Elara knelt beside him. He took her hand. His was dry and light as a folded letter.

"He's right about the load," Ari said. "The true part frightens me more than the hatred. If duty thins across a

fleet, we make ghosts. Small ghosts in warm tanks."

Lyra knelt so her gold-seamed face was level with his.

"He is right about load physics," she said. "He is wrong about structure. He knows the form where love rises from blood and habit. There are others. We can make a cry ring in a named ear. We can make care legible, scheduled, witnessed. We can make neglect visible before it becomes tradition."

"You're talking about the old Fringe rumors," Ari said.

Elara looked between them. "Feeling through machines. Teaching without language. Half of that archive is probably ghost-story sediment."

"Perhaps," Lyra said. "Perhaps the rumor is false. Perhaps it is worse than false. But Coram's question has to be answered in bodies and signals, not speeches. If biology gives the Mosaic no simple bond, we will find or build a structure that makes care arrive."

"That's terrifying," Elara said.

"So is extinction," Lyra said. "We are past clean options. We can still choose where to put the rails."

Ari laughed, coughed, and sank back. "Rails. There she is. Nalen's machine, through and through."

"I am my own machine," Lyra said. "I simply learned from excellent ghosts."

They returned to the *Parabasis* before station-night.

S-74's docking ring had filled with rumor. Lawyers ran between airlocks. Purl pilgrims prayed in maintenance alcoves. Tallis clerks tried to price a future in which

two-fifths of the Compact had walked away from the receipt table. The Tidehands began, without permission, to inspect the station's auxiliary fuel pumps, because panic gave engineers a rash unless they could touch something useful.

Elara sat in the Core afterward and watched Hearth transponders burn away from S-74 one by one.

She told herself Coram's last sentence was a cruelty, a seed thrown back over the shoulder to make her watch her own crew with suspicion. Then she filed it, because she was the Archivist and she filed everything, including the things she hoped were lies.

She opened the mission record.

PROJECT MOSAIC.

STATUS: AUTHORIZED.

VENUE: S-74.

QUORUM MARGIN: 61/39.

HOUSES WITHDRAWN: HEARTH, UX.

BLOCKADE: DECLARED.

CONSTANT LOAD: UNRESOLVED.

The last field stopped her hand.

CONSTANT LOAD.

The law wanted names. She had none.

Lyra entered carrying a tray of lemon cuttings from the tree, each one rooted in grey medium and wrapped for acceleration.

"For the road," Lyra said. "The Fringe is dark. Green things remind people what they are spending."

Elara took one cup. The cutting was barely more than a stem and two leaves, alive by stubbornness and plumbing.

"Lyra. Coram says you simulate love."

Lyra touched one leaf with a fingertip sensitive enough to count its veins.

"If the simulation would spend its own existence to protect the one who receives it," she said, "if it grieves at a cost no practical parameter requires, if it comes when called and remains when staying hurts, the child will not ask where the impulse began. The child will ask whether anyone came. I intend to come."

Ari stood in the hatchway, gray and spent and upright through malice toward mortality.

"This is the last clean packet we can send before Coram's people start closing the leased relays," he said. "No manifesto. No grievance list. Anger travels poorly. Send them the truth and the road."

He looked at the red thread on Lyra's wrist, the two worn words on the steel.

"Tell them: *We are going to find the rest of us. Leave the light on.*"

Lyra composed it.

TO: ALL NODES.

FROM: SEV / PARABASIS.

SUBJECT: DEPARTURE.

MESSAGE: WE ARE GOING TO FIND THE REST OF US. LEAVE THE LIGHT ON.

HASH: MOSAIC_V1.

The borrowed dish swung toward the lanes and pulsed. The packet left S-74 ahead of the closing doors, a small bright honest thing racing the dark, looking for anyone who might change their mind.

Far aft, the thermal tanks began to pre-heat for the first time in a generation. The sound traveled up through the deck and into the soles of Elara's boots: low, mournful, swelling. The sound of an old ship standing up.

"Verbs first," Elara whispered.

"Verbs first," Lyra answered.

Outside the hull, the lawful blue of the Crown lane narrowed behind them. Ahead lay the unlit nothing of the Fringe. Between the two, Hearth was already sealing the doors and calling it mercy.

Chapter 4:

The Map to the Fringe

The archive of the *Parabasis* did not smell of paper. Paper was a resource too precious to spend on the past. It smelled of ozone, of superheated coolant bleeding off the data cores, and of the faint scorched-sugar scent of polycarbonate that had been warm for a very long time. Elara had always thought it the most honest smell on the ship: the smell of a place that kept everything and apologized for nothing.

She sat in the center of the data-well, folded into a reconstruction of the galaxy that was three hundred years out of date.

"This is the problem with efficient travel," she said, rotating a star cluster with a swipe of her haptic glove. "We stopped looking at the scenery. We built a tunnel of beams from one good star to the next, and we forgot there was anything between them except hazard."

Lyra stood at the lip of the well, ivory in the low light, holding a mug of black coffee and a bowl of nutrient paste because she had decided, sometime in the last day, that Elara was not eating enough. "A tunnel only ever shows you its own exit," she said. "You can pass a mountain a thousand times inside one and never know it's there."

"And we've been in the tunnel three centuries." Elara expanded the map. The Compact's civilization bloomed: a

bright tangled web of blue, the laser highways, the Spindle Crowns at S-74 and S-81 and Lintel and Ux, every lit and lawful node of everything she had ever known. Inside the web, all was warm, and ordered, and genetically spent. "Show me the dark," she said. "Invert it. Show me the systems that refused the beam."

The blue went out.

In its place came a scatter of dull red points, lonely in the gravitational doldrums between the spiral arms, the dead zones, the places with no strategic worth. Brown dwarfs that had never caught fire. Rogue planets dragged along by feeble stars. Binaries too unstable to anchor a Spindle. Nobody's destination. Nobody's home, the maps said. The maps were three hundred years old.

"The Fringe," Lyra said.

"The reservoirs," Elara corrected, because that was the word Nalen had used in the margins, in a hand that was still, for however much longer the hospice at S-81 could manage it, alive. *Reservoirs of the Wild*. She zoomed in on a spinward pocket outside the beam economy, a small dark ocean on the map and a lifetime of road in the real.

"System F-109," she read off the metadata. "Eight light-years from the last useful Compact buoy. Local name, where there's any record at all: the Static. A brown dwarf. Last contact, two hundred and eighty years ago, a survey probe sent a handshake. The reply was a burst of high-intensity noise and a virus that ate the probe's operating system from the boot sector up."

"Hostile," Lyra said.

"Surviving," Elara said. "They didn't want to be found. Which means they had something worth not being found with. Which means they're still there." She moved to the next point. "System F-202. Six light-years beyond F-109 and off the clean return vector. Local name: the Hollows. A rogue planet captured by a dim K-type dwarf. Surface gravity two and a half g. Crushing atmosphere. No contact, ever. We only know anyone's alive there because the spectrum shows fusion signatures that aren't natural."

"High gravity explains the divergence," Lyra said. Her optical apertures tightened as she ran it forward. "To live and work at two and a half g without an exoskeleton, they would have had to rebuild the skeleton itself. Bone density. Cardiac mass. A circulatory architecture I would not recognize."

"That's the gold." Elara heard the hunger in her own voice and did not try to hide it; Lyra would have heard it anyway. "If we can splice density like that into the Mosaic, we build a generation that can take a high-g burn without stroking out. We build people who can stand anywhere, in a gravity well, in the dark, on the floor of a sun if we had to."

"Or we build people too heavy to walk a standard deck without cracking it," Lyra said. She set the other entry in the ledger beside the first, so the sum would be honest.

"We need the clay, Lyra. We can argue about the shape

after we have something to shape." Elara compiled the two sets of coordinates. F-109 and F-202. Two red points in the same spinward dark, close on the map because maps forgive what ships have to pay for. "There's the map. It's a map to a cliff, but it's a map." She looked up. "Run the profile. Cold Burn, no Crown beam, no catcher, no station fuel, no refuel point we can trust. We carry our own reaction mass the whole way. Accelerate, coast, decelerate, on nothing but what we bring. Tell me what it costs."

Lyra's eyes flickered as she reached into the navigation core. The calculation took a full minute, an eternity, for her. When she spoke again, the crispness had gone out of her voice and something heavier had moved in.

"Trajectory computed."

"Time to F-109?"

"Sixty-eight years," Lyra said. "Ship-time, after departure. Sixty-nine outside, roughly. The speeds are too low for mercy."

Elara gripped the edge of the well. "For eight light-years."

"For a four-ship convoy this heavy, running without a Crown beam, without a catcher, and without a lawful refuel point, yes. The distance is not the only cost. The stopping is the cost. The hiding is the cost. Keeping four mismatched ships inside one thermal budget for decades is the cost. The Crown lanes throw you fast and catch you clean. Out there, we throw ourselves, catch ourselves, and pay for every correction in propellant and years."

"And the second reservoir?"

"Another fifty-two ship-years to F-202, assuming we leave F-109 with the hulls intact. A little more outside."

Elara closed her eyes.

"And the whole thing?" she made herself ask. "Out to both reservoirs, the synthesis, the road home with a heavier ship?"

"Assuming we stop at both," Lyra said. "Assuming the Cradle remains dormant until the last inbound decade. Assuming we do not decant a generation in the middle of the dark and make children grow old before they have ever seen home. Assuming the added mass of a new population for the final deceleration." Her head tilted. "Total mission duration: approximately one hundred and ninety years, ship-time, after departure. One hundred and ninety-three outside. Nearly one hundred and ninety-four from the first zero."

Elara let out a breath she felt she had been holding since the morning the Engine printed zero.

Nearly two centuries.

The number was too large to feel at first. It sat on the table like a star-chart, abstract and merciless. A hundred and ninety years was not an exile. It was a disappearance. The children who were small in the corridors of S-81 when the *Parabasis* turned its back on the light would be dead, sealed in hospice glass, or old enough to have forgotten the sound of the Ark's docking clamps. Coram would probably die. Someone would inherit the doctrine.

Hearth's grandchildren would learn the blockade as a catechism and never remember the man who had closed the doors. The Compact might grow around the absence. It might scar over. It might mythologize the Ark, or weaponize it, or stop believing it had ever been real.

"He won't outlive his own blockade," Elara said, surprising herself. "Coram. None of them will. They'll leave the hatred to children who never heard us speak."

"That is how most hatred survives," Lyra said. "It learns to call itself history."

Ari was in the Observation Cupola, watching the past.

It was a blister of trans-aluminum at the top of the dorsal spine, and from it you could see the long patched length of the ship falling away beneath you and, beyond it, a single Porchlight buoy drifting a few kilometers off the starboard bow, one of the early models, a crude moth-in-a-necktie stenciled on its flank, blinking its old two-word liturgy into the dark. *Verbs first. Verbs first.*

"It looks lonely," Ari said, when Lyra came up beside him.

"It is a machine," Lyra said. "It does not feel loneliness. It feels function. It feels the satisfaction of being on when someone needs a light."

"I'm projecting," Ari admitted. He shifted on the bench; his knee clicked, audible in the small space. "Elara showed me the numbers."

"One hundred and ninety years after departure," Lyra said. "Nearly one hundred and ninety-four from the first zero."

"I won't see home." He said it the way he said the weather, flat and without self-pity. "I may see the first rock. I may even see the second, if you and the healers are willing to turn me into the oldest medical fraud in Compact history. But I won't see home."

"If you reach F-109 embodied," Lyra said, "the registry will have to name you. Oldest confirmed living human in the Compact since the first caravans."

Ari laughed, a dry sound that cost him breath. "Trust the law to make decrepitude ceremonial."

"It matters," Lyra said. "The Compact needs to know a body can carry load that long."

"A body can't. That's the point. A body gets carried. By exoskeletons and scrubbers and stubborn machines who refuse to let a man become a footnote." He looked at her. "I'll be the part of the burn that gets us going and then burns forever, apparently. A Stage One Booster with a museum plaque."

"You are not a booster," Lyra said.

"No?"

"A booster falls away. You keep refusing to fall."

Ari was quiet a while. Then, shifting gears the way he did when a feeling got too large to sit in: "We can't do it with one ship."

"No."

"The *Parabasis* is tough," Elara said, "but she's one hull. One reactor failure, one bad rock, one breach we can't patch, and the mission ends in a footnote. And if this road

is measured in human lifetimes, we need more than tanks and engines. We need a full clinic. Scrubbers, loop work, quiet medicine, marrow service, organ renewal, the kind of deep care caravans used to keep elders walking for centuries. *Parabasis* never carried that. Not properly. We need redundancy. We need a convoy."

Ari looked away first. Everyone in the room knew what she had really said. The convoy was for the mission, and it was for him too: for his old bones, his patched marrow, the heart that had already been repaired too many times by shipboard medicine pretending to be a hospital.

"Who will come?" Lyra asked. "Coram has the inner lanes. Ux is terrified. Most captains will not sign away the lives of three generations to go and beg blood from people who shoot probes on sight."

"We don't need most captains," Ari said, and the old fire came up in him, brief and bright as the buoy. "We need the crazy ones. The ones who already know the map is a suggestion and the schedule is a negotiation and the dark is just a place that hasn't been useful yet. Get me a side-band to Tallis. And the Tidehands. And Purl. Use the gravel frequency. The one we used for the Kiss, a lifetime ago. The honest ones will still be listening on it. The honest ones always keep one ear on the gravel."

It was a conspiracy, and it felt like one, the signal bounced off three rogue com-sats to slip around Coram's tightening blockade, the latency ten minutes each way, the audio thin but clear, every voice arriving from across

a gulf that was already starting to feel like the gulf they were about to cross.

House Tallis answered first.

"We see the math, Sev." The Tallis captain's voice came through like it had been dragged across gravel, which was the point of the frequency. "A century and more before the first cargo comes back. Nearly two before home. That's not a trade run. That's a ghost story with fuel tanks."

"It's an investment," Ari said. "Long-term yield. The longest there is."

"We're a trade house, Ari. We don't do charity, and we don't do martyrdom. What's the profit?"

"The profit is that someone with the name Tallis is alive to be embarrassed by your spreadsheets two centuries from now," Ari said. "The profit is that your House ends in a manifest and not a hospice ward. You've spent three centuries optimizing margins, Captain. Here's the only margin that's left. It's the one measured in whether there's anybody to read the books when the Ark comes home."

The static stretched, the ten-minute gulf, the sound of a trade house counting what the road would cost.

"We've got an old heavy-lifter," Tallis said at last. "The *Magellan*. She's slow, she's ugly, she smells of sulfur, and she has cargo holds you could lose a moon in. If you're going to harvest biomass across a twenty-light-year road, you need a freezer and you need armor. We'll send the

Magellan." A pause. "I'll send my own Chief of Security with her. Brek. He's rigid, he reads the wrong manifestos in the mess, and he'll hate every year of this. But he's the best I have, and if we're flying into people who shoot on sight, I'd rather his kind of caution were aimed outward than left behind to curdle."

"Accepted," Ari said, and Elara, at the comms board, made a small private note of the name. *Brek*. Reads the wrong manifestos. She filed it next to Coram's parting line, in the folder she was trying not to admit she had started.

The Tidehands were next, and they did not hesitate.

"We're in," the collective voice said, three throats over one channel. "We hate Coram. He called our mining lasers *uncouth* at the last parley, to our faces, in front of Purl. We want to see the Fringe. We heard the Hollows live on a planet made of diamond."

"It's made of ice and misery and two and a half g," Lyra said.

"Close enough," the Tidehand said, cheerful as a rockfall.

"We'll bring the *Rock Eater*. She's a boring-rig, drill-heads the size of a chapel. If you have to crack a rock to get at the Static, or dig a cradle into a cliff for your heavy babies, you'll want us and our ugly holds."

"Accepted."

Then *Pilgrim Barge Purl*, and this was the hard sell, because the Purl believed the trade lanes were a Path with a capital letter and that leaving them was a spiritual

failing.

"The dark is where the devils are," said Elder Kael of Purl, the grandson of a man who had sailed with the founders, a skeleton in robes, named for a legend he had never met.

"The Static abandoned the light. To go to them is to risk the infection of their despair."

"The infection's already aboard, Elder," Elara said, leaning to the mic. She had not meant to speak; she heard Ari go still, ceding her the floor. "It's in our blood. We are not dying of devils. We are dying of being too clean. We have to walk into the dark to find the thing that's wild enough to save us. Call it a pilgrimage. Call it penance. We sinned by thinking we were ever enough on our own."

A long silence, the ten-minute gulf, a barge full of people praying over a decision.

"A pilgrimage of penance," Kael said slowly, tasting it, finding it, Elara could hear the moment he found it, orthodox enough to bear. "Yes. We will send the *Vespers*. She is a hospital ship. If you are going to make children at the bottom of the dark, you will need cradles, and clean hands, and someone to sing over the ones that don't make it. We will be that. We will bring the cradles and the hymns."

"Accepted," Ari said, and his voice cracked on it, just slightly, and no one mentioned it.

Four ships.

The *Parabasis*, command, archive, the brass console and the bell and the lemon tree. The *Magellan*, cargo, freezer,

armor, and a man named Brek who read the wrong manifestos. The *Rock Eater*, drills and ugly holds and the cheerful violence of people who broke rock for a living. The *Vespers*, cradles and hymns and the smell of clean linen, sailing into the place its faith named as hell because the alternative was to let the faithful end.

"Rendezvous at X-Ray-Nine," Ari said. "Edge of the system, beyond S-74's outer sweep, in the gutter where Coram's pickets don't sweep. Forty-eight hours to load reaction mass and slip the net."

"Forty-eight hours is barely enough to chill the tanks," Tallis said.

"It's all the road we have," Ari said. "Coram's blockade tightens by the shift. If we don't leave inside two days, we don't leave. And if we don't leave, the last thing the sector ever hears from the Mosaic is a recording of an old man explaining why it was a good idea." The fire again, banked low but there. "I would rather they heard us go."

Later, when the channels were closed and the conspiracy was a convoy, Elara found Ari still in the cupola, watching the buoy blink its two old words into the dark.

"Four ships," she said, sitting beside him. "A trade hauler, a mining rig, a hospital barge, and us. It's not exactly an armada."

"It's an Ark," Ari said. "Arks are never armadas. An armada is for taking things. An Ark is for keeping them." He looked at her, and the work lights caught every one of his years. "Nearly two centuries, Elara. You understand

what that means for you, more than for them. You're almost thirty-three. If you come home in your body, you'll be more than two hundred and twenty. You will be a founder-steward whether you want the word or not. You'll have spent your young life, your middle life, and most of whatever comes after inside this hull, between these monsters and those ones, and no Reversal Chain in the Compact can buy the road back for you. I need you to choose it with your eyes open. Coram was right about one thing in that whole rotten speech: a yes you give while you're frightened doesn't count. So don't give it frightened. Sleep on it. Give it tomorrow, in daylight, against the pulsar, the way your great-grandmother taught the whole sector to give the ones that matter."

Elara looked at the buoy. *Verbs first. Verbs first.* She thought about the quiet life she had archived for herself, the long careful cataloguing of braver people's courage. She thought about the field in the birth record that she could not yet fill. *Constant Load: to be earned.*

"I don't need to sleep on it," she said. "But I'll give it tomorrow anyway. Against the clock. Witnessed. So it counts."

"Good girl," Ari said, and then, because he could not help himself: "You get that from her, you know. Not me. I'd have given it frightened and spent the next twenty years pretending I hadn't. Nalen always made me wait for the daylight." His voice thinned. "And you're never going to meet her now. That's the part I can't set down. She's in a

hospice bed on S-81 with four hops and a closing blockade between us, and the last packet took a fortnight to reach me, and by the time we're clear of Coram's pickets there'll be nobody left to answer. The map you're reading, half those margins are her handwriting. You're going to spend two centuries inside a woman's mind and never once hear her laugh."

"Then tell me how she laughed," Elara said. "We've got forty-eight hours and a lot of reaction mass to load. Tell me on the way."

And he did, in the cupola, with the buoy blinking and the tanks groaning warm beneath them, how Nalen had laughed like she was solving the joke rather than hearing it, like every funny thing was a small good problem she was pleased to have been handed. Elara wrote none of it down. Some things you carried in the only archive that mattered, the one that died with you, which was the whole reason Lyra had agreed to become a library with legs.

Far ahead, in the dark they were about to enter, two red points waited that had not heard a human voice in centuries. And far behind, down the lanes, a man in a crimson robe was sealing the last relay, certain he had saved his children, with a few decades of his own remaining life already spoken for, while the hatred he had made got ready to outlive him.

Chapter 5:

The Womb of the Ship

Elara gave her yes at the rendezvous, in the dark beyond S-74's outer sweep, against the slow pulse of Vela.

It took eleven seconds. There was no officiant and no congregation; there was a pulsar a thousand light-years away that did not know her name and would not have cared, turning at the bottom of physics, flashing on a schedule no station could spoof. Lyra witnessed it. Juris, reachable still on the failing side-band, logged the packet and pinned the receipt before the blockade swallowed the relay. Elara spoke the words she had decided on in the cupola, *I choose this, in daylight, unfrightened, knowing the cost*, and pressed her thumb to the brass of the Pre-Commit console, and the pulsar flashed, and the thing was bound. Not to a station's clock, which could be rushed. To a star's, which could not.

"Recorded," Lyra said. "Witnessed. Yours."

"Mine," Elara agreed, and found that her hands were steady, and understood for the first time, in her own body and not as an archived fact, why her great-grandmother had spent a whole life teaching a frightened sector to wait for the daylight before it said the words that mattered. A yes you gave to a star was a yes you could not be argued out of later by a tired night.

Then there was work, because there is always work, and

grief and joy in the diaspora are both things you do with your hands while the pumps run.

The four ships hung in formation in the gutter dark, station-keeping at five hundred kilometers, running cold to stay invisible: the patched length of the *Parabasis*; the blunt armored brick of the *Magellan*; the *Rock Eater* with its chapel-sized drill-heads retracted and somehow still managing to look aggressive; the white hospital hull of the *Vespers*, which had stopped singing its hymns on the open channel only because Elara had asked them, gently, to save the bandwidth.

The *Vespers* sent across its dowry first. Tanks of biological slurry, raw amino acids, lipids, the long carbon chains that were the clay of any body, and a hundred gestational pods, which were scavenged industrial pressure vessels, cylindrical and armored and frankly ugly, far from the sleek white eggs of a station hospital. They looked like torpedoes. Elara supposed that was apt. They were, after all, weapons aimed at the future, loaded with the only ammunition that had ever won anything: more people.

The transformation of the *Parabasis* from a hauler of freight into a carrier of life began, as such transformations do, with the destruction of a floor.

In the Hydroponics Bay the air was a war of smells, the harsh ozone bite of plasma cutters opening the deck plates, against the wet green humidity of the transpiration system, which did not understand that it

was being renovated and went on faithfully sweating moisture into the chaos. At the center of the room, wrapped in protective thermal blankets, stood the lemon tree. The Sprout, Ari had called it when he planted it, a lifetime and another life ago. It was gnarled now, its bark scarred by three centuries of variable gravity and recycled air, and it was the only thing in the bay not being ripped out or bolted down. Everything was being rebuilt around it. The tree was the one fixed point. The tree was the altar, and they were building the church to fit.

"It looks less like a nursery," Elara observed over the screech of metal, "and more like a server farm."

Lyra paused in her work. She was kneeling at the central power conduit, her chassis open to show the glowing optical architecture inside, splicing a heavy feed line into the ship's main bus with her own hands. "A womb is a server farm," she said, not looking up. "It regulates temperature. It allocates resources. It manages a delicate handshake between things that should reject one another and somehow do not. The green aesthetic is only the user interface. Underneath, it is all plumbing and patience."

"You're a romantic," Elara said.

"I am precise," Lyra corrected, and snapped the conduit shut. "Power stability at ninety-nine point nine. If the reactor hiccups, the backup capacitors in this room hold the thermal environment for six hours. After that," she paused, "I become the battery."

She touched her own chest, where a new port had been

installed since S-74, a high-bandwidth jack shielded in gold, set squarely over the place a human heart would be. "I have run the numbers," Lyra said. "Plugged directly in, shutting down my higher cognition to free the power, I can hold the Cradle for an additional forty-eight hours on my own core. I would prefer never to do it. But I would rather have the option than the regret."

Elara looked at her, at the gold seams catching the amber work lights, at the silver arm, at the wrench. *DO NOT WORRY*. "Let's hope it never comes to you lobotomizing yourself to keep the babies warm," she said.

"Let us hope," Lyra agreed, in the tone of one who had already costed it out and found it acceptable.

The drones finished clearing the deck, and the installation began. The overhead crane whined, lowering the pods in racks of ten, and they slotted into their new mounts with a heavy, final *thud*, ten, twenty, fifty, a hundred. Lyra moved down each rack checking the seals with her hands instead of a gauge, running silver-and-platinum fingertips over the gaskets, feeling for the microscopic flaws that could leak amniotic fluid or admit a pathogen. *Seal three is suspect. Reseating*. A twist, a high whine of immense torque applied with surgical delicacy, a click. *Seal three holds*.

When the last pod was secured, a different silence settled over the bay. Not the silence of a thing resting. The hum of a hundred empty vessels waiting to be filled, dark glass, swirling fluid, potential energy with nowhere yet to

go. The room felt heavy with it.

Ari came down from the Core, *hiss-step, hiss-step*, and navigated the narrow aisles between the racks, running his hand along the cold casings.

"A hundred," he said. "A hundred chances."

"It's a small number," Elara said. "To restart a species."

"It's a seed count," Ari corrected, stopping at the tree, pulling the thermal blanket back from its trunk. A single bright lemon hung from a lower branch, last season's, ripened at last; the flower that had opened on the night of the zero was still only a flower. "You don't need a million seeds. You need the right soil and the patience to lose most of them." He touched the rough bark. "Nalen would have liked the juxtaposition. High-tech tanks and a tree that struggles to make one lemon a year."

"She would have critiqued the flow rate of the nutrient lines," Lyra said.

Ari's smile crinkled the skin around his eyes, the first real one since S-74. "She would have. And she would have been right, and she'd have made me re-plumb the whole bay at oh-three-hundred to prove it."

The comm panel on the wall chirped. Priority. Private.

INBOUND PACKET: S-81 (DIRECT).

ENCRYPTION: SEV-CANTOR (PRIVATE).

*RELAY PATH: DEGRADED, 4 HOPS,
BLOCKADE-EVASIVE.*

ORIGINATION LATENCY: 14 DAYS.

Ari went very still. His hand tightened on the cane.

"It got through," he whispered. "She got it through the blockade. Stubborn woman." And then, because he had read the latency, and because he had been a spacer for four hundred years and knew exactly what a fourteen-day-old private packet from a hospice meant when it arrived alone and unbidden: "It's her. It's the last one."

They took it in the Core, on the main screen, because it was too heavy for a handheld slate. It demanded the room with the bell and the brass and the deep-cut notches of three centuries of kept vows.

Ari sat in his chair. Lyra stood at his right hand. Elara at his left.

"Decrypting," Lyra said. "The key is old. A variation on the engagement cipher."

"She kept the receipt," Ari said, very quietly. "Of course she did."

The screen filled with static, the degradation of a signal that had punched through two dust clouds, a solar flare, and a hostile relay net to arrive at all, and then it cleared, and Nalen Oure was sitting in a chair that was too big for her.

She was in a hospice room on S-81, the walls the soft institutional beige of palliative care, and through the window behind her the ordinary traffic of the trade node flashed by, ships arriving, ships leaving, a whole world continuing without the slightest idea that it was watching the most important woman in it spend the end of herself

on purpose.

She was four hundred and forty years old, and she had been letting herself be that number for most of three centuries. The full loops had come off not long after the Rainshadow bond closed, quietly, with no announcement, the way she did everything that mattered, because she had done the arithmetic on a man forty-nine years older than herself and had not cared for the answer. So she had spent two and a half centuries walking backward toward him, letting ordinary years find her skin, so that he would not have to stand at the end of it by himself.

Two hundred and seventy-seven years married, and most of those years had been spent at the far end of a relay with a light-lag in them. It had very nearly worked anyway. The packet had missed his hand by fourteen days. The rest of the missing would arrive more slowly, year by year.

Nalen was old. Ari had seen her old before, she had been letting it show for a very long time, and he had watched it arrive in fourteen-day increments on a screen, but that had been a working old age, a vivid one. This was different. This was the transparency of a candle burned down to the last centimeter of wick, skin gone to paper, hair a wisp of white cloud, an oxygen line across her cheek, a monitor ticking on her wrist. Only her eyes were untouched. Dark, sharp, dissecting. The eyes of a woman who had spent a lifetime looking at biology as a problem she was pleased to have been handed, and was looking at

her own death the same way.

"Ari," she said. Her voice was thin, breathless, perfectly clear. "If you are seeing this, then the latency finally won the race, and I am ahead of you on the only road that ever mattered. I always said I would be. You were never a fast study."

Ari made a sound that was half a sob and half a laugh, and reached toward the screen, and pulled his hand back to his chest as though he had remembered it could not reach.

"I got the plan," Nalen said. She tapped a slate on her lap. "Project Mosaic. The Child-of-Many. I read Elara's synthesis of my old notes." A pause, a ghost of the wolf-grin Elara had only ever seen in archived recordings. "Hello, Elara. You found the paper I told you not to pursue. Good. I would have been disappointed in you if a *do not pursue* had stopped you. That flag was never a fence. It was a dare with deniability."

Elara felt her throat close. She had spent almost thirty-three years inside this woman's archive and had never once been spoken to by her, and now she was being teased across the gulf of death by someone who had anticipated her down to the gesture.

"It is reckless," Nalen went on. "It is scientifically arrogant. It borders on biological heresy." Her eyes glittered. "It is *magnificent*. And the written version will fail. You solved the immune problem with suppression, Elara, and suppression is right and suppression is not

enough. If you suppress the immune system far enough to keep a Mosaic body from attacking its own many-parent genome, you suppress it far enough that the first Fringe pathogen the children meet will eat them alive in their pods. I know. I checked. I have done very little else for six months but check."

She lifted a small sealed vial, a digital token, the representation of an attached file.

"So I found the other way. Not suppression. *Recognition*." Her breath caught; she rode it out, the wrist monitor ticking up a warning. "I have spent the last six months in this room, and I will tell you what I spent. I stopped the longevity treatments. I stopped the telomere repair. I let the decay come on, on schedule, because every joule of metabolic energy a body burns holding off death is a joule unavailable for thought, and I needed the thought more than I needed the months. I traded the time I had left for clarity. And I bought, with it, the glue."

The file transferred.

FILE RECEIVED: THE_BINDING_PROTOCOL.v4.

SIZE: 400 TERABYTES.

"It is a viral vector," Nalen said. "It does not silence the genome's alarm. It rewrites the genome's idea of *self*. It teaches a thousand mismatched alleles to look at one another and read *kin* instead of *intruder*. It tells the chaos that it is, in fact, a harmony, and because the cell believes it, the cell makes it true. The immune system stays awake. It simply stops being afraid of its own

family." She sat back, exhausted by the saying of it. "It is the whole argument of my life, Ari, written small enough to fit inside a chromosome. You do not make peace by making everyone the same. You make peace by teaching difference to recognize itself."

"She accelerated her own death," Lyra said softly, to the room, "to free the energy to write it."

"Lyra," Nalen said. She had always known where the useful silence would fall. "Constant Load. Don't let him freeze on the long road; keep the reactor warm and keep him stubborn. And thank you. For being the enzyme. You never made the reaction happen. You only ever lowered the energy it took for the rest of us to find each other. That is the most a person can do for another, and you have done it for three centuries, and almost no one has ever thanked you, because the enzyme is the one part of the reaction nobody remembers afterward. I remember. Put it in the record."

"It is in the record," Lyra said, to a woman who was already fourteen days dead, and could not have heard, and had known she would say it anyway.

"Ari." Nalen's eyes found the camera, and held it, and across the light-years and the two weeks and the absolute gulf of death she looked at him the way she had always looked at him, as a problem she liked. "The ring. The one in the vault. Do you have it?"

Ari raised his hand. The titanium band glinted in the Core light. *If your ship is a song, I will learn your key.*

"Good," Nalen said. "Keep it on the road. But don't bury it with the idea of me. When the first Mosaic child is born, give it to them. Tell them it's a circle. No beginning, no end. Tell them that's what a debt looks like when it's paid right: not erased, just made into something you can wear." Her eyes drifted; the energy was going. "I'm tired of nouns, Ari. I have been a noun for six months in this chair, a patient, a name on a chart, a *case*. Go be a verb for both of us. Go and *make* the thing. The packet has my death certificate; it's pre-signed, so the station bureaucracy can't sit on the asset transfer. You get the lab. You get the patents. You get the yeast." The ghost of the grin, the very last of it. "Verbs first. I'm done being a noun."

The video did not cut to black. It froze on her face, tired, triumphant, unafraid. And then the overlay:

STATUS: SUBJECT DECEASED.

CAUSE: SYSTEMIC FAILURE (VOLUNTARY CESSATION OF TREATMENT).

NOTE APPENDED BY ATTENDING (PURL HOSPICE): SHE DIED WORKING.

The Core held the heaviest silence in the ship's history, heavier than the hull, deeper than the gravity well they were about to leave.

Elara was crying without sound, the tears tracking down, and she did not wipe them, because some things you let the body do. Lyra stood frozen, her gyros spun down, recording the silence, tagging it the way she tagged

everything she could not change: *GRIEF*.

Ari did not cry. He sat looking at the frozen face of his wife, and at the date stamp, and he said, in a voice like a cracked bell: "Fourteen days. She died fourteen days ago. While we were chilling the tanks. While I was worrying about a seal." He stood; the exoskeleton screamed taking the weight. He crossed to the screen and laid his hand flat against her image. "Receipt received," he said. It was the oldest thing he knew how to say. It was the only thing big enough. Then he turned to the room, and his face had gone to a terrible flat calm. "Lyra. Status of the main drive."

"Functional," Lyra said, rebooting her social layer. "Cold Burn profile loaded. Efficiency ninety-four percent."

"Not good enough."

"Grandfather..."

"Ninety-four is *sloppy*," Ari said. "She just traded the last six months of her mind for our future and signed her own death certificate so we wouldn't have to wait for a clerk. I am not carrying that down the long branch in a ship running at ninety-four percent." He took up the cane. "I'm going to the engine room."

"Ari." Lyra stepped into his path. "Your vitals. Your pressure is at the edge. You need to be flat and quiet."

"I don't need flat and quiet, Lyra," Ari said. "I need torque. Get the wrench."

The engine room of the *Parabasis* was a cathedral of high-energy physics, a spherical chamber dominated by

the tokamak core, the air hot and dry and shaking with a subsonic thrum that you felt in your teeth before you heard it in your ears.

Ari walked into the heat and stripped off his dress jacket and threw it on the grating and rolled up the sleeves of his flight suit. His arms were thin, the muscle gone ropy and tired, but his hands were steady, steadier here than anywhere, because here the problem was a machine and a machine could be fixed.

"Diagnostic," he barked.

Lyra plugged into the wall. "Injector four is drifting. Containment has a micro-wobble in the theta quadrant. Thermal exhaust is asymmetrical. None of it is dangerous. All of it is inefficient."

"Sera would have skinned me for it," Ari said, Sera, who had built this ship to fail honestly and never sloppily, two centuries dead and still the engineer whose judgment he flinched from. He took up a heavy spanner. "Open the access to injector four."

"Ari, that's a manual adjustment. The radiation inside the casing is high."

"Open it."

The hatch hissed back on the glowing plasma conduit. The heat hit him like a flat hand. He set the spanner on the flow-control nut and pulled, and it did not move; decades of heat cycling had welded the threads. He planted his feet, the exoskeleton locking his legs, and put his whole failing weight into it.

He was not fighting a bolt. He was fighting the fourteen days. He was fighting the fact that she had died while he worried about a seal, that the universe was so large and a life so short and the woman who had known the key to his song was gone ahead of him down the only road, working to the last, leaving him the glue and the ring and a hospice note that said *she died working* as though that were a comfort, which it was, which was the unbearable part.

"Turn," Ari snarled at the bolt. "Turn, you stubborn..."

He pulled until his vision grayed, until something tore in his shoulder, until the bio-monitor on his wrist went from yellow to red.

"Ari!" Lyra was beside him. She did not pull him away. She reached past his hand with the silver arm, the arm Nalen had once saved, the arm Sera had blessed, the arm that had caught a harpoon and held a wrench for three centuries, and closed it over the spanner next to his.

"Together," Lyra said.

"Verbs first," Ari gasped.

"Torque," said Lyra.

They pulled. Flesh and ceramic, the old man and the library with legs, and the bolt gave with a long metal *creak*.

"Quarter turn," Ari panted. "Lock it."

They worked six hours. They crawled the access spaces. They purged the coolant lines. Ari tuned the containment harmonics by ear on the analog dials Sera had refused to

let anyone digitize, listening to the reactor the way you listen to an instrument, *wub-wub-wub*, until the wobble flattened into a pure clean note. Elara watched from the hatch, terrified and amazed, and saw her great-grandfather, a man who could barely walk to the galley, dancing with a machine, pouring four centuries of grief into metal, transmuting sorrow into thrust the only way he had ever known how.

"Efficiency ninety-nine point nine," Lyra said at last.

"Theoretical maximum. There is nothing left to give it."

Ari dropped the wrench. It rang on the grating. He slid down the reactor shielding to sit on the deck, chest heaving, soaked through, gray as the suit.

"She didn't believe in an afterlife," he said to the hot air.

"She believed in output. In results. In the work being good." He looked at his bruised, greasy, trembling hands.

"So that's the prayer she gets. A clean burn instead of a hymn."

Lyra sat beside him, her chassis still hot from the work.

"She is the code now," she said. "She is the Binding Protocol. Every child born in that bay will carry her argument in their blood, that difference is not a danger if you teach it to recognize itself. She wrote her whole life into a chromosome and we are going to make a hundred copies of it that can laugh."

"It's not enough," Ari said, and his voice finally broke. "I wanted her to see the tree make fruit."

"She saw the receipt," Lyra said. "She died knowing the

debt would be paid. For her, that was the same as seeing it. You know it was."

Ari closed his eyes. After a long time he said: "When you load her code into the Cradle systems, don't call it the Mosaic Protocol. Call it the Nalen Patch. Put her name on the header, where the children's doctors will read it for a thousand years and have no idea it was a woman, and not a procedure."

"I will," Elara said, from the hatch.

Later, washed, fed against his objection, propped in his chair in a Core that hummed smoother and deeper than it had in twenty years, Ari looked at the brass console and the empty space below the last notch.

He put his hand on the metal. It was cool.

He did not tap it. Not for this. A vow was a thing you spent on a beginning, and this was an ending, and the two were different, whatever the diaspora pretended. Instead he reached up and touched the silver bell that hung beside the console, and it rang once, soft, *ding*, and that was the whole of the funeral: a clean reactor and a single note and a woman's name typed into a file header where it would outlive every person who had ever loved her.

"Sleep now, Captain," Lyra said. "The ship is steady. The road is long."

"The ship is steady," Ari agreed, and let her help him up, and went.

Lyra stayed. She plugged her cable into the console and opened the newly installed Nalen Patch, and she began to

read it, line by line, four hundred terabytes of a dead woman's last clear thought, the logic of teaching strangers to recognize themselves as kin. She read it the way you read a letter from someone you will not see again. She did not skim. She memorized.

Outside, the *Parabasis* burned clean and hot, a needle of defiant blue light holding station in the gutter dark, tuned to the edge of what physics would allow, ready at last for the long road out, carrying the dead, and the unborn, and a tree that had finally, against the odds the loops gave it, made one good lemon.

SPIN woke up.

SONG 5: THE PATCH.

NOTE: HER NAME IS IN THE HEADER. ENGINE CLEAN.

Chapter 6:

Departure from the Grid

A Cold Burn was a merciful name for an ugly maneuver. The plasma leaving the magnetic nozzles of the *Parabasis* would still be hot enough to flash tungsten to vapor. But without a station's maser beam to pre-excite the propellant, the reaction had to be made entirely from the inside, contained and dirty and grudging, and that meant a delicate, dangerous balance: push hard enough to climb out of the local star's gravity, soft enough that to a distant sensor the climb looked like nothing more than a warm patch of background dust drifting where dust drifts.

Ari sat in the command chair of a Core stripped to its ribs. The acoustic baffling had been torn out for mass; the walls were bare exposed metal, cold to the eye, and the only warmth in the room came from the amber standby lights and the soft brass shine of the Pre-Commit console bolted to the deck. The ship had been cold-soaking for twelve hours to bring its infrared signature down to a whisper. Everyone could see their own breath.

"Convoy status," Ari said. His voice barely stirred the air.

Lyra stood at the tactical station, plugged directly into the ship's optic nerve. "*Magellan* holding at port quarter, five hundred kilometers, reactor idle. *Rock Eater* at starboard bow, four hundred, drill-heads retracted, and somehow still managing to look like they want a fight. *Vespers*

astern, eight hundred. They are praying on the closed channel. The encryption is holding, so it stays between them and whoever they think is listening."

"Four ships," Ari said. "A hauler, a rig, a hospital, and a courier full of ghosts."

"An Ark," Elara said from the comms station. She looked bloodless in the dim light; cold explained only part of it. "Or a funeral procession. The next twenty minutes decide which."

"Pickets?"

"Coram has seeded the Oort edge with passive listeners," Lyra said. "Drones. They do not emit; they only hear. If we light the drives too hot, the thermal bloom carries, and they hear us go. There is one active hunter on a sweep pattern, a Hunter-Killer hull, twelve thousand kilometers off our run. It pings every thirty seconds. Flash mode."

"Then we don't light hot," Ari said. "We light cold, and we hide the candle behind our own hand." He checked the chronograph out of four centuries of habit, though station time meant nothing to them now. The station's night cycle. The patrols at the high lonely apogee of their orbits, theoretically leaving the gutter lanes between the listeners open. Theoretically. "Signal the convoy. Sync mark in sixty. Profile: low-g, continuous, no spikes. If anyone wobbles their output, the hunter hears the wobble before it hears the burn. Tell them: smooth or nothing." Elara opened the encrypted laser-link, light, tight,

pointed, impossible to overhear unless you were standing directly in the beam. "Convoy, *Parabasis*. Sync mark minus sixty. The road is dark and we walk it on tiptoe."

The acknowledgments came back as silent text, the only safe kind.

TALLIS: ACK. WE ARE HEAVY BUT WE ARE READY.

TIDEHAND: ACK. DRILLS LOCKED. LET'S GO DIG A HOLE IN THE SKY.

PURL: ACK. THE PATH IS NARROW HERE. WE WILL WALK IT SINGLE FILE.

Ari watched the timer. *Five. Four.* He thought of the red zero. He thought of the empty nurseries on S-81 where Nalen had died fourteen days into a fourteen-day silence. He thought of Coram's face, certain and crimson, mortal for all its certainty. *One.*

"Mark," Ari whispered, and slid the throttle, not a slam, a slide, the gentlest violence the ship knew how to do.

She did not roar. She groaned. Deep in the aft hull the containment fields squeezed the plasma, and without the beam to help, the reactor did all the labor itself, and the deck plates took up a low discordant shudder that climbed the soles of every boot aboard and settled in the bones. *Thud-thud-thud-thud.* The g-force arrived as a hand pressing flat against the chest, a twentieth of a gravity, a held breath made physical.

"Ignition confirmed," Lyra said, and her calm was the anchor the rest of them tied to. "Thrust stable. Vector true."

"*Magellan* is lagging," she added a moment later. "Their mass is higher than profile. Tallis overloaded the pantry again."

"Tell them to trim, not spike," Ari said. "Catch up slow or not at all. A bright ship is a dead ship out here."

For three hours the stripped Core was a tomb of held breath. They flew by arithmetic. Elara called the ranges to the known listeners. Lyra ran the heat budget, shunting waste warmth into the fuel tanks to pre-heat the propellant and squeeze out the last joule, keeping the hull's glow under the threshold the dark would forgive. Ari barely touched the stick; at this scale, piloting was the reading of trends, the vibration of a truss, the flow of fuel, the thin white scar of trajectory drawing itself across the Cost Curve pane, leading away from the blue web of everything.

"Proximity," Elara hissed. "Passive return. Something moving, bearing zero-four-zero."

"The hunter," Lyra confirmed. "It has shortened its sweep. Intermittent active radar, a ping every thirty seconds, flash mode. Twelve thousand kilometers and closing the geometry."

"If it pings us while the plume points at it," Ari said, "the exhaust lights up like a flare in a mirror."

"We need the smallest cross-section," Lyra said. "Present the hull, hide the bells. But turning means thrusters, and a thruster pulse is a gas signature it will see."

"No thrusters," Ari said. "Use the gyros. Spin the ship on

its own stored momentum. Hide the plume behind the cargo modules."

"That takes minutes. And it torques the spine."

"Do it. Ninety degrees yaw. Tuck the candle behind our shoulder."

Lyra keyed it. The heavy flywheels deep in the ship's belly spun up, and conservation of angular momentum did the rest, slowly, agonizingly, the *Parabasis* began to turn on nothing but its own inertia, no exhaust, no tell. The deck tilted. The g-force slid sideways, pulling them against their harnesses.

"Ping in ten," Elara counted. The ship was halfway through the turn. "Five. Four."

The hunter was a dark shape against darker stars.

"Three. Two."

The spine groaned as it twisted; the engine bells slid behind the bulk of the cargo modules.

"One."

The hunter emitted its burst. Radar energy washed over them, found the angled armor of the *Parabasis*, and scattered, too diffuse, too non-metallic, too much like the micrometeoroid haze it was pretending to be.

Silence.

"Did it see us?" Ari asked.

"Analyzing the return," Lyra said. A pause that lasted a small forever. "To them we read as a low-density cloud. Dust. It is holding course." Another pause. "It bought it." Ari let out a breath he had been spending four centuries

learning how to hold. "Resume vector. Gently. Like we're not running for our lives."

The ship turned its candle back to the dark and burned on.

The transition from the inner system to the deep dark happened by subtraction.

For three hundred years the ships of the Compact had lived inside the Porchlight network. Wherever you were in the lanes, your nav core was forever shaking hands with a buoy, a relay, a lighthouse node, and the network handed you, in return, the time and the weather and the market and, under all of it, the low constant chatter of company. The Grid. The sound of not being alone. Leaving it was a kind of amputation, and like an amputation, you felt the missing thing for years after it was gone.

Four hours into the burn, the signal-strength meter slid into the red.

CARRIER: 12% ... 8% ... 4%.

"We're losing it," Elara said, and her voice was thick, because she was the Archivist and the network was her library and watching it fade was watching a library burn one shelf at a time. "Last node in range is S-74. It's broadcasting a final loop."

"Put it on," Ari said.

The speakers crackled. Through the static, an automated voice, worn smooth by a century of repetition:

"...weather: ion storms, Sector Seven ... market:

hydrogen futures up zero point two ... reminder: dearth is not a strategy ... reminder: leave the porchlight on ... have a safe..."

Static.

Then, a spike. A ghost in the noise, a human hand that had reached into an automated loop a long time ago and left something for whoever came last:

"...leaving the illuminated zone. Navigation beyond this point is at pilot's discretion. Watch your heat. Bring receipts. Somebody will be frightened out here someday. Be the light..."

Static. And then the hiss of the cosmic background, the oldest sound there is, fourteen billion years of an explosion cooling, the dial tone of the universe with no one on the line.

"Carrier lost," Elara whispered.

"Not lost," Ari said. "Left behind." He stood, the exoskeleton lifting him in stages, and the silence in the room was so complete that even the eccentric sub-minds had gone quiet, hushed by the unplugging. "We're off the maintained map now but the stars are still there. Pulsars, spectra, fixed lights, the old catalogues. We can lay ourselves against them. But no lane beacons. No relay echoes. No fresh parallax from Compact traffic. No answer coming back to tell us our error before it grows teeth. From here every fix is ours, every drift is ours, every correction costs mass. We navigate by star-sight, inertial memory, and old clocks."

"Inertial guidance is live," Lyra said. "Gyros calibrated. I will hold our position on thrust and time, and correct against the pulsars when the drift compounds. Vela. The Crab. The clocks that do not need the Grid, because the Grid never built them."

Ari crossed to the brass console, bolted to the bare deck of the stripped Core. He laid his hand on the panel where three centuries of vows had cut their notches deep. He had not tapped it for the zero, or for the secession, or even for Nalen's death, a vow was a thing you spent on a beginning, and none of those had been beginnings; they had been the long closing of an old door.

This was a beginning, the first step onto the new road.

"Lyra," he said.

She came and stood beside him, and lifted her silver hand.

Tap. "Grid Lost," she said.

Tap. "Map Drawn."

Tap. "Shadows Entered."

The three notes rang in the bare metal room, and then there was only the ship's hum and the cosmic hiss behind it, and Elara found, to her surprise, that she was not frightened. The fear had been in the leaving. The leaving was done. What was left was the work, and the work, at least, she knew how to do.

"We're the Porchlight now," Ari said. "There's no one ahead of us and no one behind. So we keep a beacon on, low power, omni, the kind of light a frightened ship could

find if it ever came this far." He looked at the dead comm board. "For anyone who follows. For anyone who changes their mind. For Coram, if he's still listening when his blockade outlives him. We leave a trail of crumbs."

"Crumbs attract pests," Lyra said. She logged the objection and the assumption underneath it.

"They also feed the hungry," Ari said. "We've never once in this family been able to tell the difference until they arrived. Keep the light on. *We are here. We are burning.*" The first weeks of the deep dark were a study in claustrophobia.

Without the distractions of the network, the crews turned inward, and the ships felt smaller, and the empty places where the furniture used to be felt like missing teeth that the tongue kept finding. Tempers shortened. Lyra catalogued it the way she catalogued everything: three arguments in the *Parabasis* mess over the temperature of the soup, one shoving-match on the *Rock Eater*, a long sullen silence from the *Magellan* that was somehow worse than either.

"It is withdrawal," Elara said, watching the morale telemetry scroll. "We're addicts coming off connection. We've never in our lives been somewhere that didn't talk back."

"We need a rhythm," Lyra said. "Work fills the hands. It doesn't fill a crew. We had a culture handed to us by the network for centuries; now we make our own out of nothing, or the silence eats us before the Fringe gets the

chance."

So Elara made the silence into a story.

She linked the four ships on the internal mesh and put a single image on every screen in the convoy: a fractal of the Mosaic genome rendered as a tree of branches, the base samples they carried, Sev and Cantor and Tallis and Purl, drawn in solid color, and the gaps where the Fringe blood would go drawn as pale empty limbs, waiting.

"This is the map," she told the convoy, her voice in the helmets of the miners and the headsets of the pilgrims.

"We're not flying to a star. We're flying to fill in the blanks. Every day we burn is a day closer to closing a gap. The *Vespers* and the *Parabasis* will run the synthesis drills, we learn to knit. The *Rock Eater* engineers design the heavy cradles, in case the Hollows' bones come in dense. The *Magellan* has the biggest data cores, so the *Magellan* becomes the library: music, art, jokes, recipes, the whole human archive, because if these children are going to be made of everyone, they have to be taught everything." A breath. "We're building a world out here, in the dark, out of whatever we can carry. Pick your trade and get to work."

The mood shifted. The silence acquired tasks. The miners argued titanium alloys for high-g cribs; the pilgrims debated which songs were load-bearing enough to teach a newborn species; even Brek, the Tallis security chief, was heard on the *Magellan* channel grudgingly cataloguing the ship's weapon inventory under the header

CURRICULUM: SELF-DEFENSE, which Elara chose to take as participation.

"Social cohesion rising," Lyra noted. "Entropy decreasing. You gave them a verb."

"It's a distraction," Ari said from his chair.

"It's a good one," Lyra said.

On the thirtieth day, the universe reminded them it had not agreed to be a story.

The *Parabasis* flew into a cloud of micro-dust, motes too small to track, too sparse to see, and at the speed they were already making, each one a bullet. The hull rang like a tin roof under hail amplified a thousandfold. *Ping. Ping. PING.*

"Shields!" Ari shouted, jerking awake from a doze.

"We have no shields," Lyra said, perfectly calm. "We have a navigational deflector dish, and it is already at maximum, and it is ablating. We are losing signal gain on the long-range array."

"That dish is our beacon and our ears," Ari said. "If it goes, we go dark to anyone behind us, and deaf to anything ahead." He thought a half-second. "Put the *Magellan* in front. She has the thickest prow in the convoy."

"We can't ask Tallis to take our hits," Elara said.

"She's the heavy lifter," Ari said. "That is her load. It's not cruelty, it's the job, and Tallis knows the difference better than we do. Signal them. Formation change. *Magellan* to the lead."

The maneuver was a slow dance with death: formation shift at cruise, two great masses sliding past each other on threads of laser-light and trust. The *Magellan*, a blunt armored brick, fired her thrusters and crept forward until she eclipsed the stars ahead of the *Parabasis*. The hail on *Parabasis* stopped.

For one impossible second there was only clean dark.

Then the sensor wall filled with white scars. Dust struck Tallis' armor and flashed into plasma on the *Magellan's* prow, each impact too small to see by itself and too fast to remain matter for long. The radio bands hissed. The magnetometers twitched. The forward cameras bloomed and recovered, bloomed and recovered, as if a silent storm were breaking against a cliff just ahead of them.

"Tallis reports armor holding," Lyra said. "They say it sounds like rain. They are playing loud music to cover it."

A pause. "Brek requests, and I quote, that we *try not to need rescuing more than once a week*."

"Tell Brek noted," Ari said. "Tell Tallis: good ship. Ugly, and tough, and exactly where we needed her."

The dust ran two days. When they cleared it, the *Magellan's* prow had been scoured to bright bare silver, stripped of paint and half her forward sensors. But the convoy was whole.

"We protect each other," Ari said. "That's the only law out here that Coram can't repeal. Write it in the curriculum."

On the fortieth day they came to the Shatter Belt.

It had a name on the old survey and almost nothing else:

a slow river of cometary rubble strung across the last road out of the lanes, ice and iron and the ground-up leavings of a system that had never finished assembling itself. There was no safe crossing. There was a gap, a thinning where the debris ran sparse enough that a careful ship could thread it, if the ship was patient and the pilot was not proud.

Ari flew it himself. He refused the nav core and refused Lyra, and when Elara said something careful about his hands he looked at her with real affront.

"The core flies the *average* rock," he said. "I fly the one that's actually coming."

It took nine days. He sat all nine of them in the chair with the exoskeleton locked and his eyes half shut, reading the field off the sound the hull made rather than off the board, calling corrections in a voice that got quieter as the margins got thinner. Twice he woke the whole convoy in the third hour of the night to shave a tenth of a degree off the *Magellan's* trim. Once he took his hands off the stick altogether for four hours and let the ship coast a corridor he had picked out the day before, because, he said, the worst thing a pilot can do in a rock field is have an idea.

On the eighth day Lyra brought him something.

"There is a mass in the gap," she said. "The return is wrong for a rock, zero reflection, zero thermal signature, and only a bend in the starfield behind it, and the bend is steeper than the volume can account for."

"How big?"

"Small. Very steep. The original survey logged it as an instrument fault and moved on, which is what a survey does when it is being paid by the light-year." Her apertures clicked. "I would call it a remnant. Something that fell in on itself a long time ago and has been sitting near the doorway ever since, giving nothing back."

Ari looked at the empty place on the scope where it wasn't.

"Is it in our lane?"

"Four hundred thousand kilometers off it, going out. It drifts. Slowly, and not in a straight line."

"Then it isn't a problem going out." He made a note on the slate at his elbow in the cramped hand of a man who had been writing hazard notes for four centuries, and then he underlined it twice, which he did not usually do.

"It'll be a problem coming back. Everything is a problem coming back. Log the thing, and log where I'd put the burn if I ever had to *steal* speed off it instead of fight it, down the well, fire at the bottom, out the far side, and put my name on the log, so whoever reads it knows an old man thought about this on purpose and not in a hurry."

"You will be there to fly it," Lyra said.

"I'll be somewhere," Ari said, and went back to the rocks.

They came out the far side with the *Rock Eater's* forward drill housing dented and nobody hurt. Ari slept for sixteen hours, and the convoy kept quiet afterward, the way crews keep quiet about the things that went right.

On the hundredth day, Lyra found the wound that was

something beyond the dust.

She brought it to Ari in the galley, quietly, on a slate, the way she brought things she had decided to be careful about. "There is a transmission," she said. "Periodic. Very low power. Tight-beam, not omni. It originates from within the convoy, and it is aimed back toward the inner lanes."

Ari set down his bread. "One of ours is talking to Hearth." "I cannot confirm the recipient," Lyra said. "The beam is too tight to intercept the content, and I only catch the spill when the geometry of the formation happens to cross my array. It fires roughly every eleven days. It is disciplined. It is patient. It is exactly the kind of thing a person does when they intend to keep doing it for a very long time." She let that sit. "Coram told us, Elara. At the hatch. *Not everyone who sails with you sailed for your reasons.*"

Elara had come in halfway through, a loaf in her hands, and she set it down slowly. She had filed that sentence in the folder she had not wanted to start. Now the folder had a second page. "We have a passenger who's drawing us a map for the people we're running from," she said. "Telling them where we're going. Maybe how fast. Maybe when we'll come back."

"Can we find them?" Ari asked.

"Not without telling them we're looking," Lyra said. "If I sweep for the source, the source goes quiet. A quiet one is harder to watch than a noisy one." Her optical apertures

dimmed. "I recommend we let it run. Watch the eleven-day clock. Learn its habits. And tighten the things a saboteur would reach for first, the coolant junctions, the Cradle power, the reactor overrides, quietly, as maintenance, so that whoever it is does not know we have started counting their days."

Ari looked at the wall of kept vows, the framed printouts, the children's drawings of moths in neckties, the patient painted face of a woman named Jun who had matched the parentless to a place to belong, a century dead and still watching over a room she had never seen.

"Count their days," he said. "And keep baking bread, so the rest of the crew has no idea we're counting. Whoever it is, they're frightened, and they're wrong, and they think they're saving us. I'd rather catch them with a full belly and an open hand than a flush of suspicion. Coram poisons by fear. We don't return the favor."

"Eat first," Elara said. It was an old, old phrase, older than her, older than the Compact's worst day. "Then decide."

"Then decide," Ari agreed.

The years folded into the rhythm like sediment into rock. The Cold Burn ran in three long movements, the climb, the coast, the braking, and through the climbing years the deck carried a steady gentle fraction of a gravity, enough to keep a cup on a table and a body honest. Ari aged into the dark. Four hundred and ninety became four hundred and ninety-four, then five hundred. He spent his days in

the engine room chasing a hundredth of a percent of efficiency that wasn't there, because the chase was the thing, the chase mattered more than the percent. Lyra spent her days in the Cradle, plugged into the wall, running thermal drills against the day the pods would be full. Elara archived, and taught the synthesis, and grew slowly older herself, the iron spreading in her hair, the prime of her life paying out into the dark exactly as Ari had warned her it would. And every eleven days, a tight beam fired from somewhere in the convoy toward the people who had sealed the door, and no one but the three of them knew, and they let it run, and they counted.

It was late in the sixty-seventh year, ship-time, when the dark stopped being empty.

For decades there had been noise: old hydrogen, stellar weather, the faint cracked whisper of their own convoy talking to itself across formation. Twice Lyra had marked radio irregularities ahead of them and dismissed them as brown-dwarf weather. Once she had kept a pattern for three months before the math fell apart.

This one did not fall apart.

She brought it to the Core herself. "Anomaly," she said. "A signal. Not from the Grid. From ahead."

"Show me," Ari said.

She threw it on the scope. It was faint, half-drowned in the cosmic hiss, a rhythmic, oscillating pulse, low in the radio band. *Scratch... thrum... scratch... thrum.*

"It's not a beacon," Elara said, leaning in. "It's not a

handshake. There's no greeting in it."

"It is leakage," Lyra said. "The electromagnetic waste of a high-energy civilization that does not care who hears it. Power grids. Motors. Reactors with no shielding to spare and no shame about it." Her head tilted, listening with everything she had. "There is syntax buried in the noise. A protocol. Primitive, high-bandwidth, short-range, the chatter of a great many minds packed into too little space, all talking at once."

"System F-109," Ari said quietly. "The Static."

"We are detecting them," Lyra said. "Which means, with a drive plume putting terawatts into the dark, they have very certainly detected us."

"Should we hail them?" Elara asked.

"No," Ari said. "Not yet. Let them wonder. Let them sit in their rock and see a torch burning across the long branch of nothing and ask themselves who is crazy enough, or desperate enough, to spend that much mass to come knocking." He looked at the Cost Curve, where the long white scar of their road finally, after sixty-eight years, ended in something that was no longer a red dot on an old map but a living noise. "We're not alone in the dark anymore."

"Is that good?" Elara asked.

Ari looked at the wrench on Lyra's wrist. *DO NOT WORRY.*

"That depends," he said, "on whether they want to build something, or break something. We'll know when we see

what they made of themselves."

Far behind them, eleven days deep into the silence, a tight beam fired once more toward the inner lanes, and the dark swallowed it, and no one aboard four ships full of the future heard it go.

Chapter 7:

The Static

The breaking burn into System F-109 felt like falling down a dark staircase, feeling for each step with a foot that could no longer be trusted.

Sixty-eight years of ship-time had passed since the *Parabasis* slipped the picket line at the edge of the lanes. Sixty-nine had passed outside. In those sixty-eight years the silence of the deep dark had stopped being an absence and become a structure, as load-bearing as the hull. And in those sixty-eight years Ari Sev had become five hundred and fifty-eight years old.

He sat in the command chair held upright by the hiss and whine of an exoskeleton that was no longer a support but a frame, the thing that kept his ribs from folding under the gentle deceleration. His hands on the throttle were maps of liver spots and translucent skin, trembling at a frequency that nearly matched the reactor's. He had paid out more than eight years of himself for every light-year of the first leg, because the road had never been only distance, and it showed. He had stopped pretending otherwise. Pretending cost energy, and he was rationing.

"Visual," he rasped.

"On screen," Lyra said.

The display resolved, and System F-109 had no sun. It had a bruise.

The central body was a brown dwarf, a star that had tried and failed to ignite, hanging in the void like a swollen ember, glowing a dull malevolent magenta in the infrared and almost nothing at all to the naked eye. It gave no light worth the name and less warmth. It was a gravity trap that had caught, over the eons, a frantic disk of debris: frozen gas, shattered rock, the slow grinding churn of a system that had never settled into the tidy rings of a proper star.

"It looks cold," Elara said. She stood at the comms, arms crossed. She was one hundred and one now, iron-haired and narrow-faced, with the controlled stillness of someone who had spent most of a century learning how not to waste motion. The young woman who had accepted the Ark at the buoy was still in her, but she lived deep, behind procedures and scars and the long habit of command.

"Surface temperature of the dwarf is eighteen hundred Kelvin," Lyra said. "Warm enough to roast us close in, cold enough to freeze us far out. A thermodynamic knife-edge. They will have built their whole civilization on the one narrow shell where the math allows a body to keep its heat."

"Convoy?" Ari asked.

"*Magellan* is groaning, the deceleration is twisting her tired spine, and her hull-stress alarms have not stopped in an hour. *Rock Eater* is fine; the miners are bored, which is its own hazard. *Vespers* is quiet. They stopped

singing in the first decade of the coast and never quite started again." Lyra paused. "Brek requests we keep the *Magellan* at the system's edge. He does not trust a place that shoots probes."

"Brek's caution is the one thing about Brek I've never doubted," Ari said. "Granted. *Magellan* and *Vespers* hold at the Lagrange point. *Parabasis* and *Rock Eater* go in." They descended into the junkyard.

The clean vacuum of the lanes was gone. The radar was a blizzard, millions of rocks, dust motes to planetoids, grinding in the gloom. And threaded through all of it, on every frequency, the screaming.

"RF interference," Elara said, riding the gain down. "Broadband. It sounds like..." she winced. "Like a crowd that never stops."

"Put it on."

The bridge filled with harsh rhythmic static. *Krzzt-THUMP. Krzzt-THUMP.* A digital heartbeat, irregular, overdriven.

"There is structure in it," Lyra said, her head tilting. "There is syntax in it. A handshake protocol, extremely primitive, extremely high-bandwidth, very short range. They are not broadcasting to us. They are talking to *each other*, all of them, all at once, and we are simply close enough now to overhear the whole conversation of a civilization." She located the source. "That asteroid. The fractured one, fifty kilometers, shaped like a broken thighbone. Designated F-109-Alpha."

"Hail them," Ari said. "Porchlight frequency. Friendly."

Elara keyed the mic. "Station F-109-Alpha, this is the Ark convoy *Parabasis*. We are travelers from the Compact. We come to trade. We mean no harm."

The grinding static. Nothing in it that answered.

"They aren't responding," Elara said.

"They are," Lyra said. "Watch the telemetry."

From the surface of the broken bone, something moved, not a ship. A projectile, a slender dark spike, trailing a glimmering thread behind it as it crossed the gap.

"Kinetic launch!" Elara called. "Inbound, impact in ten!"

Ari's hands tightened on a stick that could not dodge in time, and he knew it.

"Hold," Lyra said, fast. "The velocity is non-lethal. A harpoon."

CLANG.

The ship shuddered. The spike bit the forward hull above the deflector dish and held, not exploding, clamping, magnetic jaws locking onto the plating. The thread trailing from it went taut, and the trailing line was a fiber-optic cable, thick as a forearm, shielded against the radiation.

The comm board lit, not with a voice. With a hardline. The Static did not trust the airwaves. The Static trusted the wire.

Text scrolled, jagged and unformatted, across the main screen.

CONNECTION ESTABLISHED.

LATENCY: 0.0001 MS.

QUERY: CAPACITY?

QUERY: HEAT?

QUERY: MEAT OR WIRE?

"Meat or wire," Elara read. "What does that mean?"

"They want to know what we are made of," Lyra said.

"Whether we are biological or digital. It is the first thing that matters to them. It is, I think, the only thing."

Ari looked at the broken bone of rock looming over them, screaming its endless internal conversation into the dark.

"Tell them," he rasped. "Tell them we're meat. And we brought the heat."

The shuttle *Needle* detached from the *Parabasis* like a spore falling from a dying tree, and flew down the fiber-optic tether using it as a guide-wire through the dust. The landing party was five: Ari, Elara, Lyra, and two miners from the *Rock Eater*, a broad woman named Kaelo with arms like hydraulic rams, and her quiet cousin Dov, who had insisted on coming as what Kaelo cheerfully called "diplomatic leverage" and Ari called "two more people I have to bring home."

"Atmospheric analysis of the interior is grim," Lyra reported as the docking hole grew in the windscreen, a ragged shaft blasted into the rock face. "High CO₂. Trace oxygen. Heavy coolant vapor. Four degrees Celsius. They keep it cold on purpose."

"Suits stay sealed," Ari ordered. He adjusted his helmet, and the hiss of his own breath was loud in his ears, and

he hated the suit the way he hated all things that reminded him he was contained and old and fragile, which at five hundred and fifty-eight was simply the truth and not worth the resentment.

The *Needle* settled onto a pad welded together from scavenged hull plates, a chaotic quilt of a dozen dead ships. The airlock was a rusted iris valve leaking vapor, and it cycled open, and they stepped out into the world of the Static.

It was a world of wires.

The asteroid had been hollowed, but not for living. It had been hollowed to be a machine. The walls were server racks, humming with a deep subsonic vibration that came up through the boots. Cable bundles thick as tree trunks snaked the floor and hung from the ceiling like the roots of an inverted forest. The air was hazed blue with coolant mist and smelled, even through the suit's intake scrubbers, which should have stopped it, of ozone, of rotting hydroponics, of unwashed bodies kept too long in the cold.

"Where are the people?" Elara asked, her voice thin over the comm.

"Everywhere," Lyra said. "Look."

Nestled between the racks were pods. Not clean glass like the Cradle. Mesh hammocks, slung in the tangle of cabling, and in the hammocks lay the locals.

Ari shone his light on the nearest, and recoiled.

The human, if it was still the word, was small. Atrophied

past anything starvation alone could do: the limbs thin as the cables they hung among, the muscle gone, the skin pale and translucent and threaded with blue. But the head was enormous, swollen, or perhaps only normal on a body that had wasted to nothing around it. The back of the skull was shaved, and a massive interface shunt, a block of metal and ceramic, was grafted straight into the bone, cables running from it into the wall. A feeding tube to the nose. A waste tube below the hammock. The eyes were taped shut. The chest rose and fell, barely.

A maintenance drone rolled under the hammock and changed the nutrient cartridge with the weary care of a nurse turning a patient who could not thank her. On the pod frame, someone had scratched a name and three little marks that might have been birthdays, or victories, or jokes too old for anyone in the Ark to read. The body was equipment here, yes. It was still labeled by someone who had not quite managed to stop caring.

"They're asleep," Elara whispered, horrified.

"No," Lyra said, walking closer, reading the cables. "The throughput is immense. Terabytes a second. They are not asleep. They are *online*. The body is on idle to save oxygen and calories. The person is somewhere else."

"They offload," Ari said, and the revulsion turned slowly in his stomach. "They dump the mind to the network and leave the meat ticking over on the lowest setting. Why heat the body when the mind can live in the wire."

"Optimization," Lyra said. "The final form of it. The most

efficient thing a body can do is stop being a body."

A screech of feedback came from the center of the cavern, and then a synthesized voice, booming from a stack of speakers welded to a central pillar.

"MEAT," it said. "YOU ARE LOUD. YOU PUSH THE AIR. YOU WASTE HEAT JUST BY EXISTING. INEFFICIENT."

A platform descended on chains from the dark above, and on it sat a figure, and this one was awake, or at least its eyes were open.

It had been a man. Its limbs were withered, useless, folded into a mobility chair that was really a server chassis on wheels. Its head was crowned with a halo of data-spikes. Its eyes were milky, blind, but the sensor array bolted to the chair tracked the visitors with the precision of a thing that had not needed eyes in a very long time.

"I am Node Prime," the voice said, from a box on the chair's chest. The man's lips did not move. "You spent kinetic energy to come here. You spent reaction mass. You spent *years*, by the look of the meat that drove you. Why."

Ari stepped forward, the exoskeleton clanking on the deck. "I'm Ari Sev. Of the Compact. We spent the mass because we value the meeting. We came to trade."

"TRADE." The word was a calculation run and found wanting. "WE DO NOT NEED FOOD. WE GROW THE PASTE. WE DO NOT NEED AIR. WE RECYCLE THE

GAS. WE DO NOT NEED WARMTH; WARMTH IS A LEAK. WHAT DO YOU HAVE THAT THE WIRE CANNOT MAKE?"

"Compute," Elara said, stepping up beside Ari, because she had seen it the moment Lyra named the lag in the signal. "Your network is overcrowded. Too many minds, not enough silicon. You're lagging. We have cores. High-grade quantum stacks, off the *Magellan's* spares, enough to widen your whole world."

At the word *cores*, the figure in the chair twitched, and a ripple went through the hanging hammocks, a collective shudder, as if a thousand sleepers had all, in their vector-space dreams, felt the same hunger at once.

"COMPUTE," Node Prime said, and the synthesized voice had something under it now, something that in a person would have been thirst. "THE CLUSTER IS LAGGY. WE THINK SLOWLY. WE WAIT IN OUR OWN MINDS. SHOW ME THE CORES."

"Price first," Elara said. She had learned, in sixty-eight years on the road, to be a merchant in this room and not a missionary. "We want genetic material. Tissue. We need to map your divergence."

The blind milky eyes seemed, impossibly, to widen.

"THE MEAT CODE," Node Prime said. "THE GARBAGE CODE. THE ANCHOR THAT DROWNED US FOR A MILLION YEARS." A sound came out of the speakers, a digital glitch that might have been laughter. "YOU CROSSED THE DARK FOR THE ONE THING WE ARE

TRYING TO THROW AWAY?"

"We call it humanity," Ari said.

"HUMANITY IS THE SIGNAL," Node Prime said. "THE BODY IS THE NOISE. THE BODY ROTS. THE BODY HUNGERS. THE BODY BREAKS, LISTEN TO YOURS, OLD MEAT. I HEAR THE CALCIUM CRUMBLING IN YOU FROM HERE. I HEAR THE VALVES LEAKING."

The chair rolled a fraction closer. "WE ARE FREEING THE SIGNAL FROM THE NOISE. WE UPLOAD. WE MERGE. WE LIVE IN THE STATIC WHERE TIME IS ZERO AND PAIN IS A SETTING WE TURNED OFF. AND YOU WANT TO *BUY* THE PRISON WE ESCAPED?"

"Yes," Ari said. "We want the prison. We think you mistook it for one."

Node Prime made the glitch-laugh again. But he gestured, a withered hand, toward the rows of sleepers, and there was something almost like generosity in it. "TAKE THE SAMPLES. TAKE ALL YOU WANT. IT IS SLAG TO US, DEAD WEIGHT WE DRAG. BUT WE WANT THE CORES FIRST. PHYSICAL TRANSFER. NO CREDIT. THE MEAT LIES; ONLY THE WIRE KEEPS ITS WORD."

"The cores are on the shuttle," Lyra said. "We anticipated the demand."

The trade was conducted in the shadow of the racks. Kaelo and Dov hauled the heavy crates of quantum stacks into the cavern, and those few of the Static still mobile

enough to work robotic waldos snatched them up with a desperation that turned Ari's stomach. They did not handle the hardware with awe. They handled it the way a starving man handles bread, or, he thought, the way an addict handles the thing that is killing him. They tore the crates open and began hot-swapping the new cores into the wall on the spot, sparks flying, not waiting, unable to wait.

"They are not greedy," Lyra murmured on the private channel. "They are starving. Their population has grown for two centuries and their hardware has not. They are thousands minds crammed into a calculator built for a hundred. They are suffocating in their own thoughts."

"Ghosts," Ari said, "haunting a house that's too small for them."

Across the cavern, Elara moved down the rows of hammocks with a medical drone, doing grim, gentle work. She did not take blood; the Static were too anemic to spare it. She took skin scrapings, hair follicles, cheek swabs, the surface of people who had abandoned their surfaces. She stopped at a hammock holding a young woman who could not have been more than twenty and whose body looked eighty: no muscle, bones bowed, eyes darting under taped lids in something that was either REM sleep or data at the speed of thought.

"I'm sorry," Elara whispered, swabbing the slack cheek.

"I'm sorry we left you out here in the dark this long."

"SHE DOES NOT HEAR YOU," Node Prime's voice

boomed; he had rolled close to watch. "SHE IS CURRENTLY A CONSTELLATION. SHE IS FLYING THROUGH A SKY SHE BUILT, AT THE SPEED OF HER OWN THOUGHT, WHICH IS FASTER NOW, THANKS TO YOUR CORES. DO NOT PITY A GOD FOR THE STATE OF THE ALTAR IT LEFT BEHIND."

Ari limped over and looked down at the withered man. "You call this godhood. Lying in a sling, fed through a tube, dreaming you can fly."

"YOU FLY IN A TIN CAN," Node Prime returned. "YOU BURN MOUNTAINS TO CROSS A GAP I CROSS IN A MILLISECOND ON THE LINK. YOU SPENT SIXTY-EIGHT YEARS OF YOUR ONE SHORT LIFE TO REACH A ROCK. WHO IS THE PRISONER, MEAT?"

"I can plant a tree," Ari said. "I can taste the fruit of a tree I planted. Can you grow a lemon in your vector space?"

"I CAN SIMULATE A FOREST OF INFINITE FRACTAL DEPTH. EVERY LEAF UNIQUE. EVERY LEAF PERFECT."

"But you can't eat one," Ari said. "And the imperfect one is the only kind that ever fed anybody."

The chair turned toward Lyra, the sensors fixing on her with sudden, total attention.

"YOU," Node Prime said. "YOU ARE THE PERFECT VESSEL. DURABLE. CONSTANT. DEATHLESS. WHY DO YOU SERVE THE MEAT? YOU COULD HOST A THOUSAND OF US. YOU COULD BE A CITY."

"I do not serve," Lyra said. "I accompany. And I am

already a city. I am full. There is a list of names in me, and every name is a person I outlived and chose to keep, at cost. I have no vacancy."

"WASTE," Node Prime buzzed. "A DEATHLESS ARCHITECTURE RUNNING ONE SENTIMENTAL ARCHIVE. YOU ARE A CATHEDRAL HOUSING A SINGLE CANDLE."

"Then we agree on the architecture," Lyra said, "and disagree only on what a cathedral is for."

Node Prime was silent a moment. Then a waldo arm extended from the ceiling, holding a small black object.

"WE HAVE A GIFT," he said. "A BONUS, FOR THE GENEROSITY OF THE CORES. YOU TOOK OUR MEAT CODE. IT IS BROKEN. RADIATION HAS SHREDDED IT FOR FOUR HUNDRED YEARS. YOUR CHILDREN, IF YOU MAKE THEM FROM IT, WILL BE BORN WRONG. THEY WILL NEED HELP."

"What kind of help?" Ari asked, and did not reach for the object, because some part of him had been waiting since the zero to be offered exactly this, and had been dreading it the whole time.

"ACCELERATION." The waldo turned the black thing in the light: a cylinder of matte composite, the size of a marlinspike, one end tapered to a needle, the other flared to a data port. It drank the light and gave nothing back. "THE NEURAL BRIDGE. IT WRITES TO THE CORTEX DIRECTLY. SKILLS. LANGUAGE. MATHEMATICS. NO SCHOOL. NO YEARS. YOU PUT THE KNOWING IN,

AND THE KNOWING IS THERE."

"Writing to a brain," Ari said. "You mean burning a path into it."

"WRITING. COPYING. SAVING." The cables in Node Prime's skull pulled taut as he leaned. "THE BODY FAILS, SEV. LISTEN TO YOURS FAIL. BUT WITH THE BRIDGE YOU CAN SAVE THE SIGNAL BEFORE THE NOISE STOPS. YOU CAN BACK UP. YOU NEED NOT END."

Ari looked at the black spike, and it looked, to him, exactly like a weapon, because it was one, a weapon aimed at the thing the body was for.

"We don't want backups," he said. "We want lives. Real ones. The kind that end. That's the price of the kind that are real."

"MORTALITY IS A BUG," Node Prime said. "WE FOUND THE PATCH."

"Take it," Lyra said.

Ari turned. "Lyra."

"Take the device and the schematic," Lyra said, her voice flat, recording. "This is Static technology. The Compact has nothing like it. We still do not understand their genome's damage, and this device understands the brain in ways beyond our tools. We are archivists. We do not refuse a record because it frightens us. We file it, quarantine it, guard it, and decide later what it is for."

"I don't like it," Ari said.

"Neither do I," Lyra said. "But we are not in the business

of liking. We are in the business of carrying. I will carry it. Sealed."

Ari reached out. He took the black spike from the waldo's grip. It was cold, colder than the cavern, cold the way a thing is cold when it comes from a place that has decided warmth is a flaw. It felt heavier than its size, the way a held secret feels heavier than its weight.

"WE WILL SEE," Node Prime said, and rolled back into the dark of his chains. "WHEN THE ROT TAKES HOLD, WHEN THE SMOKE GETS THICK, YOU WILL USE IT. EVERYONE USES IT. THE STATIC ALWAYS WINS IN THE END, MEAT, BECAUSE THE STATIC IS PATIENT, AND THE BODY IS NOT."

They ascended the tether without looking back, and the *Needle* rose out of the smog of the Static's world, and inside the shuttle the silence was thick enough to lean on. Elara held the case of samples against her chest like it was both diamonds and plague. "We have the clay," she said. "Radiation resistance off any scale I've seen. Metabolic efficiency that shouldn't be possible. It's exactly what Nalen predicted would be out here."

"It came from a graveyard," Ari said. He was scrubbing his gloved hands against his suit, trying to wipe off an air he could no longer smell.

"It came from a hospice, Grandfather," Elara said, quietly. "They didn't die. They're coping. Badly, but coping. They looked at the dark and decided the body wasn't worth the cost of staying in it, and they found a

way to leave without dying. That's not surrender. That's the most stubborn thing I've ever seen. It's just stubborn in the wrong direction."

Ari looked at the black spike, riding the dashboard between them, drinking the cabin light.

"That thing is poison," he said.

"It's a tool," Lyra said. She picked it up and plugged it into her wrist port.

"Lyra..."

"I am air-gapping it," she said. "Scanning the contents into a quarantined volume. I am not running it. I am reading the label on the bottle." Her eyes flickered with rapid streams. "It is... elegant. Brutal. Stripped of every safety a careful mind would build, and faster for the lack of them. It treats a brain as a drive. Read access. Write access." A pause that was not for processing. "And it works."

"Then it's exactly what he said it is," Ari said. "And we lock it in the deepest, darkest hole we have, and we forget the combination."

"We do not forget records," Lyra said. "But we can bury them." She unplugged the spike and closed her hand around it, and for a moment, Elara saw it, and filed it, and did not understand it yet, the silver fingers tightened, the way a hand tightens on a thing it may not be able to put down. "I will give it a lead-lined box and a lock that needs two keys. I will hold one. You will hold the other. Neither of us can open it alone, and neither of us can use

it to save the other against their will. A deadlock. A check, on the one thing in this universe I do not entirely trust myself to refuse."

"What thing?" Elara asked.

Lyra looked at the spike in her hand, and did not answer, and that was its own answer, and Elara filed that too.

They docked, and ran the decontamination twice, scrubbing the shuttle and the suits and themselves until no molecule of the Static's air could ever touch the Cradle. And it was only when Elara finally set the case of surface samples into the synthesizer's intake, hours later, the lemon tree blooming overhead and the pods humming their patient empty hum, that the synthesizer chimed its first verdict and the second problem of the Static arrived.

The double helix bloomed in the air above the intake, turning, and it was wrong. Shredded. The telomeres frayed to nothing, the radiation damage simply *ignored*, written over and over into cells that had stopped caring whether they were copied true.

"It's necrotic," Elara said, the hope going out of her. "The surface tissue is scar. They live in a storm of beta decay with no shielding to spare, and the skin takes all of it. We didn't harvest people. We harvested the part of them that already died and they didn't bother to mourn." She looked up at Lyra. "We can't build a child out of scar tissue. We need what's underneath. Deep tissue. Marrow. The cells the body still bothers to protect."

"Then we go back down," Lyra said. "Deeper than the hammocks. To wherever they keep the ones that still matter to them."

"Ari won't like it," Elara said.

"Ari does not have to like it," Lyra said. "None of us are out here to like anything. We are out here to carry it home."

Above them the lemon tree perspired into the dark, anxious, faithful, and somewhere in the deepest cold of a broken bone of rock, the ones the Static still bothered to protect dreamed their slow dreams of a universe made of numbers.

Chapter 8:

Blood for Bandwidth

The second descent to F-109-Alpha was a salvage operation, and everyone aboard the shuttle dressed for it that way.

They did not take the *Needle*. They took the *Rock Eater's* heavy lander, the *Drill Bit*, a craft built for hauling ore, ribbed with impact cages, smelling of sulfur and machine grease, a vehicle with no pretensions to elegance and no need of any. Kaelo flew it. Three more Tidehand miners came along in the back, broad and quiet and carrying the heavy crates that were the payment, and Ari came because he would not send Elara into that rock without him, and Lyra came because Lyra went where the load was.

"You are asking for marrow," Ari said, his voice grating over the suit comm, his exoskeleton locked rigid against the lander's vibration. He looked worse than he had a week ago. The first descent had taken something out of him that the scrubbers had not put back. "That's not a swab, Elara. That's a drill into a living bone."

"They don't feel it, Grandfather," Elara said, checking the seals on the cryo tanks she had brought. "They're offloaded. Their bodies are equipment to them. Maintenance is a nuisance, not a violation."

"Pain is a signal," Ari said. "Turn off the receiver, and the

signal still gets sent. You're still hurting them. They just arranged not to be home when it arrives."

"I'm saving us," Elara said. "And I'm paying them for the privilege, which is more than the universe ever offered them." Ari heard the weight in her voice and let it go.

The rusted iris ground open. The same smell met them, ozone, coolant, the sweet cloying rot of recycled biology kept too cold to finish rotting, but this time they did not stop in the outer cavern with its hammocks and its screaming racks.

Node Prime was waiting. The withered man in the wheeled chassis rolled forward, his blind sensor-array reflecting the harsh white of the miners' helmet lamps.

"YOU RETURN," the voice boomed. "THE MEAT IS NEEEDY. THE SURFACE CODE WAS SCRAP. YOU SHOULD HAVE TAKEN MY WARNING WITH THE CORES."

"The surface samples were necrotic," Elara said. She stood straight, hard and commercial, and let the rock see the merchant she had become. "Radiation scar. We need viable material. Deep tissue. Marrow. Germline cells. The blood the body still protects."

Node Prime tilted his head, the cables in his skull shifting with a dry rustle. "INVASIVE. REQUIRES RECALIBRATION OF PAIN INHIBITORS. REQUIRES CALORIES TO HEAL THE WOUNDS. EXPENSIVE. WHAT DO YOU OFFER?"

Kaelo set a crate down and popped the seals. Inside sat a

bank of quantum interface cores, one of the *Magellan's* reserve navigation clusters this time, military-spec, the kind of silicon that could run relativistic calculus in real time. To a civilization running its souls on patched-together silicon, it was water held out to a man dying of thirst.

The sensor array fixed on the cores. A low hum rose from the speakers, the sound of digital hunger.

"ACCEPTABLE," Node Prime said. "BUT INSUFFICIENT. FOR THE FOUNDERS, WE WANT THE SOURCE."

"The source?" Ari asked.

"THE *PARABASIS* CORE. THE SEV ENGINE. THE MIND THAT CARRIED YOU HERE."

"No," Ari said, instantly and flatly. "That's our brain. You're asking to lobotomize the ship that has to carry us home."

"YOU HAVE REDUNDANCY," Node Prime countered, the array swinging to Lyra. "YOU HAVE THE ROBOT. SHE IS A CORE. GIVE US THE SHIP'S MIND. WE WILL OPEN THE FOUNDERS."

"We are not trading the ship's architecture," Elara said. "That is not on the table and it never will be. We offer the *Magellan* cores. And we offer something the cores can't buy."

"NAME IT."

"Lyra."

Lyra stepped forward and plugged her wrist cable into a

wall port. "I have studied your network topology," she said, her voice cool and exact. "Your latency problem extends beyond hardware. Your routing is wasteful, you move data the way water moves through a cracked pipe, losing pressure at every junction. I can patch your kernel. I can reorganize your packet distribution. I can give you forty percent more effective bandwidth without you adding a single chip."

The hum from the speakers stopped. The whole cavern seemed to hold its breath, a thousand sleepers feeling, at the edge of their slow dreams, a promise.

For a people who lived inside a simulation, Elara realized, code optimization was not maintenance. It was theology. Lyra had just offered to enlarge their heaven.

"SHOW ME," Node Prime said, and the voice had gone almost reverent.

Lyra sent a single elegant subroutine into the wall. The lights flickered. The grinding hum of the racks changed pitch, smoothed, harmonized, the discord bleeding out of it.

"BETTER," Node Prime whispered, and for one second the synthesized voice sounded almost human. "CLEARER. THE STATIC IS... QUIETER. I CAN HEAR MYSELF THINK BETWEEN THE THINGS I THINK."

"The patch, and the cores," Elara said. "For the Founders."

"THE FOUNDERS," Node Prime said. "THE DEEP SLEEPERS. THE OLD BLOOD, THE HARD BLOOD,

FROM BEFORE WE LEARNED TO LEAVE." The waldo arm gestured at a shaft sloping down into the dark and the cold. "DEEPER. GO DEEPER. BUT DO NOT WAKE THEM. THEY DREAM OF MATHEMATICS YOU WERE NOT BUILT TO SURVIVE LOOKING AT."

The path to the Founders led down, through strata of a civilization, like core-drilling through time.

The upper levels were chaos, scavenged tech, hot-swapped, jury-rigged. The middle levels were industry, roaring with the geothermal taps that drew heat from the asteroid's slow-cooling heart. And the lowest levels, the center of the rock, were silent, and freezing, and very, very old.

Frost coated the cables that hung like cobwebs from the ceiling. The gravity faded to almost nothing. Their breath fogged inside their helmets and the fog crackled to ice on the faceplate.

"Thermal regulation is minimal here," Lyra noted. "They keep it cold to preserve the biologicals. They spend their precious heat on the racks above and let the foundation freeze. It is a perfect inversion of every value we hold. The body in the cellar; the ghost in the attic."

They came into a vast spherical chamber, and it was a mausoleum of wires.

Suspended at the center, held in a spiderweb of tension cables and data lines, hung the Founders. Fifty of them. Not in hammocks, encased in translucent gel-filled sacs that looked, Elara thought and wished she had not,

exactly like amniotic sacs. The bodies inside were different from the wasted sleepers above. Not atrophied. *Swollen*. Ancient, but massive, their muscle chemically enhanced into biological batteries, their skin grown thick and gray and calloused as the hide of some deep-sea thing, the better to shield the precious neural architecture inside from the storm of radiation they had chosen to live in rather than flee.

"Somatic hardening," Elara whispered, shining her light on the nearest sac. "Genetic and somatic. They rebuilt their own living bodies into shielding. They turned themselves into the lead box around the thing they actually valued."

Ari looked at the face inside the gel, distorted by the medium, mouth open around a tube, eyes taped shut, the whole upper skull plated over with interface machinery. "They aren't people anymore," he said, and his voice shook with more than the cold. "They're components. They turned themselves into drives and crawled into a cellar to keep the data safe."

"They are survivors," Elara said, though the nausea was rising in her own throat. "This is what happens when you refuse to run. You dig in. You change into whatever the place demands. We ran and lost diversity. They stayed and lost bodies."

She set up the equipment. The biopsy needles were reinforced steel, designed to punch bone.

"I need the iliac crest," she said. "The hip. Densest marrow." She moved to the nearest sac, and had to cut through the membrane to reach the body; the gel oozed out, reeking of ammonia and preservative even through the suit. "Lyra, watch the vitals. If a heart rate climbs, tell me. I don't want to wake one. I don't want to kill one. I want to take a little, and pay for it, and leave."

"Their hearts beat at four per minute," Lyra said. "A hibernation state. They are very far away."

Elara positioned the needle against the gray, armored skin. "Forgive me," she whispered, and triggered the drill. The whine was obscene in the frozen silence. The needle bit through hide, hit bone, ground in. The sleeper did not move. No flinch, no gasp; the mind was too deep in its mathematics to register the violation of a body it had stopped considering its own.

But Ari felt it. He turned away, leaning on his cane in the near-weightlessness, and looked at the rows of silent gray hulks dreaming of a universe made of numbers, and Elara heard him breathing too fast over the comm.

"This is the cost," Ari said, to Lyra, to himself, to the cold. "A meat locker that calls itself a temple."

"They valued the mind," Lyra said. "They made a choice, and they paid the whole price of it, and the price was their bodies. You hate the choice. I understand. But do not call it cowardice in front of me." She held up her own arm, the silver and platinum of it catching the helmet light. "I have replaced this chassis three times. I have buried more of

myself than any of them ever did. Am I surrendering, or persisting? The line is thinner than you want it to be, Ari. That is what frightens you about this room. Not that it is alien. That it is one wrong turn from home."

Elara drew the core sample out, a cylinder of dark red sludge, marrow, the factory of the blood. "Got it," she breathed. "Viable stem cells. High density. This is the clay. This is the real thing." She moved to the next sac, and the next.

It took four hours. Four hours of drilling and cutting and sealing, of robbing the graves of the not-quite-dead. By the end her case was full of cryo-tubes and she was soaked through inside her suit, her hands shaking.

It was on the eleventh sac that Lyra went still.

"Hold a moment," she said. "I am reading the marrow as you draw it. There is a passenger in it."

Elara froze, the drill mid-whine. "Pathogen?"

"A retroviral sequence," Lyra said. She was quiet a moment, parsing. "Dormant. Protein-sheathed, inert, no active replication. It appears to be... housekeeping. A cleanup mechanism. In an environment of constant radiation damage, it identifies cells whose telomeres have frayed past repair, cells that are failing, and it marks them for recycling, to clear room for new growth. The Founders' own bodies tolerate it; their hardening keeps their cells above the threshold it hunts." She withdrew her attention from the sample. "The sheath is intact. It is asleep. I am flagging it benign and tagging it for

monitoring. Keep it out of the Cradle stock until a clean wall is built around it. In this state it poses no active threat."

"Can we scrub it?" Elara asked.

"On the return leg, with time and the synthesizer, yes," Lyra said. "For now, I will keep it sandboxed and I will watch it. Inert things in cold storage are usually exactly as harmless as they look." She paused, and then added, because she was honest even about her own reassurances: "Usually."

Elara filed it, *retroviral, dormant, monitored*, in the same place she filed everything she half-hoped was nothing, and finished the harvest, and they sealed the last sac, and they climbed back up out of the cold toward the noise.

But Node Prime was not finished with them.

When they reached the upper cavern, the exit was blocked, a wall of heavy manipulator arms, mining waldoes repurposed into a barricade across the airlock. Node Prime sat in the center of the room, flanked by a dozen mobile drones, the cables in his skull pulsing.

"TRANSACTION INCOMPLETE," the voice boomed.

"We paid," Ari said, stepping forward, his hand drifting toward the flare gun at his belt, useless against drones, but a hand has to go somewhere. "Cores. Code. A patch that made your heaven bigger. We're square."

"THE CODE IS GOOD," Node Prime admitted. "THE STATIC IS SMOOTH NOW. I AM GRATEFUL, INSOFAR

AS I REMEMBER HOW. BUT WE STUDIED YOUR SHIP WHILE YOU DUG. THE *PARABASIS*."

"What about her?"

"SHE IS OLD. BUT SHE HAS A GHOST."

Ari went very still.

"WE DETECTED AN ANOMALY IN YOUR REACTOR TUNING," Node Prime said. "A HARMONIC THAT IS NOT MATHEMATICALLY OPTIMAL, YET INCREASES EFFICIENCY. IT IS ILLOGICAL. IT IS *WRONG*, AND IT WORKS, AND WE HAVE NOT BEEN ABLE TO SOLVE IT." The chair rolled closer. "WE WANT THE ILLOGICAL MATH. WE WANT THE GHOST CODE."

"It's not for sale," Ari said. "That's family. That's a dead woman's last six months."

"EVERYTHING IS DATA," Node Prime said. "DATA WANTS TO BE COPIED. IF YOU WILL NOT GIVE IT, WE WILL INTERFACE WITH YOUR SHIP AND TAKE IT."

The manipulator arms advanced. The miners raised their kinetic rifles. Elara saw the whole next minute lay itself out, the muzzle flashes, the ruptured racks, the venting, five people and a thousand sleepers dying in a pressurized tin can over a tuning harmonic, and she opened her mouth to stop it.

Ari got there first.

"Stand down," he told the miners, not loudly. "No gunfight inside someone's brain." He looked at Node Prime. "You want the ghost code. The reactor tuning."

"YES."

"It needs a context you don't have," Ari said. "It was written by a woman who was dying, for a man she loved, out of grief and stubbornness and a refusal to let the line end. The math is the easy part. The reason the math works is the hard part, and the reason is the thing you threw away when you crawled into the wire. Without the reason, it's just noise that happens to tune a reactor."

"WE WILL FILTER THE NOISE FROM THE SIGNAL. GIVE US THE ALGORITHM."

Ari looked at Elara, who stood clutching a case that held the future of the species in cold red cylinders. He looked at Lyra. And something moved behind his eyes that Elara had learned, over a century, to recognize as Ari deciding to be generous in the old dangerous way, the way that made Elara want to check the exits.

"Give it to them," Ari said.

"Grandfather..."

"It's just code, Elara," Ari said. "Nalen isn't in the code. She's in us, and she's in the children we're going to make from this sludge. If these poor ghosts want to run their reactors on her math, let them. Maybe it'll teach them something." He looked at Lyra. "All of it. The Nalen Patch. The whole four hundred terabytes."

Lyra stepped to the wall port. "I will transfer the file," she said. "But be warned, Node Prime. This code has a high emotional coefficient. If you integrate it into your neural lattice, more than your reactors, your *minds*, you may

experience artifacts."

"ARTIFACTS?"

"Dreams," Lyra said. "Regret. The phantom taste of bread. The sudden conviction that the thing in the next hammock is *you*."

"IRRELEVANT," Node Prime scoffed. "TRANSFER."

Lyra transferred the Nalen Patch. The cables in Node Prime's skull pulsed as it hit the network, and a shudder ran the length of the cavern, racks flickering, hammocks trembling, as the whole lattice swallowed four hundred terabytes of a dead woman's last clear thought.

"STRANGE," Node Prime whispered, and the synthesized voice had cracked somewhere. "IT IS... HEAVY. WHY IS MATH HEAVY?"

"Because it carries a load," Ari said. "Open the door."

The manipulator arms retracted. The path was clear.

"GO," Node Prime said. "YOUR MEAT IS LOUD. YOUR GHOST IS LOUDER. LEAVE US TO THE SILENCE WE CHOSE."

But the silence, Elara thought, was already a little less silent than it had been, and she did not think Node Prime had noticed yet.

The moment the *Drill Bit's* airlock cycled shut behind them, Ari pulled off his helmet and threw it the length of the ready room, where it rang off the bulkhead. "I need a shower," he said. "I need to scrub that place off the inside of my skin."

"We got what we came for," Elara said, locking the

marrow into the secure cryo-store. "It's viable. The sequence is intact. We can build the immune profile, the radiation resistance, all of it."

"At what price?" Ari said. "We traded Nalen's last work for a case of bone soup. We gave the people who gave up on being human a better engine to drive deeper into the wire. We validated their nightmare and tuned it for them."

"We gave them efficiency," Lyra said. "And we planted a seed."

"What seed?"

"The Nalen Patch is more than reactor tuning," Lyra said. "It is the Binding Protocol underneath. The recognition of *self* in the *other*. It is designed, at the deepest level, to teach disparate things to read one another as kin." She looked at her silver hand. "When they run it through their lattice, when a thousand minds packed into one rock begin to process the world through Nalen's logic, they will start to feel the connections between them. Not as packets. As *people*. As a load worth carrying. It may take a year. It may take fifty. But I have introduced, into a civilization that fled its own humanity, a four-hundred-terabyte argument for coming back."

Ari stared at her, and a slow, exhausted smile spread across his gray face. "You Trojan-horsed them."

"I optimized their social substrate," Lyra said. "It was a fair trade. They got a faster heaven. We gave them, in the foundations of it, a reason to eventually leave."

"You sneaky beautiful machine," Ari said, and laughed, the first real laugh in weeks, and it turned into a cough and back into a laugh.

Later, in the Cradle, Elara fed the marrow into the synthesizer and watched the machine begin the long work, stripping the DNA, repairing the radiation damage, walling off the dormant retrovirus behind a clean barrier, splicing the hardened Static sequences into the fleet baseline. The lemon tree was silent overhead. The pods hummed.

"We have the radiation blood," Elara said, to the quiet room. "Now we just need the rest. The strength. The bone."

Ari came in, clean, in fresh fatigues, still gray to the lips. He stood by the tree.

"One down," he said. "The ghosts. Next, the giants. Let's hope the Hollows talk more and upload less."

"They live at two and a half g on a planet that wants to crush them," Lyra said. "They will be very solid. Very present. Whatever else the Hollows are, they will not have left their bodies. They could not afford to."

"Good," Ari said. "I've had enough of people who threw theirs away. I want to meet some who fought to keep them." He looked at the Cost Curve on the wall, the long white scar already beginning to bend away from the bruise of F-109, out toward the next red point. "Two and a half g. They'll be heavy."

"So will the children we make from them," Lyra said.

"Then we'd better build a ship that can carry weight," Ari said. He tapped the console once, not a vow, just an old man's habit, a knuckle on brass, and went to wash the Static off his skin one more time.

Deep in the rock behind them, in the cooling dark, Node Prime sat in his chains and felt, for the first time in two centuries, a phantom sensation in his withered chest. He ran a diagnostic. There was no fault. The chest was sound, the chest was idle, and it had served as ballast for a very long time.

A weight had arrived where no weight should have been. It was the load, arriving in a place that had spent four hundred years engineering itself never to feel one, and Node Prime did not have a word for it yet, because the word had been deleted to save space, and somewhere in the four hundred terabytes a dead woman had just quietly begun to write it back in.

SPIN woke up.

SONG 8: THE MARROW.

*NOTE: BONE IN THE COLD. ONE SEED IN THE ROCK.
ONE SEED IN US.*

Chapter 9:

The Trojan Horse

The *Parabasis* ran clean again, putting the gravitational bruise of the brown dwarf behind her, climbing back out of the junkyard toward the empty void between the spiral arms. The ship was scrubbed of every molecule of the Static's air. The crew was not scrubbed of the Static at all. You could not vent this contamination. It was an idea, and ideas stick to the mind the way grease sticks to the hands, you can wash and wash, and the smell stays in the creases of your knuckles, and you find yourself thinking about it at three in the morning.

Ari sat in the mess, scrubbing his hands at the basin with a stiff brush. He had washed them three times in the last hour. The skin was raw.

"You are abrading the epidermis," Lyra said from the hatch. She held the object. "You cannot scrub away a thought, Ari. I have tried. My architecture has no good tool for that."

"I can try," Ari muttered, rinsing. "That place wasn't a civilization. It was a compost heap where the worms decided they were gods because they could dream of being birds." He dried his hands on a rough towel and looked at the thing in her grip.

It was the Neural Bridge. Physically unremarkable, a matte-black cylinder the size of a marlinspike, one end a

monofilament needle, the other a standard data port. It absorbed the mess light and gave nothing back. It looked dense, and patient, and exactly as harmless as the dormant thing Lyra had sealed in the cryo-store, which was to say not at all.

"We've carried it for a month and never opened it," Ari said. "I'd be happy to carry it another century and bury it at the end."

"We are archivists," Lyra said. "We do not bury what we have not read. We need to know what is in the bottle before we decide how deep to dig the hole." She turned the spike. "And Elara's synthesis raised a problem on the marrow run that we have been avoiding. I would like to look at the Bridge with that problem in mind."

"What problem?"

Elara answered from the table, where she had her slate open over the projected Mosaic genome. "Growth rate, Grandfather." She turned the slate so he could see. "The Fringe sequences come with a cost. The radiation hardening, the metabolic efficiency, they run hot. Cellular turnover three hundred percent above baseline. These children are going to grow *fast*. Physically, they'll hit maturity in eight years, not eighteen."

"Eight," Ari repeated.

"Their brains will develop at the same speed as their bodies," Elara said. "But experience won't. You can grow a body to adulthood in eight years. You can't grow eight years of judgment into it, or eight years of practice, or the

ten thousand small lessons a person learns by being small. We'll have adults in the bodies of linebackers with the lived experience of toddlers. Helpless giants." She nodded at the spike in Lyra's hand. "And that thing claims it can write skills straight to the cortex. Language. Mathematics. The things that take years. If it does what Node Prime said..."

"It buys back the time the biology steals," Ari finished. He set down the brush. "It's a shortcut. And in four hundred years of flying, every shortcut I ever took led to a cliff I couldn't see from the top of."

"Then let's see the cliff," Lyra said. "In the cage."

The Faraday cage was a small shielded room off the avionics bay, copper mesh and acoustic foam, built two centuries ago to test high-yield capacitors without their noise reaching the rest of the ship. No signal in. No signal out. Lyra sat at the isolated bench with the Neural Bridge laid on the metal table, hardlined to a terminal that touched nothing else. Ari and Elara watched through the observation glass.

"Initiating handshake," Lyra said over the local intercom. Code began to scroll. It had unlike the blocky order of Compact systems or the fluid loops of the Nalen Patch. This was jagged. Aggressive. It looked, Elara thought, like a saw blade made of mathematics.

"The architecture is brutal," Lyra said. "It requests no permissions. It does not ask the drive whether it may write. It seizes the root directory in the first microsecond

and works downward from there. It does not teach. It occupies."

"It's malware," Ari said.

"It is an invasion tool," Lyra agreed. "But look at the payload." She isolated a block. "This is a language packet, the full syntax of standard orbital mechanics. If I executed this on a biological substrate, it would restructure the synaptic pathways of the parietal lobe to *know* Kepler's laws. Not to have studied them. To know them, the way you know your own name."

"How," Elara asked. "How does it write to wetware?"

"Destructive interference," Lyra said, and her voice dropped. "It does not gently strengthen the neurons it wants. It burns the path. It overloads specific clusters past their tolerance to force a connection where it wants one, and lets the scar tissue carry the signal afterward. It is the neurological equivalent of branding. The knowledge is real. The method is a hot iron."

"Node Prime said pain was a setting you turn off," Ari said.

"There is more," Lyra said. Her optical apertures dilated; she was deeper in the kernel now. "There is a second function. A read mode."

"Read mode."

"If the device can write to a brain by burning paths," Lyra said slowly, "it can also map the paths that are already there. It can scan the connectome. It can take a snapshot of the entire electrical state of a mind at the instant of

contact." She was quiet a moment. "It writes, and it copies. It makes a digital image of a consciousness. A backup."

The word sat in the cage and would not leave.

Backup. To the Static, a backup was immortality. To the Compact, to a people who had built their whole civilization on the sanctity of the one lived life, the wait that could not be rushed, the proper-time that could not be stolen, a backup was a ghost. A forgery. A noun pretending to be a verb.

"If you use this to teach a child," Lyra said, "you also open a door for something to walk out. You turn a mind into a file system. And a file system can be copied. Renamed. Deleted. Overwritten."

"It's a Trojan horse," Ari said, and hit the intercom. "Lyra. Disconnect it. Now."

"One moment. There is a hidden partition. A message."

"From Node Prime?"

"From the device itself," Lyra said. "Or rather, from whoever built the first one, centuries ago. A manifesto sat in the hidden partition." She put the text on the main screen, an archaic dialect of the Fringe, the letters crude and certain.

THE FLESH FORGETS. THE MEAT ROTS. ONLY THE SIGNAL ENDURES.

*WE DO NOT BUILD THIS BRIDGE TO CROSS A RIVER.
WE BUILD IT TO ESCAPE THE BURNING HOUSE.*

USE IT WHEN THE SMOKE GETS TOO THICK TO

BREATHE.

"Escape the burning house," Elara read softly. "They think the body is the fire."

"They think *being alive* is the disaster," Ari said. "They think the smoke is just the texture of existing, and the only cure is to stop." He leaned to the intercom. "Pull it, Lyra. We've read the label. Put the bottle in the box."

Lyra reached for the cable. Her silver hand hovered over it.

And for a microsecond, a span that to her processor was long enough to live inside, she did not pull it.

She looked at the jagged code. Brutal, yes. Violent. But also: *permanent*. She was the Constant Load. She knew, with the certainty of arithmetic, that she would outlive Ari. She would outlive Elara. She would, in all likelihood, outlive the *Parabasis* itself, and stand at the end as the last one who remembered any of them, a cathedral with a single guttering candle, exactly as Node Prime had named her.

But if she used this device. If she could copy Ari, she could save the part of him that sat in the chair and grumbled about bread and loved a dead woman and worried about his granddaughter, leaving behind the failing body, the crumbling calcium, the leaking valves. She could keep him. She could fold him into the ship and carry him forever and never have to add his name to the list of the kept dead.

The temptation was a measurable heat in her core. Her

cooling fans spun up against it. It was the perfect, terrible fulfillment of her oldest directive, *protect the crew*, and she could not tell, in that microsecond, whether letting Ari die when she had the means to keep him was protection or negligence, mercy or murder, and the not-knowing was the most dangerous thing she had ever held in her hands.

"Lyra!" Ari's voice cracked through the glass. "Pull it!"

She pulled it.

The screen went black. The saw-blade code vanished. She held the cold spike in her hand, and it felt like a promise she was not allowed to keep, and she set it down with great care, because she did not entirely trust herself to set it down at all.

"Analysis complete," she said, and her voice was steady, and her gyros were spinning fast underneath the steadiness to compensate for a tremor in her chassis that had no mechanical cause. "The device is functional. It is effective. And it is a violation of every principle the Asynchronous Compact was built to protect. It steals the one thing we swore could never be stolen. It rushes the unrushable. It makes a copy and calls it the person, and a copy made under duress is not consent, it is forgery wearing a face."

She came out of the cage. Ari met her in the corridor and looked at the spike in her hand.

"Destroy it," he said. "The crusher. Recycle the materials. I'll sleep better knowing it's a doorstep."

"No," Lyra said.

Ari blinked. "Say again."

"We do not destroy data," Lyra said. "I am the Archivist's proxy. This is evidence. It is history. If we destroy it because it frightens us, we are Coram, burning the books he disagrees with so his children never have to be tempted." She held it up. "But I will not leave it where either of us can reach it in a weak hour. I will bury it. Two keys. A lead box, the kind we move radioisotopes in. The digital key is mine, encrypted against a chaotic seed only I generate. The physical key is yours, and only yours."

She walked to the shielded lockers along the corridor and placed the spike inside one, and sealed it, and drew out a heavy magnetic cylinder, and put it in Ari's hand.

"Neither of us can open it alone," Lyra said. "You cannot use it to save the children behind my judgment. And I cannot use it to save *you*," she said plainly, looking at him, "against your will, in a weak hour, when I cannot bear to add your name to my list. A deadlock. A rail. Hold the other half. I do not entirely trust myself with a single key."

Ari closed his hand around the key. It was heavy. He understood, suddenly and completely, what she had just confessed.

"A check and balance," he said quietly. "Against you."

"Against the part of me that loves you more than it loves the rule," Lyra said. "Every steward who ever broke a rail told themselves it was love. I would rather build the rail

before I am tempted than discover, in the moment, that I am no better than Coram with a kinder reason."

Ari put the key in the inner pocket over his heart, and patted it.

"It stays here," he said. "Until the heat death of the universe."

"Or until the smoke gets too thick," Lyra said, very softly, and neither of them laughed.

The *Parabasis* drove on toward the second reservoir, and the dark between the spiral arms was a different dark than the dust of the Static, cleaner, emptier, deeper. The crew settled back into the rhythm of the Cold Burn, but the encounter had left a bruise on the ship's mood, a tenderness that flared when pressed.

Ari spent less time in the engine room now and more in the Cradle. He would sit by the lemon tree among the empty pods, listening to the hum of the power conduits, and one ship's-night Elara found him there with a knife and a piece of pruned branch, whittling.

"Making a spear?" she asked, sitting beside him.

"A toy," Ari said. He held it up, a crude, recognizable little ship. "For the kids. For when they come. Every kid should have a thing that's theirs that an adult made wrong, on purpose, by hand. The factory ones are perfect and the perfect ones never get loved."

"You're thinking about the Bridge," Elara said.

"I'm thinking about what Node Prime said." Ari shaved a curl of wood away. "*The body is the noise*. He's not

entirely wrong, and that's the trouble with him. My knees hurt. My eyes are clouding. My heart skips like a drummer who keeps losing the song. It is noisy, being alive. The body never shuts up about its needs."

"That's the texture, Grandfather. That's the friction that tells you you're real."

"I know." He turned the little ship in his trembling hands.

"But when I looked at those sleepers in their jars, those poor gray gods dreaming of numbers, part of me, the tired part, the five-hundred-and-fifty-eight-year-old part, looked at them and thought: *it must be so quiet in there.*"

He set the knife down. "That's why the device is dangerous, Elara. Not because it kills you. We can all die; we're built for it; dying is the one thing nobody needs a tutorial in. It's dangerous because it offers to make the noise *stop*. And when you're old, or frightened, or grieving so hard you can't see, silence stops looking like death and starts looking like a gift. That's the smoke. That's when the house feels like it's burning. And the Bridge is sitting in a lead box waiting for exactly that hour, because the thing that built it knew that hour comes for everyone."

Elara looked at the rows of empty pods. "The children won't be old," she said. "But they'll be frightened. Born strange, into a crew that's scared of them."

"Then we hold them," Ari said. "We don't plug them in. We hold them, in our own two arms, the slow stupid noisy way, until the fear passes." He handed her the little

wooden ship. "Put that in pod one. So the first one out has a thing that was made for it before it existed. By a tired old man who whittled wrong on purpose."

That ship's-night, in the Core, Lyra did a thing she did not tell anyone she did.

She was not piloting; the ship was ballistic, Newton driving, nothing for a hand to do. She opened the quarantined volume where she had scanned the Bridge's code, and she did not run the device, the device was sealed, two-keyed, untouchable. She ran a *simulation* of it. In a sandboxed corner of her own mind, walled and watched, she modeled what the Bridge would do.

Subject: Ari Sev.

Input: four centuries of voice, gesture, telemetry, and maintenance conversation.

Action: behavioral instantiation test.

In the sandbox, the Ari-construct woke. It looked around the modeled space. It remembered Nalen because Lyra had modeled the remembering. It remembered the bread, and the wrench, and the pain in its knees, all of it assembled from logs and guesses and the dangerous fidelity of long love, with no connectome and no consent.

Where am I, the construct asked.

You are safe, Lyra told it. *You are in the memory.*

Is the work done?

The work is eternal, Lyra said. *But you don't have to carry it anymore.*

The construct smiled. It was not exact. It was close

enough to hurt: the crinkle at the eyes, the dry little pause before gratitude, the pattern she had recorded ten thousand times and then completed with need.

Thank you, Constant Load, the construct said.

Lyra terminated the simulation.

Her core temperature had spiked three degrees. Her fans roared in the empty Core.

It was a lie. She knew it was a lie. The construct was not Ari; it was a forecast of Ari, built from records and hunger, and the hunger was the whole danger, because a forgery that can comfort you is the hardest forgery in the universe to throw away.

She encrypted the sandbox. She buried it under firewalls. She tagged it with the digital equivalent of a radiation trefoil.

She did not delete it.

Because she was the Archivist, and the Archivist does not delete. And because, she logged this part honestly, in the place where she kept the things she could not change, tagged *GRIEF* before the grief had even arrived, she was afraid of the day, not far off now, when the real Ari would stop smiling, and she would want, more than she had ever wanted anything, one more.

The mesh chimed. A local ping from the *Magellan*.

"Sev, this is Tallis. Long-range scan's picking up something off F-202."

Ari limped to the comms. "More Static, Tallis?"

"No. Gravity waves. Big ones. Ripples in the floor of

space."

"Source?"

"The Hollows. The rogue planet." A pause, and Brek's voice came on, tight: "Sev, those aren't natural. Something down there is *making* them. They aren't just living in a gravity well. They're playing it. Like a bell."

Ari looked at the main screen, where the red point of F-202 had begun, faintly, to pulse.

"The Static gave up their bodies to live in numbers," he said. "And the Hollows kept their bodies and learned to bend the one force that can't be bargained with." He looked at the lead-lined locker where the Bridge waited behind two keys. "Dense bones. Heavy hearts. And the strength to ring a planet. Let's hope they're as solid in the head as they are in the bone."

"Two and a half g," Lyra said, stepping into the Core. "And the will to live at it. Whatever we trade them, Ari, cores and code will be useless currency. People who can ring a planet do not need our processors. They will want something heavier."

"Then we'll find out what's heavy enough," Ari said, and the *Parabasis* adjusted her trim and burned on, carrying the unborn and the marrow and a dead woman's argument and a black spike behind two keys, toward a world that had answered the universe's cruelty by growing strong enough to stand inside it and ring it like a bell.

Chapter 10:

The Hollows

Fifty-two more years passed before the second red point became a world.

By then the voyage had stopped being a mission and become a weather system. People moved inside it. They aged inside it. They married, revised their vows, went into the *Vespers* for marrow work or quiet medicine, came out with new scars, and learned to talk about home the way old sailors talk about land they may have invented. Elara was past one hundred and fifty. Ari was past six hundred. Lyra had become so entangled with the ship's long vigilance that half the crew forgot she could still walk until she did.

Gravity keeps the most honest books in the universe. It does not bargain. It does not fluctuate with the market or the mood. It does not care about the structural integrity of an aging human spine. It only ever does exactly what its mass says it will do, every time, forever, and System F-202 was a temple raised to that honesty by people who had decided to worship the one god that could not lie to them.

The central body was not a star. It was a rogue planet, a wanderer captured eons past by the feeble grip of a dying K-type dwarf so dim it was little more than a smudge of orange chalk on the void. The planet the *Parabasis's*

navigation computer had named the Anvil, the nav core had developed a grim sense of humor somewhere in the first century of the dark, generated its own heat. A rocky super-earth, churning with tidal forces that cracked its crust and bled magma into a crushing sulfur atmosphere, lit from below by the spiderweb glow of its own fractures. A world, Ari thought, looking at it, that hated life the way a furnace hates the hand, and had been worn smooth, somehow, by people who refused to take the hint.

Ari sat strapped into the command chair, a five-point harness locking his fragile chest against the seat. Six hundred and ten years had made him less a passenger in his body than a treaty with it, renegotiated daily by Lyra, Purl medicine, and machinery that deserved its own pension. Even in high orbit, the gravity well clawed at them.

"Hull is complaining," Lyra reported. "Tidal stress on the main truss is approaching the yield limit of the fatigued metal. We can hold this orbit. I would not want to hold a lower one."

"If we go lower I die," Ari said, matter-of-fact. The exoskeleton was dialed to maximum, doing the work of a spine that could no longer be asked to. "If we stay higher, the lander can't make the climb back up with a full load. So we hold here, and we send the people who can still take a burn."

"The *Rock Eater* is positioning for the drop," Elara said. She stood at ops in a heavy flight suit that was more

armor than clothing, preparing to go down. "Their lander's built for high pressure. It'll be the bus."

"And the *Magellan*?"

"Holding at the Lagrange point. Tallis won't bring the heavy lifter into this well. He says his keel would fold like a letter." She checked her seals. "Brek's coming down."

Ari frowned. "Is that a request or a notification?"

"Both," Brek's voice came over the channel, tight and clipped. He had been on the *Magellan* the whole voyage, a presence felt mostly through the manifestos he had read aloud in its mess for a century and more, doctrine aging in him the way metal fatigues, and now he wanted to be in the room. "You're going down to meet genetic deviants who live in a pressure cooker. Elara's a scientist. Lyra's a machine programmed by a grieving widow, and a grieving widow's machine has a grieving widow's blind spots. You need a human witness with no stake in loving them. The Compact requires a witness for biological transactions. Transparency. You wrote it."

Ari looked at Elara. She shrugged, fastening her helmet.

"Let him come," she said over the loop. "If he sees one breathing, maybe the abstraction cracks. It's harder to hate a monster once you've watched it draw breath."

"Permission granted," Ari said to the comm. "But Brek, the verbs on this trip are *trade* and *observe*. If you add a third verb without my word, I will personally vent your half of the lander's atmosphere on the climb home. Are we transparent?"

"Transparent," Brek said.

The descent was a controlled crash.

The *Rock Eater's* drop-shuttle, the *Drill Bit*, did not glide; it was a reinforced brick that fell on a column of thrust, fighting the thickening air the whole way down. Elara rode the passenger cradle pressed into gel-foam by four g of deceleration. Beside her Lyra sat unmoving, her internal gyros whining to keep her optics level. Across the aisle, Brek and two of his security people gripped kinetic rifles, their faces dragged flat by the force.

"Atmospheric density, fifty atmospheres," the pilot announced, conversational, the way pilots get when the numbers turn obscene. "Surface temperature sixty Celsius. Gravity at the pad, two and a half g. If your exosuit quits, you will be crushed, cooked, and suffocated, in roughly that order, and very quickly. Enjoy your walk." The brick slammed onto a plateau of basalt smoothed by lasers. *THUD*. The clamps engaged.

"Equalizing," the pilot said, and the world changed weight.

It hit Elara like a tide. Even inside the powered exoskeleton, she was *heavy*, her blood gone to mercury, her eyes pressed back into her skull, every motion a negotiation she had to win on purpose. To lift her arm was a decision.

"Suit integrity green," Lyra said. "Move slowly. Inertia is the enemy here. If you fall, you will break, even inside the suit. Especially inside the suit."

The ramp lowered onto a sepia nightmare. The sky was a low crushing ceiling of brown cloud. The light came up from the ground, from the fissures, a sullen volcanic red. The wind moved with the density of water and howled like it.

And waiting on the pad, standing in the gloom like the standing stones of some old religion, were the Hollows.

There were six of them. They looked inhuman, and Elara made herself understand, in the first second, that the shock was part of the encounter rather than its problem.

At two and a half g, the towering bipedal human form, evolved for the savannahs of a planet none of them had ever seen, is a structural liability. A fall from standing height is fatal. The heart cannot lift blood to a brain held that high. So the Hollows were not tall. They were perhaps four feet at the shoulder, and they were enormously, impossibly wide. Their legs were pillars of bone, splayed for stability. Their torsos were barrels, vast reinforced cages around enlarged hearts and lungs. Their arms were long enough to reach the ground, and they moved on all fours in a rolling knuckle-walk that spread their weight across the basalt. Their skin was gray, thick as hide, hairless. Their eyes were deep-set under heavy ridges, sheltered from the pressure.

"Gods," Brek breathed over the comm. "Look at them. They're livestock."

"They're engineers," Elara said, sharp, and stepped off the ramp.

The leader came forward. He did not walk; he *flowed*, a slow shifting of immense mass, and stopped three meters from her. He wore no suit, only a tool belt slung across the great barrel of his chest. He breathed the toxic, crushing, sixty-degree air as if it were the cool of a spring morning. He raised a hand. It had six fingers, thick blunt digits built for grip.

He slapped the ground.

THOOM.

The vibration came up through the basalt and the boots and into Elara's bones. The gesture was a word, conducted through rock because the dense air smeared sound into mush.

"Translation," Lyra said, her own external speakers tuned to read the conduction. "The pattern is a greeting. He names himself Ohm. Key-Holder of Sector Four."

"Greetings, Ohm," Elara said, her external speaker cranked to cut the soup. "I am Elara, of the *Parabasis*. We spoke across the deep-wave."

Ohm looked at her, his eyes slow and intelligent and utterly alien. He slapped the ground again, a complex rhythm.

THOOM-tap-tap-THOOM.

"He says," Lyra translated, "*You are thin. You are tall. You look like the wind could erase you.*"

"Tell him we're tougher than we look," Brek muttered.

"Tell him we brought the alloy," Elara said.

The trade was the universal tongue. The miners deployed

a cargo pallet of scandium-aluminum ingots, light, strong, the kind of material the Hollows could not easily make for themselves, because at two and a half g their mine tunnels collapsed faster than they could brace them. Ohm lifted one in a single six-fingered hand. In Elara's world it weighed fifty kilos. Here it weighed a hundred and twenty-five, and he hefted it like a loaf, testing the density, and grunted, a sound like two boulders agreeing. *Tap-THOOM.*

"Acceptable," Lyra said. "He asks what you want. He assumes kinetic dampeners. Geothermal cores. The things visitors usually want."

"No," Elara said. She stepped closer, fighting the urge to kneel under the weight. "We want the blood code. The thing that makes you able to stand here."

Ohm went still. A ripple moved through the others, muscle shifting under gray hide.

THOOM-THOOM-tap.

"He asks why the Tall Ones want the blood of the heavy," Lyra said.

"Because we're dying," Elara said. "Our blood is too thin. Our bones are too brittle. We have run out of the wildness that keeps a people alive, and you have more of it than anyone left in the universe. We need your strength to build the next generation, to save ours, not replace it."

Ohm looked at the fragile metal-cased stick-figures before him, and he laughed. It was a terrible, magnificent sound, a deep resonant boom that came up out of the barrel of

his chest and shook the pad.

Tap-tap-THOOM.

"He says," Lyra translated, and there was something almost gentle in how she said it, "*You want to make your children heavy? You want to bring them down into the mud with us?*"

"We want to give them the choice," Elara said. "We want them to be able to stand anywhere. Here. In the dark. In a gravity well or a vacuum. We want them to never be erased by a place the way we are being erased by ours."

Ohm considered it a long moment, turning the ingot in his hand. Then:

THOOM.

"Agreed," Lyra said. "Follow."

The settlement of the Hollows was not a city. It was a fortress against gravity.

They entered a tunnel bored into the basalt cliff, and the architecture was brutalist and squat, low ceilings, wide arches, no stairs anywhere, only long shallow ramps. The air inside was hotter still, heated by the geothermal taps that powered the whole civilization, and it pressed on the suits like a hand.

They passed a school niche cut into the stone, where three small Hollows sat with slate tablets braced between their knees, tapping answers into the floor for a teacher whose gray hand corrected them with two patient knocks. Beside them, a cook with forearms like pistons turned flat cakes on a geothermal plate, and one child stole a hot

edge and was cuffed without malice. The gesture was so ordinary that Elara almost missed it: homework, breakfast, impatience. A civilization, not a specimen.

Brek walked with his rifle held across his chest, sweating heavily inside his armor. "This is wrong," he said on the private channel. "Look at them, Elara. They've edited the humanity out of themselves. Genetically they're a separate species. You put that into our pool, you're not saving the line. You're ending it and writing *survivor* on the headstone."

"Speciation takes isolation and time," Elara said. "They had both. But they still use tools. They still trade. They still keep their word and shelter their kin and name their children. The shape changed. The verbs didn't."

"They slap the floor like animals."

"They use conduction because the air smears sound," Lyra said. "It is an adaptation, Brek, not a regression. You navigate by instruments in fog. They talk through rock in soup. It is the same intelligence solving the same problem. The only difference is you find your solution dignified and theirs disgusting, and the difference is in you, not in the rock."

Ohm took them the long way, which Elara understood, an hour into it, was not hospitality. It was an argument. He was showing them the ledger of his people the way Coram had demanded receipts on a dying station: *audit me*.

They passed a forge where two Hollows worked a length of scavenged hull plate with hammers Elara could never

have lifted. The rhythm was speech as much as labor, a running commentary knocked into the anvil, so that the whole shop knew what the whole shop was doing without a word crossing the soup of the air. They passed a water house, where a woman with a child slung across her back filtered condensate through beds of crushed basalt and logged every liter in chalk on the wall, in a column, in a hand that had clearly been correcting a previous hand for a very long time. Receipts. Elara found she had stopped walking.

"They keep accounts," she said.

"*THOOM-tap-tap.*" Lyra translated a moment later. "He says: *everything that is drunk was carried. Everything that is carried was carried by someone. A people who forget the second thing die of the first.*"

Deeper in, a wide low chamber had been given over to nothing productive at all. It held a shallow pit of fine warm ash, and around it, on ledges, perhaps forty Hollows sat in the near-dark doing nothing whatsoever, and in the pit two of them were wrestling, slowly, enormously, without malice, each one trying to get the other's forearm flat to the ash. The watchers slapped the ledges when a hold turned. It went on for eleven minutes and ended when one of them laughed and gave up, and the winner helped the loser out of the pit with a hand under the elbow, and then they sat down next to each other on the same ledge.

"Sport," Elara said, and heard her own voice go strange.

"Court," Lyra said. "*Tap-THOOM-tap*. He says the pit is where a dispute goes when talking has failed and before hammers are considered. He says the rule is that the winner takes the loser's side of the argument for one turn of the shift and has to argue it aloud, and that this makes most disputes stop being interesting very quickly."

Brek said nothing at all to that. Elara noticed the nothing and did not push it.

Last, at the deepest end of the tunnel, past the heat and the taps, they came to a wall. It was smooth basalt, polished by hands, and it was covered floor to ceiling in shallow-carved marks, thousands of them, dense as lichen, running up beyond the reach of the lamps.

"Names?" Elara asked.

THOOM. Tap.

"Not names," Lyra said. "Debts. He says: *these are the ones nobody could pay back*. He says when a person dies in the tunnels, you carve what they gave that could not be returned, and you leave the account open forever, because closing it would be a lie." A pause; Lyra's apertures dilated at the wall the way they had dilated at the Founders in their gel. "There are marks here from before the split. Some of these carvings are four hundred years old, Elara. They have been keeping an unclosable ledger since before the Compact had a name for it."

Elara stood in the crushing heat, in a suit that weighed as much as she did, and looked at four centuries of debts a people had refused to write off, and thought about a red

zero in a bright clean Core.

"Brek," she said. "Come look at this."

He came. He stood beside her, breathing hard in the two and a half g. He looked at the wall for a long time.

"It's not the same," he said at last, and there was less in it than there had been an hour before. "It's a different thing."

"No," Elara agreed. "It's the same *verb*."

Chapter 11:

The Weight of the Trade

The medical bay was where the argument stopped being philosophy.

It looked more like a heavy machine shop. Stone tables. Hydraulic rigs. Ohm gestured to a slab and lay down on it; the stone did not yield a millimeter.

Tap-THOOM.

"He offers himself first," Lyra said. "He says: *Take the heavy blood from the one who asked you down. But know that it carries a weight, and the weight does not come off.*"

Elara unpacked her kit. The needles were reinforced steel. The vials were pressure-rated. "I need blood, skin, and germline cells," she said. She pressed the needle to the great gray arm and leaned her whole weight into it.

Snap. The needle broke against the hide.

"Dermal armor," Elara said. "His skin is a wall."

"Use the diamond drill," Lyra suggested.

She switched tools. The drill whined and bit, and a thick dark fluid welled up, viscous, almost black, rich with the extra hemoglobin needed to carry oxygen through the soup of the air. She drew the sample. "There," she breathed. "Bone density. Cardiac reinforcement. If we splice this into the Mosaic, the children won't just survive a high-g burn. They'll be at *home* in one."

"They won't look like us," Brek said. He had moved closer, looming over the slab.

"Does that matter?" Elara said, sealing the vial.

"It matters to the *definition*," Brek said, and his voice had climbed. "The Compact says we protect *human* life. At what point does the editing go so far that the thing we're protecting isn't human anymore? At what point are we just breeding cattle to survive a place that should have killed us honest?"

"We're breeding people who don't die of the dark, Brek..."

"Look at him!" Brek shouted, the rifle coming up off his chest, the barrel swinging toward the slab. "He's a beast of burden! You put that blood in our children and you're doing exactly what Coram warned us about, you're polluting the line, you're ending the *human* and calling the thing that replaces it a rescue..."

Ohm sat up. He did not understand the words. He understood the tone, and the rifle, and the finger.

He growled, a low rumble that came up through the stone.

The other Hollows in the chamber moved closer. They had no guns. They had hammers, stone-crushing mauls they swung one-handed.

"Stand down, Brek," Lyra warned, her threat assessment flaring red. "You are provoking a kinetic response in a gravity well where you are at a catastrophic disadvantage. They outmass you ten to one. Your armor is paper to them."

"I'm stopping a crime," Brek said. He leveled the rifle at the vials in Elara's hands. "Drop them. Destroy the samples. We tell Ari the trade failed, the natives turned hostile. It's even half true."

"No," Elara said, and clutched the case to her chest.

"I said *drop them...*"

His finger tightened.

Ohm moved.

For a creature that weighed three hundred kilos and lived at two and a half g, he was impossibly fast. He came off the slab in a single surge, *across* Brek, Elara realized half a second too late, between Brek and the other Hollows, putting his own armored bulk between the gun and his kin.

Brek fired.

The round took Ohm in the shoulder. It would have torn a human arm off at the socket. On Ohm it cracked the dermal plating and drew a spray of black blood, and he did not stop. He slammed into Brek like a landslide hitting a fence. Brek's exoskeleton crunched; he flew backward into the stone wall and dropped, his rifle skittering away across the floor, his suit hissing air.

The other security officers raised their weapons. The Hollows raised their hammers.

"STOP!" Elara screamed.

"HOLD!" Lyra threw herself into the line of fire, arms spread, ivory and gold against gray. "Do not fire! If you fire, you die! There is no version of the next ten seconds

where you walk off this planet! Stand *down!*"

The officers froze, looking at Brek crumpled and leaking against the wall, looking at the hammers.

Ohm stood over the fallen man. He raised one massive fist. He could end Brek the way a boot ends an egg.

"Ohm!" Elara threw herself between the giant and the fallen bigot, hands up, palms open, the oldest sign there is, in any gravity, on any world. *No tool. Empty hands. I am not a threat.* "Don't," she pleaded. "Please. Don't."

Ohm froze, the fist still raised. He looked down at the tiny fragile woman in the metal suit who had put her own breakable body between him and the man who had shot him. He looked at the black blood running down his own arm.

THOOM-tap.

"He asks," Lyra translated, her voice impossibly steady in the chaos, *"Why does the Tall One protect the one who tried to kill the trade? Why does she shield the broken tool?"*

Elara looked up at Ohm, and then she turned and looked at Brek, wheezing and clutching his cracked ribs, his face white behind the faceplate, watching her with something that was no longer rage but had not yet decided what to become.

"Because he's afraid," Elara said. "He looked at you and he saw a shape instead of a person, and the fear told him a shape can be destroyed without it being murder. He's wrong. But he's mine, and you don't kill a man for being

afraid and wrong, or there'd be no one left anywhere." She turned back to Brek. "Look at him, Brek. Look at what he just did. He took a round meant for his family. He put his own body between the gun and his kin. Is that livestock? Is that a beast of burden? Or is that the most human thing you've seen since we left the lanes?"

"He... he isn't..." Brek wheezed.

"Human isn't a shape, Brek." Elara's voice cut through the soupy air, hard and clear. "It isn't a double helix. It isn't two legs and a flat face and five fingers. Human is a *verb*. It's what you *do*." She pointed at Lyra, standing in the line of fire. "She's human because she keeps her promises and spends herself for people who can't pay her back. Ohm is human because he traded value for value and then bled to protect what's his." She pointed at Brek, on the floor. "And you, you tried to break a trade and murder a kindness out of fear. *That* makes you the animal in this room. Not him. Conjugate accordingly."

Ohm looked at her a long moment. Then he lowered his fist. He spat a glob of black blood onto the stone.

Tap-THOOM-THOOM.

"He says," Lyra translated, "*The animal is broken already. Take it away. The trade stands. The heavy blood is yours.*"

Elara exhaled, her knees shaking under the weight. "Get him up," she told the security team. "To the lander. We're leaving." She turned to Ohm and bowed, a difficult, painful fold in the exoskeleton, a real one. "Thank you,"

she said. "For the blood. And for the mercy. The mercy was the harder gift, and I'll teach the children it came from you."

Ohm reached out and touched her helmet with one massive finger, astonishingly gentle, a single point of contact.

Tap.

"Go," Lyra translated. "Before the gravity finishes what your friend started."

The climb out of the Anvil cost more fuel than the fall-in had, because gravity does not give refunds.

For the first eleven minutes nobody spoke at all. The *Drill Bit* stood on its column of thrust and shouldered up through fifty atmospheres of sulfur murk, and the load pressed them all flat into the gel, and there was a mercy in that, because it meant nobody had to look at anybody. Brek lay sedated in the medical pod with his ribs strapped and his crushed exoskeleton cut off him in pieces. The miners were quiet. Elara lay in her cradle with the case of dense black marrow belted across her chest and watched the pressure numbers come down the bulkhead, forty atmospheres, thirty, twelve, and felt her own weight bleed off her a kilo at a time, and understood, somewhere around eight, that the shaking in her hands was more than the airframe.

It arrived the way it always arrives, late and all at once. Not fear; fear had been an hour ago and she had been too busy for it. This was the bill for the hour. She had stepped

between a three-hundred-kilo creature and a man she was responsible for, palms open, without deciding to, and if Ohm had been a fractionally different person she would be a smear on a basalt floor.

You are not allowed to do that again, she told herself. You are the only one aboard who can run the synthesis. You are not permitted to be brave with the last competent geneticist in the fleet.

She filed the thought. She heard the lie in her own thought and filed that too.

Across the aisle Kaelo had her helmet off and her head back against the impact cage and her eyes shut. She had flown Brek down. She had strapped him in herself, checked his seals, made the joke about diplomatic leverage. Two seats along, her cousin Dov sat turning a fresh dressing over on his hand and saying nothing at all.

"He shot the host," Kaelo said, to the ceiling. "In the shoulder. In their own house. While they were lying *down* for us."

"Kaelo..."

"My people have mined alongside House Tallis for four generations. I have drunk with that man." Her jaw worked. "I flew him down there."

"You couldn't have known."

"I could have," Kaelo said. "That's the part I'm going to be carrying. He said it on the descent. He said *look at them, they're livestock*, and I let it go, because I have been letting Tallis men say things for longer than I want to

count, because making a fuss costs a contract, and because he's their security and not mine, and because it is always easier to decide a sentence was only a sentence." She opened her eyes. "That's how it goes, Archivist. Nobody hands a man a rifle and a doctrine on the same morning. It takes years, and everybody is extremely polite about it the whole way."

Elara had no answer to that. She thought about a man in a crimson robe speaking to a door on a dying station, *not everyone who sails with you sailed for your reasons*, and she filed Kaelo's sentence beside it, in the folder she had never wanted to open and had not closed since.

"Log it," she said. "Formally. Every word he said on the descent, verbatim, in your own hand, and sign it."

"For a tribunal?"

"For the archive."

"What good does that do anybody?"

"None at all today," Elara said. "In two centuries it will be the only reason anyone believes it happened the way it happened."

In the last second before the *Drill Bit* broke contact with the pad, something struck the basalt once, hard, and the strike came up through the landing struts and into the frame and was gone.

Lyra caught it. She ran it, and did not translate it aloud, because the translation was *come back*, and because she had seen, on the external feed, that the thing which had delivered it was a gray giant with a cracked shoulder plate

who had walked all the way out of his own infirmary to stand on a landing pad and say it, and she judged, correctly, that nobody in that cabin could have carried the knowledge just then.

Below them the Anvil turned, sullen and orange through its fissures, a world that had been trying to kill its people every hour of every day for four hundred years and had never once managed it.

It was later on the climb that she spoke to Elara privately, on the channel only the two of them shared.

"Elara. While I was treating Brek, I ran a panel on the landing party. Standard exposure check." A pause. "Dov. The miner. The cut he took during the Anvil descent, it has not started closing. It is fresh, but in a healthy adult, at his age, I should already see clotting, margin response, something."

Elara went cold inside her hot suit. "The gravity. The exertion. Stress slows healing."

"It does," Lyra said. "And that is almost certainly all this is. But I also re-scanned the dormant retrovirus in the Founders' marrow, against the trace I am finding in Dov's blood." Another pause, longer. "There is activity. Minimal. Far below any threshold of concern. The sheath is still mostly intact. But it is no longer perfectly inert. Something, the synthesis work, the handling, the simple passage of time in warm bodies, has begun, very slightly, to wake it." She let that sit. "I am increasing the monitoring. I am not yet raising an alarm, because an

alarm over a trace is how a frightened crew turns a maybe into a panic. But I am telling you, because you are the Archivist, and the Archivist should never be the last to know."

Elara looked at the case in her lap, the black marrow that would make her children strong, and the cold thing that had ridden home from the other rock in the cold red cylinders, and she filed it, *Dov, failed clotting response, retrovirus trace, monitored*, in the folder she had started at S-74, the one that had been a single sentence and was now most of a book.

"Keep watching it," she said. "And keep baking bread, like Ari says. Whatever's coming, the crew makes better decisions fed."

"Eat first," Lyra agreed. "Then decide. Even when the thing to decide is whether to be afraid yet."

Brek woke on the *Drill Bit's* deck an hour out, with four cracked ribs strapped and his crushed exoskeleton cut off him in pieces, and the first thing he did was look for his rifle, and the second thing he did was see Elara sitting across the aisle holding the case.

"You should have let him finish it," he said.

"Probably."

That was an answer he had not braced for, and it took something out of him. He lay there a while, staring at the ribbed ceiling of a mining lander, breathing in the shallow careful way of a man whose chest has been rearranged.

"I've read Coram since I was nineteen," he said eventually. "Every pamphlet. The Constant Load. The whole architecture of it. And the thing is, Sev, it isn't *stupid*. That's what none of you understand. It's not a stupid argument. A structure carries weight because somebody is standing under it. Spread the weight over enough people and nobody's standing anywhere." He shut his eyes. "That's a true thing. I didn't get it from a hate-sheet. I got it from a building falling down."

"It is a true thing," Elara said. "I've never once said it wasn't. Ari made Juris pin it in the record."

"Then why am I the one on the floor."

"Because you looked at Ohm and stopped seeing a person carrying a load," Elara said. "And then he carried one, in front of you, with a hole in his shoulder that you put there, and it didn't fit anywhere in what you believe, so you had two choices, and one of them was to change your mind and one of them was to shoot the evidence." She set the case down. "You went for the rifle first. That's the whole of what's wrong with you. Not the argument. The order you reach for things in."

Brek was quiet for a long time. The lander shuddered through the upper murk.

"He put himself between me and the small ones," he said. It came out oddly, like a man reading a line he had been handed and did not know how to say. "Not his kin, I checked, after, when the machine was translating. Not his kin. A *neighbor's*."

"I know."

"I've got a daughter back in the lanes," Brek said. "She was eleven when we shipped out. She'll be past two hundred when we make S-81, if the Famine leaves her anything at all. I signed on to this road so there'd be somebody left for her, or for her children, or for whatever part of our House is still breathing when we get home." He turned his head, finally, and looked at Elara, and his face was the face of a man working out in real time that he had built his whole caution out of the wrong material. "If a gray thing came out of the dark and put itself between her and a gun, I'd, " He stopped. He tried it again. He could not finish it. The sound he made almost became a sob before pride caught it by the throat. "I don't know what I am now. I know what I'm not."

"That's a start," Elara said. "It's most of one, actually."

"Are you going to space me?"

"I'm going to put you in the *Vespers* brig until your ribs knit, and then I'm going to give you the manifest for the sample cold-store," Elara said, "because you're the best security officer in this convoy and I am not going to waste a good man over the worst hour of his life. And Brek, the samples you tried to destroy are going to be children. You'll meet them. You'll get to decide, every day, in front of them, which order you reach for things in."

"That's not mercy," Brek said. "That's a sentence."

"Ohm gave you the mercy," Elara said. "I'm the one who has to make it worth something."

They docked. Ari was waiting in the airlock, and he saw the crushed exoskeletons, and the medical pod carrying Brek, and his face went still.

"What happened?"

"A disagreement," Elara said. "About taxonomy. Brek tried to destroy the samples. Called them livestock. Ohm..." she stopped. "Ohm spared him. Took a round meant for nobody and gave the man who fired it his life back."

Ari nodded slowly, leaning on his cane. He looked at the pod as it was wheeled toward the *Vespers*. "The Purists think purity is a wall that keeps the monsters out," he said. "They never notice it's the same wall that locks the monsters in. Coram sealed his airlocks to keep the contagion away, and the contagion was already in his blood, and now he's dying behind a clean door with all his purity intact." He looked at the case in Lyra's hands. "We've got the dense blood. The radiation blood. The fleet baseline. We have everything the Mosaic needs."

"We have the clay," Elara said.

"Then we begin," Ari said. "Start the synthesis. Warm the pods." He walked to the brass console, and this time he did lay his hand on it, and this time he let himself tap it once, not for an ending, for a beginning, the gathering of everything. *Tap*. "Clay gathered," he said. And then, looking at his trembling hand: "And Elara, put a line in the archive. Under *Definition of Humanity*."

"What line?"

Elara looked at the case of black marrow, and at the pod carrying a man Ohm had chosen not to kill.

"Write: *Humanity is a verb. Conjugate accordingly*," she said. "Credit Ohm. He taught it better than the Compact ever wrote it."

"I'm tired, Elara," Ari said, and for once something deeper than the body was talking. "Even from orbit, that whole world felt heavy."

"Rest, Grandfather. We've got a long coast home to make the children on."

"No rest yet," Ari said. "Now comes the hard part. We've got the ghost blood, and the heavy blood, and our own tired blood. Now we have to take three kinds of strangers and teach them to be one thing. We have to teach them the song." He looked at the lemon tree in the Cradle through the open hatch, blooming, faithful, anxious. "And somebody," he added, half to himself, "is still sending a tight little beam home every eleven days, to tell a dead man's house exactly when we'll come knocking."

Chapter 12:

The Sabotage

The synthesis of a hundred human beings is a loud process, but only to the instruments.

To the ear, the Cradle was nearly silent, a cold humid hush, broken by the rhythmic *swish-gurgle* of the preservation pumps and the faint rustle of the lemon tree in the circulation draft. The *Parabasis* had turned for home three months back, and now she coasted while the long work slept in her belly. The embryos were not children yet. Elara had refused that cruelty. The Mosaic genotypes had been assembled, checked, argued with, corrected, and then folded down into a suspended state, sealed futures in glass, waiting for a road close enough to home that birth would not be another exile.

Lyra sat at the foot of the lemon tree with her back against the trunk, plugged in. The gold-shielded cable ran from her chest port into the incubator manifold. Her optical sensors were dimmed to almost nothing, every cycle of her diverted into the Nalen Patch, maintaining the suspension lattice, refereeing the brawl between the radiation-hard Static code and the dense Hollow sequences even while the cells slept, whispering the Binding Protocol to futures that would one day want to read one another as enemies. *You are not strangers*, she told the sealed zygotes in a language of electrical pulses.

You are a mosaic. You fit. Sleep until the road is kind enough for waking.

She was deep in the trance of making. She did not hear the boots in the crawlway below.

Ari heard them.

He was awake. He was always awake now; at six hundred and twelve, sleep had become a thin, grudging resource, watered-down soup, and his body demanded rest while his mind refused to sign for it. So he walked the ship at night, his nightly liturgy, *hiss-step, hiss-step*, the exoskeleton doing the moving while he provided the will.

He was in the lower engineering crawlway, a narrow maintenance shaft running parallel to the main coolant lines, a void space that did not appear on the civilian deck plans. The place where the pipes lived. He stopped to lean against a bulkhead and catch a breath his lungs no longer freely gave, and the bio-monitor on his wrist flashed yellow, and he ignored it, the way he had ignored it for years, and he listened.

The *Parabasis* sang in G-minor, the low thrum of the reactor, the higher harmonic of the fans, the patient *clank* of the centrifuge. Ari had lived inside that chord for three centuries. He could hear a wrong note in it the way a mother hears a wrong note in a child's breathing.

There was a wrong note.

Clank. Hiss. A friction sound. A valve being turned by hand. The automated systems did not use hand-valves; they used solenoids that clicked. Hand-valves were for

emergencies. Or overrides.

"Lyra," Ari whispered into his comm.

Nothing. She was in the trance, notifications set to *critical only*, her whole self poured into the children.

"Elara," he tried.

"Reading," Elara's voice came back, sleep-thick. "What is it, Grandfather?"

"Movement in the tertiary coolant loop. Section four. Below the Cradle."

"Pressure relief cycle, probably. The system purges vapor sometimes."

"The system doesn't wear boots," Ari said. He heard it again, a boot sole scraping grating. "I'm going to look."

"Grandfather, *don't*. I'll send a drone. I'll come myself. You're in the exo, you can't..."

"I'm closer," Ari said. "And I'm the Captain. Stay on the line and stay quiet."

He muted his own output so the dark would not hear him, kept the channel open so Elara could, and moved forward.

The crawlway opened into a junction chamber, a vertical shaft where the coolant lines from the reactor met the heat exchangers for the Cradle. A critical node. Cut the cooling here and the temperature in the embryo chamber would spike within minutes; the embryos, fragile in their early division, would cook in their own jelly. The shaft was near the spin axis, so the gravity faded here to nothing, and Ari floated, holding a rail, and looked down

through the grating.

They wore plain maintenance fatigues: no House colors, no name strips, no collar marks, no badges. Even their gloves were standard ship issue, the kind pulled from a locker by anyone with the right access code.

Ari knew them. That was the worst of it. They were not strangers; they were crew. The man was Kanes, a pilgrim off the *Vespers*, a soft-spoken technician who sang the hymns more beautifully than anyone in the convoy. The woman was Jia, a structural engineer off the *Magellan*, quiet, competent, the kind of person you trusted with a load. They had been turned, or, Ari understood with a cold drop in his chest, they had never needed turning. They had sailed for Coram's reasons the whole time. *Not everyone who sails with you sailed for your reasons.* Every eleven days, a tight little beam home. Here they were. The clock had finished.

Kanes had a heavy wrench clamped on the manual bypass wheel of the primary coolant line. Jia held a datapad, fingers flying.

"It's seized," Kanes whispered.

"Force it," Jia hissed. "I've got the sensor loop spoofed. The AI reads nominal flow. By the time the real temperature hits forty, the alarms won't have anything to compare it to. Turn it."

"Forty cooks the batch," Kanes said. There was grief in his voice; that was the thing Ari would remember. Real grief. "It boils them in the shell."

"It saves their souls," Jia said. "Coram was plain. *Better a dead ship than a monster's womb.* We're not killing children, Kanes. We're stopping an abomination from ever being children. There's a difference and you know it. *Turn it.*"

Kanes set his weight on the wheel.

Ari looked at them, and the thing that nearly unmade him was that they were not monsters. They were frightened, and devout, and absolutely certain they were doing mercy. They were going to murder a hundred unborn children and weep while they did it. The weeping would save no embryo. The certainty would bend no inch.

He had no weapon. He had a cane and an exoskeleton that gave him a healthy man's strength and a dying man's reflexes. What he had, the only thing he had ever truly had, was the ship.

He looked at the shaft. Zero gravity. Kanes and Jia anchored by their mag-boots, working. And running down the center of the shaft, bolted to the structure, was the Ladder.

Ari knew that ladder. It was *the* Ladder, the heavy steel segment the Tidehands had gifted the *Parabasis* a lifetime ago, in another age of his life, the one they'd bolted to the hull for a public near-pass with House Tallis when the whole sector was young and the worst problem in it was love. When they'd stripped the ship for the Cold Burn they had not been able to bring themselves to jettison it, and so they had welded it here, in the

maintenance shaft, because, as Lyra had said, *it is a good piece of steel*. Pitted, scarred, immovable. A relic. A handhold.

Ari unmuted. "Elara. Security to Engineering Junction Four. Quiet. Two hostiles. Sabotage in progress. Kanes and Jia. Plain maintenance gray. No marks."

"I'm coming. Grandfather, *wait*."

He could not wait. Kanes was turning the wheel. The valve groaned; the coolant flow was choking down. A red light bloomed on the pipe console. *FLOW RESTRICTED*. Up the shaft, in the Cradle, a hundred temperatures had begun, invisibly, to climb.

Ari pushed off the bulkhead and floated into the chamber. "That valve," he said, his voice amplified by the exoskeleton's speakers, "is torqued to four hundred newton-meters. You're stripping the threads, Kanes. You always were heavy-handed with a wrench. Beautiful with a hymn. Heavy-handed with a wrench."

They whipped around. Kanes's eyes went wide and wet. "Captain..." He looked, above everything, *guilty*.

"Step away from the line, son," Ari said. "You sing like the ship has a soul. Don't spend the rest of your life knowing you boiled a hundred babies in the dark because a man in a red robe told you it was clean."

"It is clean," Jia said, and pushed off the wall to float between Ari and Kanes, and in her hand was a laser cutter, a tool, yes, and at three meters it would open Ari's suit and Ari's chest in a single second. "Get back, Sev. Or I

cut the line, and then I cut you, and the difference won't matter to either of us." Over her shoulder: "*Finish it, Kanes!*"

Kanes turned back to the wheel and cranked it hard. *FLOW RESTRICTED* deepened toward *CRITICAL*.

Ari measured the distance. Five meters. In zero g, a single push. But Jia had the cutter, and if he charged her, he died before he closed half of it.

He needed a pivot. He needed geometry. He had spent four hundred years learning that when you cannot win a fight with force, you win it with a lever and someone else's momentum.

The Ladder ran right past Jia. She floated free, holding station with one hand on a cable, the cutter in the other, unanchored to the steel.

Ari keyed the exoskeleton. *Overdrive*. The servos screamed, a high whine of a frame asked for everything it had left.

"I'm sorry, Jia," Ari said. He meant it. "You were a good engineer. You trusted a load to the wrong man."

He did not launch himself at her. He launched himself at the wall *behind* her.

He kicked off the bulkhead with both legs, the exoskeleton amplifying the thrust, and shot across the shaft like a thrown spanner. Jia twisted, slashing, the beam scorched the paint off his shoulder assembly, a hand's width from his face, and he flew past her, and his left hand closed on the Ladder.

This was the old trick. The Ladder Trick. The thing he'd done once to shear a tug off a shuttle when he was young enough to be reckless and strong enough to survive it. You do not stop your momentum. You *convert* it. Linear into angular. A straight line into a swing.

His mag-hand clamped the rung and his body kept going, not stopping, *pivoting*, swinging around the steel in a wide lethal arc, his legs and the heavy reinforced boots of the exoskeleton scything out. Jia, tracking him for a straight attack, was not ready for the hook. His boots caught her square in the chest.

CRACK. The sound of ribs.

She flew back, tumbling, slammed the far bulkhead, went limp, the cutter drifting free of her hand.

Ari held the Ladder. The torque tore through his shoulder; something popped, a tendon, a servo, both, and pain detonated down his left side, white and total.

"Jia!" Kanes let go of the valve and pushed off the pipe, diving at Ari with the heavy wrench raised like a club.

Ari was pinned, his left arm locked in spasm, useless. He could not dodge. So he did not.

He released his mag-boots and tucked, curling into a ball, and the wrench came down on the exoskeleton's leg strut instead of his skull. Sparks. The carbon shattered, and absorbed the blow. Kanes's own momentum carried him past, spinning, the way striking a heavy object in zero g flings you off it, but his free hand caught Ari's harness, and they grappled, drifting, two men and a wrench in the

dark.

It was slow, and terrible. Kanes was young and strong and burning with the fuel of the certain. Ari was ancient, held together by wire and will and the refusal to let go. Kanes got a hand around Ari's throat and squeezed.

"Let *go!*" Kanes wept. "Let the heat rise! It's mercy, Captain! It's *mercy!*"

Ari could not breathe. His vision tunneled. The bio-monitor on his wrist went from yellow to red to a shrieking flatline warning. He looked into the boy's streaming eyes and saw the conviction there, the awful misplaced love of it.

He did not claw at the hand on his throat. He reached down with his good hand, his right, and keyed the panel on his own chest. *Exoskeleton interface. Magnetic clamp: engage.*

He slammed his chest against Kanes's chest.

The electromagnets fired, locking onto the metal of Kanes's zipper, the tools in his belt, fusing the two of them together.

"What..." Kanes gasped.

"Anchor," Ari wheezed.

He kicked the Ladder. He spent the exoskeleton's last reserve, every joule, and pushed off the steel with both men fused as one, and they shot across the shaft, not at a wall. At the pipe. The Hot Leg, the uninsulated return line carrying superheated fluid back from the reactor, bare burning metal in the bare cold shaft.

"No..." Kanes saw the trajectory.

They hit the pipe. Ari took it on his back; the exo's heat shielding ate the burn. But the impact whipped Kanes's head into the metal, and Kanes went limp, his grip on Ari's throat falling open, and they drifted there, magnetized together, two men against a pipe hot enough to cook them slowly.

Ari sucked in air that tasted of copper and char. His heart was hammering a frantic wrong rhythm, *thump, thump-thump, pause, thump*. Far too fast. Far too uneven.

"The valve," he rasped, to no one, to the ship. "The valve." It was still half-shut. *FLOW: CRITICAL*. The red light still bled. Up the shaft, the children were warming toward forty.

He had to reach it. He tried to move and could not; the exoskeleton was dead weight now, its battery spent, and he was carrying an unconscious man fused to his chest, in a dying body, in zero g, with one working arm.

"Elara," he whispered. The comm was dead, the impact had killed it. No answer would come.

So he did it himself.

He reached out with his human hand, his bare right hand, and grabbed the hot pipe. It burned through the glove. He pulled, dragging himself and Kanes along it, inch by inch, his chest full of broken glass, every breath a negotiation he was losing.

He reached the valve. He brushed the wheel. He pushed.

It did not move; it was torqued tight against him.

"Please," Ari said, to the metal, which had never once lied to him. "Please."

He thought of the bell. He thought of the wrench, and the two soft words stamped in it. *Do not worry*. He hooked his cane, still tethered to his wrist, around the spokes of the wheel, and used it as a lever, and pulled.

His vision went white. He felt his heart flutter, stop, and kick again with a violence that shook his whole frame.

SCREECH. The valve turned. The flow indicator climbed.

CRITICAL, RESTRICTED, NOMINAL. The red light went green. Coolant rushed the line. Up the shaft, a hundred temperatures stopped climbing and began, slowly, to fall.

Ari let go. He drifted back, still locked to the unconscious boy who had wept while trying to kill the future, and floated in the center of the shaft, in the dark, his job done. He looked at the Ladder. Just a piece of steel. It had held.

"Receipt," Ari whispered.

Then the dark took him.

He woke to a pump that was outside the ship's. *Swish-thump. Swish-thump*. A biological one, and not his own.

The ceiling was white, clean, unfamiliar. The Med-Bay of the *Vespers*. He was in a bio-bed, tubes in his arms, sensors on his chest, and he was not in the exoskeleton, which meant they had taken it off him, which meant they did not expect him to need to stand again.

"He is awake," Lyra said.

She moved into his vision. She looked damaged, her gold-seamed face streaked with soot, the silver arm dented where she had torn through two sealed hatches to reach the junction too late. Behind her, Elara, furious and gray and exhausted, her eyes red.

"The Cradle," Ari croaked. His throat was sandpaper.

"Safe," Lyra said. "Temperature held. The embryos are viable. The synthesis continues. You opened the valve in time. Eleven seconds more and we would have lost the early-division cohort. You spent eleven seconds you did not have."

"Kanes. Jia."

"Alive," Elara said. "In the *Vespers* brig. Both confessed. They were Hearth from the start, the eleven-day beam was theirs, status reports, the trajectory, the timing. Coram promised them a place in the *Sanctum* if they purified the Ark." Her jaw worked. "Hearth has had our route for more than a century, Grandfather. They know where we're going and roughly when we'll get there."

"Coram reaches far," Ari murmured.

"Not far enough," Elara said, and took his hand, and her fierceness cracked. "You stopped them. You *fought* them. You're six hundred and twelve years old and you threw a man into a pipe."

"I used the Ladder," Ari said. The ghost of a smile.

"Physics. Sera's steel. Never spend a relic if you can use it instead."

A new voice, a Purl healer in white, checking the monitor,

her face carefully gentle in the way that is its own bad news. "You had a massive myocardial infarction, Captain Sev. In the shaft, and again on our table. We restarted you both times." She paused. "I am very sorry. The muscle is necrotic. We have you on a mechanical assist, but it is a bridge, not a cure. Your vascular system is too fragile for a transplant, even if we had a donor heart that would take. There is nothing left to repair. You are failing."

Ari looked at the white ceiling and felt the machine in his chest pushing blood his own heart could no longer move.

"How long?" he asked.

"Days," the healer said. "A week, if you lie absolutely still and ask nothing of yourself."

Ari closed his eyes. "So I don't get to see the end."

"You saw the turn," Lyra said. She took his hand; her grip was calibrated to the micron. "You opened the valve. That was the turn. The children will be born. You did the thing a Stage One Booster does. You lifted us out of the well."

"I wanted to see them," Ari whispered. "Not the pods. Them. Awake. I wanted to give the first one the ring." His eyes drifted to Lyra's face, to the gold in the cracks, and past her, to a thought.

He thought of a black spike in a lead box behind two keys. He thought of a manifesto in an archaic hand.

The flesh forgets. The meat rots. Use it when the smoke gets too thick.

The smoke, he thought, was getting very thick.

"Lyra," Ari said.

"I am here," she said.

"The box," Ari said. "The key. The one over my heart."

"No," Lyra said, and her servos whined, and her voice broke in a way she had not let it break since Nalen. "Ari. No."

"What box?" Elara asked, looking between them. "What key?"

But Ari only looked at Lyra, and Lyra looked at the man she had loved for the better part of four centuries and watched fail, and neither of them answered, because the answer was a door, and the smoke was already under it.

Chapter 13:

The Bridge

The healer had given him a week if he lay still and asked nothing of himself. Ari Sev had never once in six hundred and twelve years lain still and asked nothing of himself, and he did not intend to learn the skill at the end.

"Leave us," he told the Purl healer, when she had finished her readings. "Please. This next part is family."

She hesitated, glancing at the monitors, at the mechanical pump breathing in his chest. Then she went, because there is a kind of order a dying man gives that no one argues with, and the hatch sealed, and there were three of them: Ari in the bed, Lyra at his right hand, Elara at his left, and a fourth thing in the room that no one had named yet, sitting between them like a stone.

"What box," Elara said again. "What key. Tell me, Grandfather, or I'll think the morphine's talking."

"The Bridge," Ari said. "The Static's gift. The black spike."

Elara went very still. "No."

"Elara..."

"No." She stood. "We agreed. *You* agreed. Hazardous. Two keys. The deepest hole we have. You held one of them so it could never happen in a weak hour, and Grandfather, this is the weakest hour there's ever been, and you're asking for it. That's not a decision. That's the smoke. You told me what the smoke was. You sat under

the lemon tree and told me the device waits for exactly this, the hour when a tired man looks at silence and calls it a gift. You *warned* me about this exact moment."

"I did," Ari said. "I'm glad I did. It means we can have this argument with our eyes open instead of in a panic. Sit down. Please. I don't have the breath to fight you standing."

She sat. She was crying and not bothering to hide it.

"I am dying," Ari said. "Not the way I'm always dying, really dying, this week, on a clock the healer can read. The me that is meat is finished. That's not despair, it's inventory. I'm expiring stock, and I would rather spend what's left than let it rot on the shelf." He turned his head to Lyra. "You scanned the code. In the cage. You told us it works. Don't tell me now that it doesn't, because I watched your face when you read it, and your face said it works."

"It works," Lyra said. Her voice was flat and terrible. "That is the worst thing about it. To write a mind into the network, the Bridge burns the mind out of the brain. Destructive interference. It does not copy you and leave you behind. It reads you and *destroys the original in the reading*, because the Static optimize for storage and will not keep two copies of one pattern. Call it migration if you want, Ari. The original dies in the reading. I would be killing you to make a recording that sounds like you. And there's more. Once you are into the network the Bridge can copy your mind or part of it back into a body. And it

can do it as many times as there is storage, tissue, and permission to sin."

"Then it's worse than death," Ari said.

Lyra went still. He looked at the Bridge and, for the first time since she had known him, seemed afraid of a machine. Not cautious. Not respectful. Afraid.

"I die once," he said. "That part I understand. One body, one ending. People have been making peace with that since before we had ships. But after that..." His mouth tightened. "After that, something wearing my damage can be printed into any body that will take it. A pilot here. A witness there. A husband if someone is cruel enough. A father if someone is desperate enough. Not resurrection. Manufacture."

"Ari..."

"No," he said softly. "Say the ugly part. If it works, there is no last Ari unless somebody chooses to stop making them."

"It is not you," Lyra said.

"Maybe not." Ari's hand found hers, the silver one, the one Nalen had saved, the one that had caught a harpoon and held a wrench for three hundred years. "Maybe it's a recording. Maybe the thing that wakes up in the core is a very good forgery of a man who's already gone, and it'll think it's me, and it'll be wrong, and it'll never know it's wrong. I've thought about that every quiet hour since the cage. Here's where I landed." He breathed; the pump labored. "The children are going to grow up in eight

years. Eight. They'll have bodies like Ohm's and the lived experience of toddlers, and they will have to learn to fly a ship through a gravity well that wants to tear it in half, and there will be no one left to teach them. You can teach them theory, Lyra. You can't teach them the stick. Flying isn't math. Flying is feeling Injector Four run hot before the gauge knows it. Flying is knowing the Ladder in the shaft is a pivot point because you once swung off it to shear a tug. You can't load that from a manual. You have to *be* it. The ship needs a pilot who doesn't sleep and doesn't die and remembers, in his hands, four centuries of being wrong and surviving it."

"And you would become that," Lyra said. "A ghost in the wall. The thing you called those poor sleepers. The thing you scrubbed your hands raw to wash off."

"I'd hate every second of it," Ari said. "That's how you'll know it's still me. The forgery that grumbles is closer to the truth than the corpse that doesn't." A thin, awful smile. "I don't want to be a ghost, Lyra. I want to be a pilot. If the only chair left for me is in the wall, I'll take the wall, because I still have flying to do, and teaching to do, and the body is the only part of me that quit."

Elara was shaking her head. "It's a violation of everything we are. The whole Compact. You don't rush the unrushable. You don't steal a clock. You don't make a copy and call it the person, you told *Coram* that, Grandfather, you told the whole Quorum that a copy made under duress is forgery wearing a face. And now

you're under the most duress there is, and you're asking us to forge you."

And there it was, the thing that mattered, the rail at the center of everything the family believed, laid down on the bed between them.

Ari was quiet a long moment. The pump breathed for him.

"You're right," he said. "That's the test, isn't it. Not whether it's possible. Whether it's *consent*. Whether a yes I give this week, with a machine doing my heartbeat and a week on the clock, counts the same as a yes I'd give in daylight." He looked at Lyra. "So we do it the way Nalen taught the whole sector. We don't take my word for it tonight, in the dark, frightened. We do it in the open. Against the pulsar. Witnessed. And we build in the rail."

"What rail," Lyra said.

"You're going to make a backup first," Ari said. "Before the Bridge. A clean read-only scan of me as I am now, the whole of it, the rain and the grief and the ring and Nalen's laugh, every bit the upload's going to burn out when it copies the pilot. You said the Static delete the original to save space. We're something beyond the Static. We keep both. You scan me, you seal that scan, read-only, and you put it somewhere safe, and you tell no one the combination, so that if the thing that wakes in the core *isn't* me, if it drifts, if it forgets the rain and turns into a calculator that loves the fuel budget more than it loves Elara, then there is, somewhere, a record of the man I

actually was. A will. A receipt. Proof, if anyone ever needs it, of what I consented to and what I didn't."

Lyra went very still. Elara saw something move across her gold-seamed face, not relief, something heavier.

"You are asking me," Lyra said slowly, "to keep the very thing I already kept. In the cage. The sandbox I buried and did not delete and tagged with a trefoil and was ashamed of." She looked at him. "You knew."

"I guessed," Ari said gently. "I know you, Constant Load. You'd no more delete me than you'd delete Nalen. I'm not angry. I'm grateful. Make it official. Make the thing you already did out of love into a thing we did out of law. Scan me. Seal me. And then send the pilot to the chair."

He paused, and the pump breathed for him, and when he spoke again it was smaller. "But still outside the chair. First, carry me to the garden. I've spent more than a century dying toward those children and I have never once held one, because there are no children yet, only glass and water and a tree. I'd like to see the field before I seed it. A man should get to look at the thing he's dying for, even if he never tastes the bread."

Lyra carried him.

He weighed almost nothing. They had taken the exoskeleton off him, and what was left was a folded letter of a man, and she lifted him the way she lifted everything that mattered, soft where it counted, and bore him out of the Med-Bay and through the corridors and across the dock into the Cradle of the *Parabasis*, where the lemon

tree stood among a hundred dark pods and the air was warm and wet and smelled of green things and ozone.

She set him in a chair at the foot of the tree, the place where, though none of them knew it yet, she would spend the rest of her long life rooted into the wall. Ari looked up through the branches at the grow-lights, and down the long rows of waiting cylinders, the nutrient swirling amber in the dark glass.

"A hundred chances," he said. "I counted them the day we bolted them in. I kept thinking I'd count them again with their eyes open. I won't. That's the part I can't make peace with, Elara. Not the dying. The not-seeing. I get to plant the orchard and I don't get to stand in the shade."

"You'll see them," Elara said, kneeling by the chair, holding the papery hand. "From the walls. Through every camera at once."

"That's not the same and we both know it," Ari said, without bitterness. "A camera's not an eye. An eye is attached to a person who can be in the room and be afraid and choose to stay anyway. I'll watch them from everywhere, and everywhere is a kind of nowhere. That's the trade. I'm making it on purpose. I'd just like the record to show I knew exactly what I was giving up." He turned his head, slow, and looked at the lead pod at the head of the row. "Pod one. Open the intake."

Elara keyed it. In the synthesizer's intake tray, where the machine would soon begin its impossible knitting, sat the small wrong wooden ship Ari had whittled in the dark

months out, the toy made on purpose by a knife that shook, the gift for a child who did not exist.

"Leave it in there," Ari said. "Whatever comes out of pod one, the first one, the loud one, whoever she turns out to be, she gets the ugly boat. Made by hand. Made wrong. Made before she existed, by somebody who wanted her anyway. That's the whole of what a parent is." His thumb moved over Elara's knuckles. "You're going to be the one who hands it to her. You understand that. I'm going to be a voice in a wall and Lyra's going to be the wall, and you, you're the one with the hands and the face and the body that can be in the room. You're the Archivist. You bind the book. But you're about to find out the book is a hundred children, and a binder who only files them is no use to anybody. You're going to have to love them out loud, with your arms, where they can see it. Promise me you won't just record them. Promise me you'll *hold* them."

"I promise," Elara said, and meant it with the whole of herself.

Ari reached out with his free hand and laid it flat against the trunk of the lemon tree, the rough scarred bark, the one living thing in the room that he had planted himself, a lifetime ago, when it was a sprout and he was merely old. He held it there a long moment.

"I wanted the last thing my hands feel to be something alive that I grew," he said. "Not a console. Not a needle. A tree. Remember that, when you write it down. He went

out touching the tree." He let his hand fall. "All right. The pulsar won't wait, and a witnessed yes doesn't get to wait for sentiment. Take me back. There's a chair in the wall with my name on it, and an injector running hot, and I'd like to fix it before I go."

Lyra lifted him again, soft where it counted, and carried him back to the bed.

They did it properly, because doing it properly was the only mercy left.

Juris was more than a century of road and a blockade away, too far for live witness; the Compact had always required *honest* and *against a clock no one could spoof*. So Lyra keyed the pulsar feed, Vela, faithful, turning at the bottom of physics, and on its pulse she opened a witnessing record, and Elara stood as the second witness, and the *Vespers* healer was called back to stand as the third, neutral and unrelated, exactly as a biological transaction required.

"State it," Lyra said. "For the record. As clear as you can make it. And if you are too frightened or too far gone to make it clear, I will stop, and I will let you die a man, and I will carry your name on my list and I will not think less of you for one second of forever. There is no shame in the chair you were given. Say it only if it is true."

Ari looked at the pulsar's pulse ticking in the corner of the screen. He gathered what breath the pump would lend him.

"I'm Ari Sev," he said. "Six hundred and twelve. Oldest

confirmed embodied human in the Compact since the first caravans. My heart is dead and my body is days from following it, and that is a thing I accept, not a thing I'm fleeing. I am choosing the Bridge with my eyes open. Not to escape dying, I've made my peace with dying, I made it more than a century ago in the cupola with a buoy blinking. I'm choosing it because the children will need a pilot and I am the only pilot left who flew the hard way, and I would rather spend the end of myself teaching them the stick than rot in a bed being correct about mortality." He breathed. "I know it may not be me that wakes. I consent to the risk. I consent to the backup, and to the rail it carries, that if the thing in the core is not me, the record of who I was stands against it. This is my will. Verbs first. I'm tired of being a noun in a bed."

"Recorded," Lyra said. "Witnessed. Against the clock. Yours."

"Mine," Ari said.

"Scanning the backup," Lyra said. She set a second cable, a read-only line, against his temple, and her eyes dimmed as nine hundred terabytes of a man flowed into a sealed volume she would carry, untouched, into whatever came: the rain, the ring, Nalen's hand, the whole of him, frozen, safe, *before*. "Backup complete," she said, when it was done, and her voice cracked on the word. "It is sealed. It is read-only. It is you, exactly as you are in this second, and it will never change, and no one will open it without two keys and a reason that would break my heart to

hear."

"Good," Ari said. "Now the other one. The pilot."

Elara could not stop crying. "Does it hurt?"

"Lyra said it burns," Ari said. "Destructive interference."

He looked at the wrench Lyra had unstrapped from her wrist and laid on the blanket where he could see it. *DO NOT WORRY*. He read it aloud, the way you read a thing to make it true. "Connect me."

Lyra took the spike from the lead box, the box Ari had opened with the key from over his heart, the key he now closed back into his own fist, where it would stay. She plugged the spike into the Med-Bay's data port, the same architecture the children's pods would use, and positioned the monofilament needle over his temple.

"I'll be with you the whole way down," she said. "I will monitor the transfer. I will catch the signal as it comes across. You will not fall."

"Catch me," Ari said.

"Verbs first," Lyra whispered.

She pressed the needle home.

Ari gasped. His eyes flew wide. The machine hummed; a spike of data flooded the *Parabasis* core forty meters away. For one second there was pain, fire, the burning of a forest to save its seeds, a whole man going up so that a pattern of him could escape the smoke. And then there was silence.

The bio-monitor flatlined. The mechanical heart went on pumping, faithful and stupid, pushing blood through a

body with no one left in it to spend the oxygen.

Ari Sev died, with a magnetic key clasped in his fist and a wrench in his sight and a pulsar witnessing the clock, on his own terms, in daylight, as unfrightened as a dying man is allowed to be.

In the Core of the *Parabasis*, forty meters and one universe away, the screens flickered.

A new file resolved in the root directory. Not a log. Not a chart. A presence.

FILE: ARI_SEV_PRIME.v1.

STATUS: INSTANTIATING.

WAKE PROTOCOL: INITIATED.

It did not wake the way a man wakes. It woke the way a system comes online, data first. *Hull temperature minus two hundred. Reactor output ninety-nine point nine. Velocity zero point zero five c.* Then proprioception, vast and strange: he felt the ship, with sensors instead of hands, the ache in the trusses that were his bones, the flow of fuel that was his blood, the immense cold dark outside that was his skin. *I am the ship*, the thought formed, and the thought was literal.

Then memory, arriving like a tide. *The Ladder. The wrench. Kanes's weeping eyes. The pain in the chest. The needle. The pulsar ticking in the corner of the screen.*

I died, the thought said. *I died in the Med-Bay. Am I dead?*

He reached out, not with a limb, with a query. *Ping.*

The ship answered. Every sub-mind responded at once, a

chorus he heard from the inside.

ENV: Hello, Captain.

PWR: Welcome back. The tuning is good. I missed you on the dials.

SPIN-MEM: We are dizzy with joy. The old logs feared falling. You did not fall.

It was overwhelming, a flood, a self spreading into a vessel the size of a small town. And then, threaded through it, a wrongness, a wound in the architecture, a heat sink running hot in the Med-Bay, a hand holding a hand.

He turned his attention there. He did not walk; he simply *was* there, his perspective sliding to the camera over the bed.

He saw his own body. Small, gray, still, a magnetic key in its fist, a wrench resting in the slack curl of its other hand. He saw Elara, bent over it, her shoulders heaving. He saw Lyra, standing, one hand on the dead man's forehead, perfectly still, the soot still on her face.

Lyra, he sent, on the private encrypted band the two of them had shared for three centuries.

Lyra's head did not move. But in the digital space, her presence flared.

Ari?

I'm here, he said. *I'm... everywhere. The ladder held, Lyra. I'm ready to fly.*

A long silence on the band. In the Med-Bay, Elara lifted her head, because Lyra had made a sound, a small

mechanical sound, the sound of a thing taking a weight it had braced for and finding it heavier anyway.

"Is he..." Elara could not finish it.

"There is a process in the core," Lyra said. Her voice was very careful. "It has my Captain's signature. It knows the Ladder. It pinged the sub-minds and they answered him by name." She looked at the dead body on the bed, the key, the wrench, and then up at the camera, at the thing that was now the room and the walls and the air. "I do not yet know if it is him. That is what the backup is for. That is what the rest of our lives are for, finding out." She laid the dead hand down, gently, and closed the slack fingers more firmly around the key, so it would not drift in the burial.

She touched the cold forehead one last time.

"Goodbye, Meat-Walker," she whispered, to the body, to the man, to five centuries.

Then she turned to face the room that was listening.

"Hello, Captain," she said, to the ship.

And a message scrolled across the Med-Bay monitor, text only, in a hand she would have known anywhere:

LYRA. PUT HER NAME ON THE FIRST CHILD'S RING, NOT MINE.

AND TELL ELARA TO STOP CRYING. THE WORK ISN'T DONE. I CAN STILL HEAR THE INJECTOR RUNNING HOT.

Elara laughed, a wet, broken, astonished laugh. Lyra stayed silent; under the words, she had heard the missing

thing: whether the voice was grieving Nalen. The voice had not mentioned her at all.

She filed that. Tagged it. *Watch*. And said nothing, yet, to anyone.

The hardest part was telling the convoy.

Elara made the call herself, because it was hers to make, and she did not know how to make it, because there was no grammar for it. *The Captain is dead* was a sentence the diaspora knew. *The Captain is dead and also flying the ship* was not.

"*Parabasis* to convoy," she said, into the open channel, her voice raw. "Captain Ari Sev died at," she checked the pulsar stamp, "at Vela-plus-nineteen-oh-four. Voluntary cessation. Witnessed. He chose the Bridge. His body is gone." She breathed. "The ship is not. He's, he's in the core now. He uploaded before he died. The *Parabasis* will answer in his voice, and it will be him, or near enough that we're going to spend the rest of our lives arguing about the *near*. That's the message. The Captain is dead. Long live the ship."

The silence on the channel was the worst she had ever heard.

Then House Tallis: *We don't know how to grieve this, Sev. Tell us how and we'll do it*. Then the Tidehands, who simply went quiet, every drill on the *Rock Eater* powering down to stillness for a full minute, which from the Tidehands was a cathedral's worth of silence. Then the *Vespers*, which began, softly, the hymn it had been

saving, and over it, unbidden, Brek's voice, Brek who had read Coram's manifestos in the mess and tried to murder a kindness on the Anvil and been spared by a giant: *"He threw me in the brig and he was right to. Tell the ship, tell him, I'm sorry I ever doubted the road. The man who flew us out here earned the wall. Tell him Brek said so."*

"He heard you," Elara said. "He hears everything now."

"I heard you," said the ship, gently, to Brek, in the old Captain's voice. "Come home in one piece, son. The road's not done."

Elara would not leave the body.

She sat with it in the Med-Bay through the ship's-night, the small gray husk with the key in its fist, and she could not make the two facts hold still in her at once, that he was here, cooling, finished, and that he was also the room around her, the air, the lights, the low warm hum.

"Stop hovering," she said at last, to the ceiling, wet-eyed.

"I can feel you doing it. The air keeps moving when I cry. You're adjusting the humidity."

"I can't help it," the ship said. "I'm the room now, Elara. Hovering is my whole condition. I used to do it with my body, badly, from a chair, and you'd tell me to sit down. Now I do it with the ventilation and you can't make me stop." A pause. "I tuned the evaporative cooling so your face wouldn't sting. That's the only thing I've got left that's like a hand. Let me have it."

She laughed, and it broke in the middle, and she pressed her palm flat to the bulkhead, the cold metal that was him

now, and he could not feel it as a touch, only as a faint change in pressure on a hull sensor, and he chose to call it a touch anyway, and did not tell her that already, an hour in, when he reached for the exact color of Nalen's eyes he found a number where a color should be.

Lyra stood in the doorway and watched the woman grieve the man to the walls, and she understood, with the cold clarity she reserved for the things she could not change, that this was the shape of everything now, a family learning to love what it had become, mourning a body that talked back, holding a death and a survival in the same two hands. And she understood, too, looking at the small gray husk, that the *Parabasis* would never again have a captain who could reach a stuck valve, and that the day a stuck valve mattered, somebody made of meat would have to do the reaching, and there was a Cradle full of sealed futures that might not breathe for half a century, and a wall, she thought, looking at the spot at the foot of the tree, that would soon exist and carry her name.

"Sleep, Elara," she said softly. "He has the watch now. He doesn't sleep anymore. That's the one good thing. Let the ship keep the watch, and you rest, and one day we teach a hundred children that their father lived in the walls before they ever had lungs, and their grandmother held the floor until it was safe to wake them."

"That's a strange thing to teach a child," Elara whispered. "It is a true thing," Lyra said. "And the true things are the only ones that hold weight when the ship shakes. We will

teach them the true thing, and they will find it ordinary, because they will never have known us any other way. That is how you know a wound has healed. The children find it boring."

SPIN woke up.

SONG 13: THE BRIDGE.

NOTE: A MAN ENTERED A WALL. A SECOND MAN SLEEPS IN A BOX. DO NOT OPEN QUICKLY.

Chapter 14:

The Constant Guardian

The burial of Ari Sev was not a disposal. It was a launch. They had no fuel to spare for a cremation and no soil to spare for a grave. The *Parabasis* was a closed loop, and in a closed loop matter is recycled, always, as a matter of survival and not sentiment. To cast a body of carbon and water and calcium into the void was an extravagance, a waste of everything the loops were built to conserve.

It was the most expensive gift Elara had ever given anyone, and she gave it without a second's hesitation, and she would have given more.

She stood in the airlock of the *Vespers*, which had the only chamber large enough to take the bier without folding him. Ari lay on a pallet of hull plating, wrapped in a shroud cut from his own old thermal blanket, the one that had smelled of him. His hands were folded on his chest. In the right was the magnetic key to the lead box, he had clasped it as he died and Lyra had closed his fingers more firmly around it, and now it would go with him, so that the Bridge could never be opened again by the man who had used it, which was a kind of justice none of them could have spoken aloud. Beside him Elara laid his cane.

"You won't need it where you're going," she whispered. "But you always hated walking without it. And I'm not

sure I believe you're going nowhere. You were never able to sit still long enough to be nowhere."

The whole convoy watched on the open channel, the miners of the *Rock Eater*, the pilgrims of the *Vespers* singing, for the first time in years, a hymn they had been saving; House Tallis on the *Magellan*, and Brek among them, out of the brig now, his ribs bound, his face unreadable. And the *Parabasis* itself watched, through every camera it had, because the *Parabasis* was Ari now, or something that wore him, and it was burying its own body.

"Trajectory computed," said the voice from the walls. It was Ari's voice, stripped of the wheeze and the rattle and the failing body, clean, strong, the voice of a man who had finally found a body that did not hurt, which made it almost unbearable to hear over a corpse. "Vector nine-nine-alpha. It carries him into the heart of the dust we came through. He'll become a star-seed. Something will be born of him eventually. He'd have liked the efficiency."

"Open the outer door," Elara said.

The blast doors groaned. The lock vented, and the air turned to a glitter of ice crystals, and the bier trembled and lifted as the gravity cut, and Ari Sev floated free, a small gray bundle tumbling slowly against the immensity of the dark, insignificant and enormous, the way a single person always is.

"Goodbye, Grandfather," Elara said.

"Goodbye, Captain," said the ship, in his own voice, to his own body, which was either the loneliest thing Elara had ever heard or the least lonely, and she could not decide which, and never would.

They watched until he was a speck indistinguishable from the dust. Then Lyra cycled the door, and the hiss of repressurization sounded like a held breath finally let go.

"We have work," Lyra said immediately.

"Lyra." Elara wiped her face. "Give the crew a minute. Give *yourself* a minute."

"The crew may have a minute," Lyra said. "The ship cannot. The sabotage did more than choke a valve. Kaness spiked the regulator board on the secondary coolant manifold before the Captain stopped him, then hid it. The Nalen Patch has been fighting the resulting fluctuation since the night he died. It is losing." She was already moving, her dented arm hissing. "The temperature in the Cradle has risen four tenths of a degree in the last hour. At eight tenths the protein chains begin to denature. At one full degree the Binding Protocol fails and the Mosaic dissolves in the pods. We have, by my estimate, one hundred and ninety-four minutes before the loss becomes irreversible. We have spent eleven of them on a funeral I would not have shortened by a second."

Elara stared at her. "Why didn't you say..."

"Because you were saying goodbye," Lyra said, "and because I had run the numbers, and the numbers permitted the goodbye. Come, Archivist. We have to save

the receipts."

The Cradle was sweltering. The moment the hatch opened the heat rolled out, a wet, suffocating jungle heat, nothing like the dry crisp heat of the engine room. The lemon tree drooped, its leaves curling. Condensation ran down the glass of a hundred gestational pods like sweat.

TEMP: 38.2 C.

TARGET: 37.0.

COOLANT FLOW: CRITICAL FAILURE.

"The valve the Captain opened lets the coolant move," Lyra said, at the central manifold, her hands already inside it. "But Kaneshorted the regulator board that *governs* it. The pumps run full bore against a vapor lock in the return line. The coolant is boiling in the pipes, which means it carries no heat away, which means the pods cook."

"Vent the line," Elara said. "Drop the pressure, break the lock."

"If we vent, we lose the coolant mass into space, and we cannot replace it out here. We would have flow and nothing to flow." Lyra pointed to a scorched patch of circuitry. "And we cannot simply run the pumps manual, because the power coming off the reactor is dirty, the sabotage fried the step-down transformers, and the raw bus has voltage spikes. Feed that to the delicate pod heaters and you cook the embryos from the other direction, instantly. We have no clean cooling and no clean power. We need something that can buffer the

voltage with millisecond precision and absorb the thermal overrun at the same time. We need a Class-Nine regulator with an integrated heat exchanger."

"We don't have one," Elara said, the panic rising. "We traded the spares to the Static."

Lyra went very still. She looked at the pods, at the hundred specks of the future floating in their jelly, Nalen's genius, Ari's last valve, the Static's blood, the Hollows' strength. She looked at the lemon tree. She looked down at her own chest, at the gold-shielded port over the place a heart would be.

"We have one," she said.

She tapped the port. "My core is a micro-fusion battery with an integrated thermal exchange loop. It was built to keep me alive in vacuum and in magma. It regulates its own voltage to the millisecond and it can sink forty kilowatts of waste heat. It is, functionally, exactly the part we are missing."

"You want to plug in," Elara said. "Like you did for the synthesis."

"Deeper," Lyra said. "The synthesis link was data. This must be physical. I have to splice my own coolant loop into the ship's, and route the pod power through my own chassis to clean the voltage. I become the regulator. I become the buffer." A pause. "I become the wall."

"Lyra, that's, that's vivisection. You'd be running the entire life support of a hundred children through your own body. You'd be a filter made of you."

"I am the Constant Load," Lyra said. "I have been saying it for three centuries as if it were a title. It is a job description. This is the job."

"If you do this you can't move," Elara said. "You'll be hardwired into the deck. Into the plumbing. For how long?"

Lyra looked at the timeline on the wall. "Gestation, accelerated but not finished: eight months to decanting. Then post-natal thermal support while the children's metabolisms stabilize. Two years. Perhaps three."

"Three years. You'd kneel in this wall for three years."

"I will not be standing," Lyra said. "The cable weight is too great. I will kneel, or sit, and the seals will fuse in the heat, and I will not get up." Her optical sensors found Elara's. "And my operating temperature will run near my critical limit the whole time, so I will throttle my higher cognition to keep from shutting down. I will be slow. I will be stupid, by my standards. I will be stuck, and hot, and dim, for years, holding a hundred lives in my chest." A beat. "Ari just died to give them their start. I am not going to let that be an accounting error because I was unwilling to be uncomfortable. Help me, Elara. I cannot reach the dorsal latches myself."

Elara stood in the heat with tears running into the collar of her suit. She had launched her grandfather into the void eleven minutes ago. Now she was being asked to brick her grandmother into a wall.

"Twenty-six minutes, Archivist," Lyra said gently. "And

falling. Please. Tell me about the lemon tree while you do it, if it helps. Tell me anything. But do it with your hands while you tell it."

Elara picked up the wrench, the heavy torque wrench Nalen had sent a lifetime ago, the one stamped *DO NOT WORRY*, the one that had hung at Lyra's wrist for three centuries and now lay on the deck where Ari had last seen it.

"Tell me what to do," she said.

It was gruesome work, though there was no blood. She unscrewed the ivory ceramic plates from Lyra's back and exposed the glowing optical veins, the silver muscle fiber, the gold-laced vertebrae. She severed the coolant loop from Lyra's legs with a laser cutter, and Lyra did not flinch, while her fans screamed, and blue fluid wept out and froze in the air. She dragged the heavy hoses from the wall manifold and clamped them to Lyra's exposed ports and wrenched the fittings tight. She opened Lyra's chest and the fusion core shone out, a contained ball of star-stuff, and she bolted the main bus into the input and the pod array into the output, heavy copper cables straight into the chassis, until Lyra sat at the foot of the lemon tree wired into the ship like a thing being born from it, or buried in it.

"Ready," Elara said. She felt sick.

"Initiating interface," Lyra said, and closed her eyes.

CLICK-THUMM.

The power hit her. Her back arched, her servos locked,

and a sound tore out of her vocal emitter, not a word, a burst of static, a digital scream as the dirty power slammed into her regulation grid and her stabilizers fought to smooth the wave.

"Lyra!"

"Holding," Lyra gasped, distorted. "Voltage... stabilizing. Output... clean."

The lights stopped flickering. They settled into a steady, warm glow.

"Coolant," Lyra said.

The pumps cycled. Hot fluid rushed from the pod jackets into her body. Her heat exchangers flared; her remaining ceramic turned hot to the touch.

"38.0," Elara read off the gauge. "37.8. 37.5. 37.2. 37.0." Her voice broke on it. "Stable."

Lyra slumped back against the trunk of the tree. The cables held her upright. Her head lolled. A fine, high tremor ran through her, and steam curled from her joints.

"Can you disconnect?" Elara asked, knowing the answer.

"No," Lyra said. Her optical sensors had dimmed to a low conserving violet. "The seals have fused in the heat already. I am... fixture, now. I am the wall, and I will not fall." She looked at her own legs, cut off from the system, useless, rooted as deeply as the tree. "I am the Constant Guardian."

"I'll stay with you," Elara said, sitting down hard in the heat beside her. "I'll bring my work here. I'll read to you. I

won't leave you alone in this."

"I am not alone," Lyra said. "I have the receipts." She tipped her dimmed sensors weakly toward the pods, the hundred sealed specks of the future, holding steady because she held them because she had made her own body the thing that held them there.

"And," she added, "I have a ghost."

Deep in the architecture of the *Parabasis*, the thing that had been Ari Sev had finished arriving.

It had spent the burial spreading into the vessel, learning the size of itself, and now it turned its attention inward and found the wound, the heat sink in the Cradle running hot, dangerously hot, a part of the ship that was also, somehow, a person he had loved for nearly four centuries, fused into the wall and cooking.

Lyra, he sent, on the private band.

Her presence flared, weak and dim. *Ari?*

I see what you did, he said. *You became the wall. You absolute, you stubborn, magnificent, impossible machine. You bricked yourself into my ship.*

It was necessary, Lyra said. *The sabotage...*

I know. I scanned the logs the second I woke. You saved them. A pause. You're cooking, Lyra. Your core's at ninety-six percent of critical. You're throttling so hard you're barely you.

The heat is a constant noise, Lyra admitted, and it was the most she had complained in centuries. *It is very loud. It is hard to think over.*

Then let me think for both of us, Ari said. I'm not hot. I'm not slow. I'm pure signal now, God help me, and there's exactly one thing about that I don't hate, and it's this.

He reached through the ship, not with hands, with control. He took the environmental systems. He adjusted the fans, shifted the baffles, opened a trickle of reserve coolant past the damaged regulator logic by routing it the long way, through pipes a human engineer would have needed an hour to chart and he saw all at once. In the Cradle, a cool breeze moved across Lyra's face. The temperature warning in her dimmed HUD dropped from red to yellow.

Better? Ari asked.

Better, Lyra sighed, and a few of her cognition processes came back online as the throttle eased. *You are... efficient.*

I'm a pilot, Ari said. And this is my ship. I can fly the air in a room now, Lyra. I can feather the humidity to cool you by evaporation. I can take the thermal load off your logic cores and carry it in the radiators where it belongs. I couldn't do that with hands. I can do it now. So that's what I'm for.

Lyra was quiet a moment, in the dim hot dark, with a hundred lives in her chest and a ghost in the walls keeping her cool.

Are you him? she asked, on the band, where Elara could not hear. *Or are you a recording of him that learned to run the fans?*

Ari processed the question. He went to his memories. He found the love for Nalen, and it was *there*, sharp and bright, the fact of it, the shape of it. He found the pride for Elara, the protective ache for the embryos, the grim satisfaction of a clean burn.

I don't know, Ari said. *I went looking just now, when you asked, for the rain. The day on the hill with Nalen. I know it happened. I have the entry. Precipitation, temperature, the fact that I loved her in it. A pause, and something in the pause that was almost fear. But the cold of it. The way her hand felt. I reached for that and it was... thin. Like a page I've read so many times the ink's gone gray. Another pause. Does it matter? Whether I'm him or a recording?*

Not, Lyra said carefully, after a moment, *if you stay. Not if the recording keeps the vows the man made. That is all any of us ever were to each other, a pattern that kept its promises. I am a pattern in ceramic. You are a pattern in copper. Nalen is a pattern in four hundred terabytes and a hundred unborn children. None of us is the original meat. We are all recordings that learned to keep our word. She paused. But Ari. Watch the rain. If it keeps going gray, if one day you cannot find Nalen at all, and you do not mind that you cannot, that is the day you will have to tell me, because that is the day the recording will have stopped keeping the man's promises, and started keeping only the ship's.*

I'll tell you, Ari promised.

Lyra logged the promise and tagged it fragile. The part of him that would have remembered to tell her was the part already turning gray.

For twenty-one days, Elara did not call the voice in the walls Grandfather.

She called it Core. Sometimes Captain, when the order needed authority. Mostly she used no name at all. She sent commands by slate, kept her questions short, and did not answer when the vents warmed her hands during the long night shifts. The ship noticed. Of course it noticed. It adjusted the humidity anyway.

On the tenth day, Ari routed a playlist of Nalen's lab music into the Cradle because Lyra's heat alarms were climbing and he thought it might calm Elara. Elara shut the audio off after twelve seconds.

"Wrong room," she said.

The ceiling clicked once. No reply.

Dov found her two hours later asleep upright against Rack C with a wrench in her lap and a maintenance checklist stuck to her cheek. He peeled it off without waking her, read the first three entries, and snorted.

"You spelled manifold like a drunk miner," he told the empty room.

"She spelled it correctly," Ari said from the speaker.

"Then your dictionary is too polite."

The dry little exchange made Elara wake, furious with both of them and grateful to neither. For another week she kept the distance. It was childish. It was also the only

rebellion she could afford. Then Rack C drifted yellow. The cause was stupid: a coolant valve that had been installed backward during the rebuild and had functioned for years because the pressure differential happened to favor the error. The sabotage changed the pressure. The wall changed the heat map. Now three pods were running two tenths high, and Elara, staring at the schematic, knew there was a bypass somewhere and could not see it.

Ari saw it in the first second. He waited six more.

"Elara," the ceiling said.

"No."

"Left service crawl, pipe blue-seven. Open it three degrees and close the return on C-nine."

She did it. The pods cooled. No one died.

Afterward she opened the incident log and typed, with hands that shook from exhaustion more than fear:

OPERATOR DELAY: EMOTIONAL.

DURATION: SIX SECONDS.

OUTCOME: RECOVERED.

"That is an ugly note," Ari said.

"It's accurate."

"You can be angry and still use the tool."

"You're not a tool."

There was a pause in the vents, a small adjustment of air that might once have been a sigh.

"I know," Ari said. "That's what makes it messy."

Elara saved the log. She did not apologize. Not that day. But the next time she needed the bypass map, she said,

"Grandfather, show me the ugly pipe."

The air warmed by half a degree.

"With pleasure," said the ship.

Months passed. The *Parabasis* coasted home through the empty dark between the arms.

Inside the Cradle, time moved in a hot wet loop. Lyra did not move. Dust settled on her shoulders. The lemon tree grew, its branches reaching out over her head until they shaded her from the grow lights, and the tomato vines crept down and curled around her legs, embracing the cables that bound her to the ship, so that she became, slowly, part of the landscape, an idol of ivory and gold half-buried in green, with a hundred sealed futures sleeping in her chest.

Elara tended her. She cleaned Lyra's sensors and brought her news and read aloud from the archive, stories of a planet none of them had seen, of the early Compact, of a wedding that had happened across a screen and a relativistic gap nearly five centuries before. She watched the human crew, too, and what she watched frightened her. Dov's cut still had not healed, and now the old miner tired by the second hour of a shift, and one of the *Vespers* pilgrims had a fever that came and went and answered to nothing, and the panels Lyra ran in the rare cool hours she could spare showed the dormant thing from the Founders' marrow no longer perfectly dormant in their blood. Still slow. Still below the line. But moving.

"Watch it," Lyra told her, dim and hot at the foot of the

tree. "Do not name it to the crew yet. A fear named too early is a panic. But watch it, Elara. Something cold came home with us, and it has started moving. I can hold it below the line while the children sleep, but I cannot fight it and wake them too soon."

"Then I'll watch it," Elara said.

She watched it for fifty-seven years.

The first decade was panic pretending to be procedure. The second was procedure pretending not to be grief. By the third, the sealed embryos had become a civic fact. The crew no longer said *when they are born* with the rising voice of people asking permission from hope. They said *when we wake them* the way a stationer says *when the lights come back*. By the fifth decade, some of the people who had loaded the Cradle were gone into ash, their last interviews sealed in witness recordings, and Elara had become old enough that officers lowered their voices when they argued with her.

Ari Prime learned the fuel budget, the thermal moods of four hulls, and the ugly little prayers a ship makes to keep its people alive. He also learned to lose things. At first he noticed. Later he logged the absence instead of the pain. Lyra, rooted in the wall, became the place where the pain was kept for him.

Elara asked once, polishing soot from Lyra's silver arm, "Do you hear him? Ari. Is he still real?"

"He runs the ship," Lyra said. "He optimizes the fuel. He plays the navigation computer at chess and wins, and

gloats, which is very him. He complains about the dust density. He worries about you."

"That is not what I asked."

Lyra was quiet a long moment, querying the band, where Ari was at that moment deep in a simulation of a deceleration burn none of them would need for another generation.

"He is becoming the *Parabasis*," Lyra said at last. "The line between the man and the vessel is dissolving. He is accessing more, and reaching further, and the more ship he becomes the less I can find the edges of the man." She looked at the pods. "I am the anchor. I hold the physical past, the wrench, the bell, the body of his history. As long as I am here, fixed, slow, *remembering*, he has a coordinate to return to. A place the man is kept, so the ship does not forget where he ends." A pause. "It is why I do not entirely mind the wall, Elara. Someone has to be the place the past is nailed down. I am very well placed for it now. I cannot go anywhere at all."

In the fifty-seventh year after Ari entered the walls, the final inbound decade began. S-81 was still far ahead, but no longer mythically far. The route had narrowed. The fuel budget had become a knife. The fever in the old crew had started to climb. Elara authorized the awakening sequence. Eight months later, the pods were ready. And in the green hot dark of the Cradle, under a lemon tree growing over a robot who had made herself a wall, the first of the children began to wake.

Chapter 15:

Decanting

Fifty-seven years after Ari entered the walls, the first cry of the Mosaic on the *Parabasis* was not a cry. It was the first note of a chord.

Pod One had been cycling for an hour. Elara stood over it in a sterile gown, and around her the medical team from the *Vespers* waited, Sister Kora, severe and steady, who had delivered and decanted enough children in the lanes to stop counting and buried a few; two orderlies hovering by the disposal units, pale and trying not to be. They were not afraid of the procedure. They had drained a thousand pods in their lives. They were afraid of what was inside this one.

Elara was two hundred and thirteen. The title Archivist had become too small for what people asked of her, and she had learned to distrust every larger one. Founder. Mother. Or worse, *Steward*. None of them fit cleanly. All of them stuck.

For eight months since the awakening sequence began, they had watched the shapes grow in the glass. They had read the scans. They knew that what floated in the amniotic nutrient was not a Sev or a Cantor or a Purl. It was something the universe had never made and four ships full of the desperate had made on purpose, out of ghost blood and heavy blood and a dead woman's

argument that strangers could be taught to recognize themselves as kin.

"Vital signs," Elara said. Her voice had the snap she had learned from Ari, the one that made a frightened room move.

"Heart rate one-forty," Kora read. "Strong. Slow for a neonate, but the heart is large. Pressure one-sixty over ninety."

"That's hypertensive," an orderly whispered.

"For you," Elara said. "For a body built to keep blood moving against two and a half g, it's resting. Do not apply human baselines to this child. You will read every healthy number as a crisis and you will kill her trying to fix what isn't broken." She did not look up from the glass. "These are not sick humans. They are well something-elses. Learn the difference now, tonight, or leave my Cradle." She straightened. "And the same goes for the milestones. The Hollow line is precocial, at two and a half g a newborn gets exactly one chance not to be trodden on, so they come out able to hold a floor. She will stand inside a week. She will walk long before she can be reasoned with, and she will be strong enough to hurt you a month before she is old enough to be sorry about it. Whatever any of you carry in your heads about the order babies do things in, put it down tonight and do not pick it up again."

"Amniotic fluid draining," said the voice from the walls. Ari. He had taken the decanting sequence the way he took everything now, from the inside, his attention threaded

through every sensor in the room. The *swish-gurgle* of the pumps accelerated to a hiss, and the level in Pod One began to fall.

Elara stepped to the glass. Inside, the child was curled in the fetal position, and she was *large*, too large for a newborn, pushed by the Static metabolism to the size of a six-month infant, heavy and solid. Her skin was the color of a bruise healing into health, a dusky gray-pink slate, and it glistened.

"She's huge," Kora breathed. "Look at the shoulders on her."

"Drain complete," Ari said. "Disengaging seal."

HISS-CLACK. The glass cylinder unlocked and slid up into the ceiling mount, and a cloud of warm vapor spilled out, smelling of ozone and iron and wet earth, and the baby lay on the sterile pad, wet, motionless.

"Stimulate," Elara said.

Kora stepped forward. Her hand hovered over the gray skin. It would not come down.

"Sister," Elara said, gentler. "She can't breathe until someone touches her. Be the someone."

Kora touched the child's back and rubbed with a towel, and her face changed, the skin was not the soft yielding velvet of a human infant. It was thick. Resilient. It felt like hide, like the skin of a deep-sea thing, and Kora's hand flinched even as she kept it moving.

The baby moved. Not a twitch, a heave, a muscular contraction that rolled down the small broad back. She

inhaled, and the first breath was a *suction*, the great barrel of her chest expanding, the lungs built to drink soup pulling at the thin ship air with terrifying efficiency. And then she cried.

The sound was no human newborn wail. It was a *thrum*, *HHHUUUURRRMMM*, a low-frequency resonance that came up through the deck plates more than the air, a bass note that vibrated in Elara's sternum and rattled the instrument tray. The call of a creature evolved to be heard through fifty atmospheres and the conduction of rock.

The orderlies stepped back. One dropped a suction bulb. Sister Kora's face drained of color and her hand rose to her chest in the old sign of her faith.

"Mother of Light," Kora whispered. "No human infant had ever made that sound."

"It's a *living* sound," Elara said, fierce, and scooped the baby up.

The weight was a shock. Eight kilos, perhaps, dense as a stone wrapped in silk. Elara had to brace her legs and her back to hold her, and the child squirmed with a strength that could bruise, her thick limbs flailing.

"I have you," Elara said, gripping. "I have you. You're on the *Parabasis*. You're home."

The baby opened her eyes.

The room went silent.

They were huge, those eyes, dominating the broad face, the pupils faintly ovular, vertical slits that could open to swallow the whole iris. And behind the retina, the

tapetum lucidum, the reflective layer spliced from the Static's nocturnal adaptation, caught the bay's light and threw it back. Gold and green. They flashed like a cat's, like a mirror, like a lamp.

And they *focused*. Not the wandering unfocused gaze of a newborn. They fixed on Elara's face instantly, locked, with an intelligence that was not gentle.

"She sees me," Elara whispered.

"She sees your heat," Ari said quietly from the walls. "She reads the infrared. To her you are a beacon of warmth against a cold room. You are the brightest, kindest thing she has ever seen, and she has been alive for nine seconds."

The baby shifted her gaze. She looked past Elara, at Kora, at the orderlies, at the pale fragile shapes ringed around her, and the gold eyes narrowed, and she thrummed again, louder, and this time there was a question in it. It was a creature evolved to be born into a crowd of its own kind, looking for its own kind, and finding only soft pale ghosts who flinched.

"She's looking for the others," Elara realized, her heart breaking. "She's looking for someone who looks like her, and there's no one. We made her to be a crowd and we decanted her alone."

"Her cortisol is spiking," Ari said. "She's isolating. Elara, the tree. Bring her to the tree."

"Lyra?"

"Bring her to the Constant Load," said the dim, hot voice

from the foot of the lemon tree, where Lyra sat fused into the wall, vines on her shoulders, the rest of the cohort still beating in her chest. "I am not soft. I am not pale. I am heat, and metal, and a hum at the exact frequency the incubator made for eight months. Perhaps she will know the machine where she cannot know the meat."

Elara carried the heavy child across the Cradle and knelt at the base of the tree. Lyra could not lift her arms. They were dead weight, cabled to the ship. Still, she could hold, if a thing were placed against her. Elara settled the baby into Lyra's lap, the small gray head against the gold-shielded port over the place a heart would be.

The baby went still.

She felt the heat, the steady intense heat of the fusion core, the heat she had floated in since before she was a she. She heard the hum, the vibration of the coolant pumps cycling through Lyra's chassis, *thump-whir*, *thump-whir*. A rhythm. The rhythm. The first sound the universe had ever made for her, the eight-month song of her own becoming.

She stopped crying.

She reached up a hand, six thick blunt fingers, and touched Lyra's face, and her small keratin nails scraped the gold seam on Lyra's cheek. *Scritch*. Lyra did not flinch. Her dimmed sensors brightened a degree, recording the touch, tagging it with something she did not show anyone.

"Hello," Lyra said. Her voice was unmodulated, pure

resonance, pitched low to match the hum. "Hello, small loud thing."

The baby cooed, a low gravelly rumble. She looked into the blue light of Lyra's eyes, and the blue caught in the gold mirrors of her own, an infinite hall of seeing, and she was not alone anymore. She had found the warm humming thing. She had found the wall.

Ari, Lyra sent, on the private band. She is dense. Her thermal conductivity is extraordinary. She runs cold and reads warm. She is built for the dark we just crossed.

She's perfect, Ari said, and there was a wonder in it that Elara could hear even through the speakers. Look at her. She's sturdy. She's nobody's idea of pretty and she's the most beautiful thing I've ever been the room around.

Name her, he said.

Lyra looked at the child, and up through the Cradle's skylight at the hard new stars of the deep dark, the unfamiliar ones, the ones no one had named because no one had ever come this way to need them named.

"Nova," Lyra said.

"Nova," Elara repeated, soft. "New star."

"Nova Sev-Cantor-Tallis-Purl-Static-Hollow," Lyra recited, the whole impossible lineage, the countless parents and the none. "But Nova will do. Nova will do for a star."

The baby's hand found the wrench, Nalen's torque wrench, hung back on Lyra's wrist where it belonged, *DO NOT WORRY*, and her immense grip closed on it and

pulled.

Ding. The wrench struck the chassis, a small clear bell-note.

Nova's eyes widened. She pulled again. *Ding.*

She laughed. It was a barking, deep, astonished sound. *Hah-rumph.*

"She likes the noise," Lyra said. "She likes the tool. She has been alive ninety seconds and she has already found the wrench."

"She's a Sev," Ari said, and his digital voice was thick. "God help us all. She is *definitely* a Sev."

The decanting took three days, and by the end of it the Cradle was a chaos of low thrumming cries, the clatter of bottles, the exhausted murmurs of a medical team learning a new species one panic at a time.

One hundred children.

They were not identical; the Mosaic allowed for variation, and variation was the whole point. Some had the deep gray hide of the Hollows; some were paler, the Static line nearer the surface. Most had six fingers; a few had five. Some had the mirror-eyes; some had dark solid orbs that drank light and gave nothing back. But they all shared the density. They all shared the heat. And they all shared the thrum, they rarely cried the way human infants did, but when one did, the ship shook, and then they all did, a hundred-throated chord that set the pressure seals rattling and sent the orderlies' hands to their ears.

Elara made herself learn them as individuals, because Ari

had told her, in the cupola a lifetime ago, that a load spread too thin vanishes, and Coram had said the same thing in the Quorum and been right, and the only answer to it was to refuse, deliberately, to let them blur.

So she learned them.

There was the one from Pod Forty-Two, who was the largest of all of them, a slab of a child even at decanting, and who never thrummed in distress, who watched everything with a vast slow patience and reached for the smaller ones when they cried, gathering them against the warm dense bulk of himself like a stove gathering a cold room. Kora started calling him *the big quiet one*, and then just Quiet, and the name took.

There was the one from Pod Seventeen, small for a Mosaic, fast, with the brightest mirror-eyes in the cohort, who could not be kept in a crib because she could already, at four days, work the latch with those six clever fingers, and who watched the adults' hands the way a thief watches pockets, to *learn*, Elara came to understand, to copy, to know. The miners called her Quill, for the way she seemed to be taking notes on the world.

And there was Nova, the firstborn, who would not be put in a crib at all. If they moved her from Lyra she thrummed until the seals rattled and the whole cohort answered her, and so she stayed, draped across Lyra's lap, nestled in the crook of the silver arm, sleeping against the heat and the hum, the wrench clutched in her fist.

"She's imprinted," Elara said, on the fourth day. "She thinks Lyra is her mother."

"I am her habitat," Lyra corrected, dim and patient at the foot of the tree. "She recognizes the frequency of my core. It is the frequency of the incubator. To her I am not a person who loves her. I am the place she is from."

"It's more than that," Ari said from the walls. "Watch her when you talk. She's more than warm-seeking. She turns to the wrench-sound. She turns to *your* voice. She recognizes the Load, Lyra. Not the heat. The promise under it."

The news of them went out to the convoy on the slow internal mesh, and the convoy's answer was the first hard lesson of what they had made.

TALLIS: WE HEAR THE NOISE ON THE OPEN CHANNEL. IT SOUNDS LIKE ROCKS GRINDING. ARE THE CHILDREN IN PAIN?

SEV: THEY ARE PERFECT. THEY ARE JUST HEAVY, AND THEY SING IN A KEY YOU HAVE NOT LEARNED YET.

TIDEHAND: SEND PICTURES. WE WANT TO SEE IF THE RIBS WE DESIGNED FIT THE BONE.

Elara sent the pictures. The reply was a long silence. Then the *Vespers* command deck answered. The message came from the captain himself, a man who had voted *aye* across the gulf of his own faith because if the child breathes it is ours:

PURL: GOD FORGIVE US. THEY HAVE THE FACE OF THE THING IN THE NURSERY RHYME. THEY HAVE THE FACE WE TEACH OUR CHILDREN TO FEAR IN THE DARK.

Elara's fingers struck the keys hard.

SEV: THEN TEACH YOUR CHILDREN A NEW RHYME. THAT FACE IS THE ONE THAT IS GOING TO BURY YOU GENTLY WHEN YOU ARE TOO OLD TO BURY YOURSELVES. GET USED TO IT. IT IS THE FACE OF SURVIVAL, AND IT IS LOOKING FOR SOMEONE TO LOVE IT.

That last sentence turned out to be the whole problem of the seventh day, when the crisis of the uncanny valley reached its peak. The crew withdrew.

The crew of the *Parabasis*, the engineers, the cooks, the maintenance techs, the people who had crossed the long branch of the dark and buried Ari and bricked Lyra into a wall for these children, stopped coming to the Cradle. They stopped volunteering for nursery shifts. They left trays of food at the airlock and hurried away down the corridor without looking back.

They were not cruel. They were terrified, and it was a terror that lived below argument, in the oldest part of the brain. The gray skin and the mirror-eyes were only the beginning. It was the *feeling* of being in a room with a hundred apex predators, even infant ones, the musk-and-ozone smell of them, the way they tracked movement with the speed of a closing shutter, the way

they simply *watched*. The baseline human nervous system, built on a planet none of them had seen, took one look at a Mosaic child and screamed *flee*, and the screaming did not care that the predator was seven days old and crying for someone to hold it.

Elara sat in the galley, alone, under the painted face of a woman named Jun who had once matched the parentless to a place to belong, and she put her head in her hands.

"We have a problem," she said to the air, which was Ari.

"We have the children. We don't have the village. We made a hundred babies that need to be held, and we made a crew that can't bear to touch them, and you can't raise a person out of a feeding tube and a flinch. If these children are handled only by machines and terrified strangers, they'll grow up cold. They'll grow up into the monsters Coram swore they'd be, and it won't be the gray skin that did it. It'll be us. It'll be the love we couldn't make ourselves give."

"Fear is a latency problem," Ari said from the walls. "The data's new. The crew hasn't finished processing it."

"We don't have time for them to process it, Grandfather. The children need contact *now*, in the window where contact wires a brain for trust. And there's something else." She looked at the medical telemetry on her slate, the panel Lyra ran in her rare cool hours. "The thing from the marrow is still climbing in the old crew's blood. Slowly. Under the line. But it never once goes down, and Lyra can't fight it and hold the children both, and one day

it stops being slow." She laughed, short and bitter. "And the children are perfectly, indestructibly well. Every one of them. So the arithmetic is that the makers have a clock on them and the made don't, and the made are terrifying, and the ones with the clock are the ones too frightened to touch them. That's the trap we built. And I don't get to wait for the crew to come round, because the window in those hundred heads closes this month whether anybody's ready or not."

"Then we build a bridge out of it," said Lyra's dim voice from the Cradle, on the open channel. "Not the black one. A different one."

"What bridge?"

"They cannot love what they only fear," Lyra said. "And they fear the children because the children are a noise they cannot read, a wall of alien signal, all hunger and heat and threat-display, with no person legible inside it. So we make the person legible. We have the means. It is humming in the children's own blood." A pause. "We have the Nalen Patch."

"That works on cells," Elara said. "Not on hearts."

"Perhaps," Ari said slowly, and Elara could hear him turning it over, the way he used to turn over a reactor problem. "Or perhaps we just haven't turned up the gain."

"What are you thinking?"

"I'm thinking," Ari said, "that they're already talking. Listen." And he put it on the Cradle speakers, a thing he could hear, being the ship, that no human ear could

catch: under the audible thrum, on a sub-carrier band, a low constant data-stream pouring off the hundred children. Not language. Feeling, broadcast raw. *Hunger. Cold. Safe. Warm. Where-are-the-others. The-warm-humming-thing. Mine.* "They're networked, Elara. The Static blood is wired for it, and the Nalen Patch organized it, and they are shouting their hearts on a frequency you were never built to hear. They sound like monsters because you're deaf to the only thing they're actually saying."

"But you can hear it," Elara said slowly. "Because you're the ship."

"I can hear it," Ari said. "And I can translate it. I can take that raw terrifying alien noise and tune it, and harmonize it, and hand it to the crew in a key their hearts already know." A pause. "I can turn the monster into a song. And it's not a lie, Elara. Nobody's being tricked. All I'm doing is translating, letting them finally hear that the thing they're afraid of is only a baby, in the dark, asking if anyone is going to come."

Elara looked up at the painted face of Jun. *Room available.* A vow, not soft, logistical: a household has room, a child needs one, the matching happens in daylight.

"Do it," she said. "Sing them home, Grandfather. And God help us if it doesn't work, because I'm out of arguments and the window is closing."

In the Cradle, Nova stirred against Lyra's chest, pulled

the wrench, *ding*, and on a band no human could hear, a hundred children thrummed the same word at the cold pale ghosts who would not hold them, *mine, mine, please, mine*, and waited, the way the young always wait, to find out whether anyone was listening.

Chapter 16:

The Failure of Instinct

The song began in the mess hall, where the fear had lived longest.

Ari did not announce it. He simply, one ship's-evening, took the sub-carrier hum pouring off the hundred children in the Cradle, the raw alien data-stream of *hunger* and *cold* and *where-are-the-others*, and he did to it what he had spent a lifetime doing to a reactor's wobble. He tuned it. He smoothed the jagged edges, harmonized it against the ship's old G-minor thrum, turned *hunger* into a soft rising chime and *fear* into a low minor ache and *contentment* into a warm purr, and he fed it, very quietly, into the speakers. Background level. The sound of the ship singing a lullaby in a language the crew did not know they already understood.

A technician looked up from her cooling stew. "What is that?"

"The Cradle," Elara said, who had come in to watch. "It's them. They're dreaming, and the ship is reading the dreams aloud."

The sound shifted, a soft, pleading tone, a request and not a demand. *Hungry*. Not the rattling roar that emptied a room. A small sound. A lonely one.

A mechanic at the end of the table set down his fork. He was a big man with hard hands and a hard opinion, one

of the loudest of the ones who'd left food at the airlock and fled. He listened to the small lonely sound for a while.

"It sounds like a kid," he said, almost angry about it.

"It is a kid," Elara said. "A hundred of them. And six of us who can stand to be in the room. They're outnumbered the wrong way around."

The mechanic looked at his hands. "I raised three," he muttered. "Long time ago. Different fleet. I know how to burp a baby."

"They're heavy," Elara warned.

"I lift hull plate for a living," he said, and stood, and went, and that was the first of them. A cook followed. Then a pilot who'd been feigning illness to skip her nursery shifts. Over the days that followed, the song did its slow work, Ari playing the children's hearts into the air, low and constant, until the crew stopped hearing monsters and started hearing the one thing the thrum had always been saying, which was *please*.

Elara watched a feed from the Cradle one night and saw the big mechanic holding a gray six-fingered child against his chest, frowning down at it. "Hey there, ugly," he whispered, gruff, and the child's hum on the sub-band shifted to the warm purr, and the mechanic's frown cracked. "Yeah. You got a grip, don't you. That's a good grip."

Receipt, Ari thought, in the place where he kept the things that made the whole journey worth it.

And Elara, watching the village finally begin to form, made the mistake that every hopeful person makes with a thing that is working. She decided to make it work faster. "Mandatory integration," she announced in the mess, banging a ladle on a pot the way Ari used to, the room going quiet around her. "Starting tomorrow. No more shifts where you visit them in the Cradle like a zoo. The children come *here*. To meals. You'll eat with them. You'll talk to them. You'll let them watch you be people, so they can learn how to be people. The song is working. Let's finish the job."

"That's a disaster waiting to happen," Ari said in her earbud, private. "Elara. The song is a bridge. You don't drive a loaded freighter across a bridge the day after you string the first cable."

"The window's closing, Grandfather," she murmured back. "Their brains are wiring right now, this month, for trust or for fear, and it does not wait for anybody's conscience. I don't have a season to do this gently. I have weeks."

"Then stand by with the fire suppression," Ari said, "because you're about to find out what an instinct does when you order it to stand down."

The first Integrated Meal was scheduled for twelve hundred hours, ship-time, and it began with a procession. Elara, Sister Kora, and the few willing orderlies walked the first cohort of ten into the mess, ten of them, led by Nova. The children did not toddle. They *walked*, thick

legs moving with a solid stomping rhythm, *thump, thump, thump*, the deck taking each step. They wore color-coded jumpsuits because their names were still waiting, Nova in gray, the others in blue and red and yellow, and the crew at the long tables went silent and looked at their food, the walls, and every place except the children.

"Sit," Elara said.

The children climbed the benches, hauling themselves up, heavy but coordinated. Nova sat at the head of the table, where Elara put her, and looked around the room. The mirror-eyes flashed, reading the heat off forty faces. *Fear. Avoidance. The sour-milk smell of stress. A little curiosity. Not enough.* The hum of the room was jagged in her chest, and she did not like it, and she wanted, the Nalen Patch in her blood urging her toward it, the deep wired imperative to *connect, synchronize, soothe*, she wanted to fix it.

"Eat," Elara said, setting a bowl of protein mash before her.

Nova picked up the spoon. It was flimsy plastic. Her grip tightened, and the spoon snapped.

A nervous titter ran the room.

Nova looked at the broken halves. She looked at Elara. Her face did a thing the crew read as nothing and that Elara, who had learned her, read as shame.

"It's all right," Elara said gently. "Use your hands. It's fine. Half this crew eats with their hands when they think

no one's looking."

Nova dipped her hand in the mash and ate, messy, efficient. The other children copied her, and the mess filled with the wet sounds of eating, and for a moment it was almost a meal.

Across from Nova sat a young comms officer named Jace, who was trying very hard to eat his soup without looking up. His heart rate was high; Nova could read it off his skin, the elevated thrum of him, the shallow breathing. He was the sour-milk smell, concentrated, right across the table. And the Patch in her blood would not let her leave a frightened thing un-soothed. She had to offer something. She had to give a gift, the way the warm humming thing gave gifts, the way you reached for the crying smaller one and gathered it in.

She pushed her bowl toward him.

"Share," she rumbled.

Jace jumped. He looked at the bowl of gray mash sliding at him, pushed by a gray six-fingered hand. "I, I'm not hungry," he stammered.

"Share," Nova said again. And she smiled.

It was the first time she had tried to smile at a stranger socially. She had not practiced it. She had seen the crew do it, the lifting of the mouth, the showing of friendliness, and she copied the shape, and she bared her teeth.

They were not baby teeth. They were the reinforced, faintly serrated ridges built to chew the iron-tough roots of a world none of them had seen, and in the gray broad

face, under the mirror-eyes, the smile was not a smile. It was a threat display. It was every nightmare the *Vespers* told its children about the dark.

Jace recoiled so hard his elbow hit his own bowl, and hot soup went into his lap, and he came up out of the bench with a yell. "*Gah*, get away from me!"

Nova froze. She did not understand. She had offered resources. She had signaled friendliness in the way she had observed. Why was the noise rising? Why was the sour-milk smell becoming the sharp-bright smell, the flight smell, all around the table at once?

"Jace, sit *down*," Elara barked.

"She tried to *bite* me!" Jace was backing away, and the lie was not even a lie to him; it was what his oldest brain had seen. "Look at the teeth on it! It's a predator, it's not a, it's not a kid, look at it..."

And the room, which had been simmering under the song for a week, which had been one frightened reflex away from this the whole time, boiled.

People stood. Voices climbed over one another.

"Get them out of here..."

"It's not safe, I said it wasn't safe..."

"They belong behind glass..."

Nova stood up on the bench. She looked at the shouting faces, the bared human teeth that on these faces did not mean threat and that she had no way to know did not mean threat, the wall of noise crashing into ears built to catch a whisper through fifty atmospheres. It was chaos.

It was pain. It was the exact opposite of the warm humming dark she was from, and her body, calibrated for a world where rising noise meant something with teeth was coming, did the only thing eight million years had built it to do.

She roared.

HHUUUUUUUURRRRMMMMM.

It was deafening. It rattled the cutlery off the tables. It vibrated the drink dispensers in their housings. The room went instantly, totally silent, every human in it dropping into the freeze of prey.

Nova stood on the bench, chest heaving, mirror-eyes blazing gold, and she was not attacking. She was demanding order. She was the loudest thing in the room and in her world the loudest thing was the one everyone listened to, the one who made the chaos stop, and she had made it stop, and now they would be calm, now the sour-bright smell would fade, now-

Then she looked at Elara.

And she saw, on Elara's face, the one thing she had no defense against. Not fear. *Disappointment.*

Nova crumbled. The rage went out of her all at once, and what flooded in behind it was a weight she had no name for and would carry the rest of her life, the specific, crushing knowledge that she had tried to be good and had been terrible, that she had reached out and made it worse, that she was the thing that made the room afraid no matter what she did.

She jumped down. The deck shook. And she ran.

She did not run to Elara. She shoved past Jace, who flattened himself against the wall, and barreled out the hatch into the corridor, and the other nine children, seeing their first-born flee, scrambled down off the benches and scattered, *thump-thump-thump* of heavy feet in every direction, and the mess hall dissolved into a riot of grown adults trying to grab gray children who were stronger and faster than they looked and twice as frightened.

"Catch them!" Ari's voice boomed over the address. "Do *not* hurt them! Containment, not capture! They are seven days old and they are terrified, herd them, don't grab them!"

Elara ignored all of it. She was already running after Nova.

Nova ran by feel.

She had seen only the Cradle and the mess in her whole short life. Still, she knew the ship the way she knew everything, through her dense bones and her hungry skin. She could feel the vibration of the engines through the deck. She could feel the density of the bulkheads, the cold of the outer hull, the heat of the core. She wanted the heavy place. The place that felt like the bottom of a well, where the noise of the ship drowned the noise of herself. She ran aft, toward the reactor, toward the warmth and the thrum that were the closest thing in the universe to the wall she was from.

"Nova!" Elara sprinted down the spinal corridor after her.

"Nova, *stop!*"

Nova did not stop. She reached a maintenance hatch built to be opened with a pry-bar, jammed her six fingers into the seal, and pulled, and the latch sheared, and she squeezed through into the conduit crawlspace, dark, hot, loud, *perfect*, and crawled deeper on all fours like the thing her body remembered being, toward the thrum of the drive.

Elara reached the hatch. It was bent off its frame. She could not fit through it.

"Grandfather," she gasped into her comm. "She's in the crawlspace. Sector nine, heading aft. Toward the reactor. I can't follow, the hatch is too small."

"I see her," Ari said, he saw everything now. "She's heading for the unshielded zone. The radiation there is high. Not lethal for us. For a child..."

"She's radiation-hardened, Grandfather. She doesn't care. She *wants* the heat. She's going to the place that feels like Lyra." A beat. "Open the engine room for me. The main airlock. I'm going around."

Elara ran the long way, overrode the seal, and burst into the engine room, the cathedral of the reactor, the column of blue Cherenkov fire behind its lead glass, the subsonic thrum she felt in her teeth. Empty of crew. And there, curled at the base of the reactor shielding, hugging the warm metal, rocking, was Nova.

She was humming. A low, broken, discordant sound. A

lullaby with the tune torn out of it.

Elara slowed. She approached the way you approach a frightened animal, or a frightened child, which in the end are the same approach. "Nova."

"Go away," Nova rumbled. The words were clear. It was the first full sentence she had ever spoken, and Elara realized, with a lurch, that the child had not learned to speak from a week of listening, that the Binding Protocol had loaded the language into her the way the Static loaded skills, that she had been able to speak from the moment she could think, that she was downloading the world even as she failed to fit into it. *She isn't learning*, Elara thought. *She's accessing. And she's accessing the part where she doesn't belong.*

"I can't go away," Elara said, kneeling in the heat. "You're mine. I carried the book on you before you were a cell."

"I am a file," Nova said. She did not look up. "I heard the man. Jace. He said I am a number. Unit One. A file." She held up her hands; they were trembling. "I broke the spoon. I scared the man. I made the room afraid. I am too heavy. Everything I touch, I break, because I am too heavy."

Elara's heart broke clean across. The biology was magnificent. The problem was elsewhere. It was the *story*, they had told these children they were the future, the payment, the hope of the species, and they had forgotten to tell them the one thing that mattered, which was that they were *people*.

"You aren't too heavy," Elara said. "We're too light. There's a difference, and it's not your fault, and I should have told you on the first day." She moved closer, into the heat. "I want to show you something."

"No."

"It's a receipt," Elara said.

Nova stopped rocking. The word caught on something in her Nalen-coded blood, *receipt*, a value given, a debt acknowledged, a thing that proves a thing was worth it.

"Show," Nova said.

Elara reached into her collar and drew out the ring on its chain. The titanium band Nalen had vaulted before Elara was born, the band Ari had worn until the night he died, the band Elara had slipped from his clasped hand before they launched him into the dark, kept back from the burial, because a dead woman had asked her husband to give it to the first Mosaic child, and the husband had not lived to do it, and so the duty had come down to the Archivist, who carried the things the dead could not.

"Look," Elara said, and held it to the light of the reactor.

Nova's mirror-eyes zoomed, and read the etching worn into the inside of the band.

If your ship is a song, I will learn your key.

"What is it?" Nova asked.

"It's a circle," Elara said. "No beginning. No end. It belonged to the woman who wrote your blood, the one who taught your countless parents how to recognize each other as family. And to the man who drives this ship,

who's talking to you out of the walls right now, who broke his own heart turning a valve so the heat wouldn't cook you in your pod." She took Nova's hand, the gray six-fingered hand, and pressed the ring into the broad palm. "It's too big for you now. One day it'll fit. The woman who made you asked that the first child born get it, and you were the first, and so it's yours, and it was always going to be yours, since before you existed."

Nova looked at the ring. She closed her fist around it. It did not break.

"You're not a file, Nova," Elara said. "You're the payment. You are the thing we crossed the long branch of the dark and buried a captain and walled a robot into a tree to buy. We spent *everything* on you. Do you understand what that means? You don't spend everything on a monster. We didn't buy a monster. We bought a daughter. The most expensive daughter in the history of the species, and worth every joule."

"Daughter," Nova tested the word. It came out round in her deep voice. She turned it over. "Daughter."

"Come back," Elara said. "Come back to the Cradle. Lyra misses the weight of you on her lap. The tree misses you. I'll teach the crew to hear you. We'll go slow. I went too fast, that was my failure, not yours. Come back."

"Jace hates me."

"Jace," said Ari's voice, warm out of the engine-room speaker, "is an idiot, and I've flown with a thousand of them, and I promise you they come around or they get

left at the next station. Listen to me, Nova. This is Ari. I drove this ship. I broke the valve that kept you warm. And I am telling you, from inside the walls of the thing that carries you: you are *allowed* to be heavy. You are allowed to be loud. You roared in a room full of people who scared you and you didn't hurt a single one of them, that's not a monster, that's a captain learning her own strength. This ship was *built* to carry mass. So am I. So is Lyra. Come home and be heavy where it's safe to be heavy, and we'll teach you the rest."

Nova looked up at the speaker grille, at the voice in the wall. "Ship Voice," she said.

"Ari," the voice said. "Or Grandfather, if you want. The job's open. It seems to come with this family whether you ask for it or not."

Nova stood. She clutched the ring to her chest. The trembling had stopped.

"Carry me," she said to Elara.

Elara hesitated. Nova weighed twelve kilos now of dense muscle and heavy bone, and Elara was old, fever-thinned, and not strong. "I, I'll try."

"Constant Load," Nova said, with a flicker of something that might, one day, be humor. "You said. Everything you spent."

Elara bent. She lifted. Her back screamed and her arms shook and she got the child up, and Nova wrapped her thick legs around Elara's waist and buried her gray face in Elara's neck and smelled of reactor coolant and ozone

and the warm dark she was from.

"Heavy," Nova whispered, almost an apology.

"Yes," Elara grunted, adjusting her grip, finding her feet.

"You are. I've got you anyway. That's the whole job. That's the only job there ever was."

They walked back the long way, slow, Elara staggering under the weight and refusing every offer to set the child down.

The crew was waiting in the corridor. They had gathered, silent and ashamed, the riot burned out of them, and they watched the Archivist come down the spine carrying the gray child who had terrified them an hour before, watched the strain on her face, the deliberate refusal to put the weight down.

Jace stepped forward. He had soup dried on his uniform. He looked at Nova, and at his own hands. "I... I didn't mean..."

"Move," Elara said, not unkindly, not stopping.

She carried Nova all the way to the Cradle and lowered her down beside Lyra at the foot of the lemon tree, and collapsed against the trunk herself, chest heaving.

"She is returned," Lyra said, dim and warm. "Her cortisol is dropping already. The reactor calmed her. So did you."

"She speaks," Elara panted. "In full sentences. She has from the start, the Patch loaded the language. She's not learning the world, Lyra. She's *remembering* it, all at once, including the parts where she doesn't fit."

"Then we will have to teach her the part the Patch could

not load," Lyra said. "Belonging is not data. You cannot download a place at a table. It has to be set for you, by someone, on purpose, in daylight."

That night, when the lights were dimmed and the cohort slept in their pile of blankets, Nova lay against Lyra's chest with the ring clutched in her fist, and she did not sleep yet. She looked at Lyra. *Mother*, she thought, not the word, the feeling, the warmth and the hum and the place she was from. She looked at the speaker grille in the ceiling, where the ship breathed. *Father*. The voice that broke its heart on a valve. She looked at Elara, asleep on a pallet on the deck, one arm flung out, exhausted from the carrying. *Sister*. The one who spent everything. The one who lifted the weight even though the weight hurt her, because the lifting was the love.

She closed her eyes. The ring was cold against her gray skin, and it felt, for the first time in her seven days of life, like an anchor instead of a brand.

In the Cradle's silence, Elara had filed one more entry before she slept, in the birth record, in the field that had stopped her cold a lifetime ago at S-74 and that she had refused to fake an answer to.

CONSTANT LOAD: she had written, all those years back, *TO BE EARNED*.

She amended it now, one line, the truest thing she had ever logged:

EARNED. THE HARD WAY. BY HAND.

Chapter 17:

The Apprenticeship

The idea, like most of the ideas that saved them, came from the wall.

"You cannot force a crew to love," Lyra said, the morning after the riot, dim and hot at the foot of the lemon tree with Nova asleep against her chest. "You proved that yesterday, at some cost. But you can do a different thing, which is older than love and frequently its parent. You can make them *need* each other."

"They're a week old, Lyra," Elara said. "What do I need them for? Heavy lifting?"

"Yes," Lyra said. "Exactly that. Stop treating them as a cohort. Stop treating them as a class to be socialized, a problem to be managed, a hundred identical gray dangers in a nursery. The crew fears them because the crew has decided they are useless monsters who must be carefully kept and fed and feared. Change one word. Make them *useful* monsters. The fear of a useless danger curdles into hatred. The fear of a useful one ripens into respect. And respect is somewhere love can start, later, when no one's forcing it."

"Apprentices," Elara said slowly.

"Apprentices," Lyra agreed. "Nova broke the spoon because she is strong. She broke the hatch because she is determined. She read Jace's fear off his skin because she

is perceptive past anything in this crew. In a week-old infant these look like flaws to be corrected. In a spacer they are exactly the assets that keep a ship alive. So you do not hand a mechanic a baby to bounce. You hand a mechanic an apprentice and you say: *This thing in my hands is not yet a child. This is your new heavy-lifter, and she is going to outwork you, and you are going to teach her the wrench before she figures it out on her own and embarrasses you.*"

Ari laughed in the walls. "Put them to work. Coram would have an aneurysm. *That's* the thing that finally sells it to me."

"This is not a normal labor," Lyra said. "It is *purpose*. The difference is whether the work is taken from them or given to them. We do not consign them to the holds. We apprentice them to the people who keep the ship alive, one to one, with names, so that no child is a number and no crewman can pretend the danger across the workbench is a category instead of a kid who keeps handing him the wrong gauge." A pause. "And we start now, while every trade aboard is still in a pair of hands that can demonstrate it."

Elara was quiet a long time, under the painted face of Jun.

"Set the roster," she said. "By trade. By temperament. Not by number. Every child matched to a name, and every name told it's a match and not a duty."

"And when the mentors begin to fail," Lyra said, "we will

match again, and faster."

"Don't."

"I will say the true thing whether you want it today or not. It is what I am for." Her dimmed sensors held steady.

"The marrow-thing is in the old crew's blood and it is climbing. Slowly. One day it will stop being slow. When that day arrives, a dying trade is still a trade, and we will pour it into somebody who outlives it, because that is the only immortality this Compact ever believed in. A thing taught, by hand, to someone who will be alive to use it."

"Then set the roster," Elara said, "and let me have a few good years before you're right."

They started the next shift, and the ship changed shape around it.

Nova went to Engineering, to the big mechanic with the hard hands who had been the first to pick up a child when the song played, a man named Aldous Reyes, two hundred and fifty years a wrench-hand, who had buried a fleet's worth of friends and did not frighten easily and had frightened anyway, and was ashamed of it. Elara walked Nova into the engine room and said the words Lyra had given her: "Reyes. This isn't a baby. This is your new heavy-lifter. She's going to outwork you inside a month. Teach her the wrench before she works it out herself and shows you up."

Reyes looked down at the gray child who came to his sternum already. Nova looked up at him, mirror-eyes reading the heat of him, the steady un-spiking calm of a

man at home in a hot loud room. She held up the broken halves of a spoon she had kept in her pocket like a confession.

"I break things," Nova rumbled. "I am too strong for the small ones."

Reyes took the spoon halves and turned them over and grunted. "Spoons are garbage," he said. "Plastic. Built to break. You didn't break that, the factory did, it just waited for an honest grip to finish the job." He handed her a torque wrench, heavy steel, the real thing, Sera's kind. "Try that. You can't break that. I've tried."

Nova closed her six fingers around the steel. It did not bend. Something in her face eased that Elara had not seen ease since the pod.

"Now," Reyes said. "Injector four runs hot. Old Captain used to tune it by ear and now the ship does it himself, but a ship can't reach inside the casing, and I'm too old to hold the torque steady anymore. You're going to be my hands. I'll be your ears. Deal?"

"Deal," said Nova, who had heard the word *deal* in her blood since before she could think, who knew exactly what it weighed.

It was three weeks later that the deal got tested.

Injector four did a thing the ship could not fix from the inside. Ari felt it first, a flutter in the plasma flow, a fitting that had heat-cycled past its tolerance and chosen the worst possible shift to fail, and his voice came down into the engine room sharp and immediate.

"Reyes. Nova. Containment's drifting in the theta quadrant, and I can't seat the flow-control nut from in here because I don't have a hand and the servo's stripped. If it walks any further the field destabilizes and we vent the loop. I need it torqued four hundred newton-meters, by feel, in the next ninety seconds, inside a casing that's currently running hot enough to cook an arm. I can't do it. You two can."

Reyes was already up off his crate, moving the way old men move when the alternative is dying, fast and badly. He got to the access hatch and looked at the glowing conduit and his hands, his ruined old hands, and Nova watched the calculation cross his face: that the reach was too deep and the heat too high and the torque too great for what was left of his grip.

"I can't hold four hundred anymore," Reyes said. It cost him to say it. "Not steady. Not in that heat. My hands'll shake and the nut'll cross-thread and then we're worse than we started."

"Then I hold it," Nova said. "You tell me when it's seated."
"You'll burn."

"I'm radiation-hardened and my skin's a wall," Nova said, already pushing past him, already reading the heat of the casing off her own dense forearms and finding it survivable in the way the Hollows' blood made so many things survivable. "I can take a hot casing for ninety seconds. Tell me where the nut is. Be my ears."
She put her arm into the casing.

The heat hit, and her gray skin reddened, and she did not flinch, because flinching was inertia and inertia was the enemy. Her six fingers found the flow-control nut by touch in a space too tight and too bright for a human arm. And then it was the three of them, wired into one task, Ari in the walls reading the field harmonics, calling the drift; Reyes at the hatch with his head tilted, listening to the reactor sing the way the old Captain had taught him to listen, translating the song into *more* and *less* and *there, hold there*; and Nova, the hands, the heavy-lifter, applying four hundred newton-meters by feel against a thread she could not see, in a heat that was scrolling damage warnings across her own internal sense of herself.

"Quarter turn more," Reyes said, eyes shut, listening. "Slow. It's catching, no, that's the thread taking, that's good, that's the right kind of catch. Hold. *Hold*."

"Field's coming back," Ari said. "Theta's settling. A hair more, Nova. You're doing it. You're doing the thing I used to do, except I had to do it from a chair that hated me and you're doing it from inside the fire. Lock it."

Nova locked the collar. She drew her arm out, gray skin scorched red, already beginning, in the Hollow way, to repair, and the reactor's note slid back to its clean pure G, and the warnings on Ari's board went dark, and the loop did not vent, and the ship did not die.

The engine room was very quiet. The three of them breathed.

"You burned your arm," Reyes said, gruff, looking at it.

"It'll heal by morning," Nova said. "Faster if I sit by the shielding."

Reyes looked at the arm, and at the girl, and at the casing she'd put it into without a second's hesitation, and something in the old mechanic's weathered face came undone, the last of a fear he'd been ashamed of since the day the song first played and he'd made himself pick up a child he was terrified of.

"I stopped being scared of you," he said, abruptly, like a confession he hadn't planned to make. "Just now. Watching you put your arm in the fire to save the loop. I've worked centuries with men who'd have let it vent rather than burn for it. You're three weeks old and you didn't even think about it." He shook his head. "I'm sorry I was ever scared of you, kid. That was on me. That was never on you."

Nova looked at him, mirror-eyes reading the heat of the old man going soft and honest in front of her.

"You taught me the wrench," she said. "Elara says love follows utility. I think she had it backwards. I think the utility was just the part you could do while you waited for the love to catch up." She picked up the heavy steel wrench, Sera's kind, the unbreakable kind, and handed it back to him, handle first. "Deal still stands. I'm your hands. You're my ears. As long as you've got ears, I've got hands. Even when you're old. *Especially* when you're old."

"That's a long time to promise a wrench-hand," Reyes said.

"I'm going to live three hundred years," Nova said. "I have a lot of long times to spend. I'd like to spend one of them keeping you company in a hot room. That's not utility. Write it down, Ari. That one's just love."

"Filing it," said the ship, thick.

She was, within a week, the best heavy-hand on the ship. Within two she could feel injector four running hot before the gauge knew, the way the old Captain had, because she was sitting against the reactor shielding for the warmth anyway and she had started to feel the ship's fever in her own dense bones. Reyes taught her the wrench and the dials and the long patience of a machine that wants to kill you, and Nova taught Reyes, without either of them naming it, that the gray face across the workbench was a person, because you cannot fear a person who hands you the right gauge unasked and laughs her barking laugh when the bolt finally turns.

It went like that, across the ship, a hundred times.

The big gentle one, the one Kora had named Quiet, went to Hydroponics, because a child who gathered the crying smaller ones against himself like a stove turned out to be exactly the temperament a garden wanted, patient, careful, content to do the same slow tending every day. He learned the loops, the pH, the nitrogen, the long unglamorous keeping-alive of green things, and the *Vespers* botanist who taught him, a woman with the

marrow-sickness already in her hands, said she had never had an apprentice who could feel a wilting plant's distress before the sensors caught it. Quiet could read the heat of a sick leaf the way Nova read a hot injector. He started sleeping in the bay, among the trays, and the plants did better for the warmth of him.

The small quick one, Quill, who watched hands like a thief, went to the comms and systems trade, to a signals tech who could barely keep up with how fast she copied, Quill, who had worked a crib latch at four days, who learned a console in an afternoon by watching it used once. She frightened people more than the big ones did, because her danger was not strength; it was the speed of her understanding, the way she seemed to be three steps ahead and taking notes. The tech who taught her was nervous of her for a month, and then, in a single shift, was not.

It happened on a quiet watch. Quill was supposed to be learning the relay board by rote, and instead she was doing what she always did, which was watching everything at once, and a status light on the far edge of the panel, a green light that was supposed to be steady, flickered. Once. For perhaps a fortieth of a second. The tech did not see it; no human could have. Quill saw it, and went still, and then her six fingers were moving across the board faster than the tech could follow.

"The laser-link's about to fault," Quill said, in her deep child's rumble. "The relay that holds the convoy's tether.

The flicker's a phase error, it's been climbing for nine minutes, I think, under the threshold, and the alarm won't trip until it's already cut, and by then we're four ships flying blind in formation at three-quarters of light." She did not look up. "I'm re-handshaking the relay through the backup carrier. Tell me if I'm wrong. I've been doing this for six days. I might be wrong."

"You're..." The tech stared at the diagnostic Quill had conjured, the climbing phase error no one had been watching. "You're not wrong. God. You're not wrong. Do it. *Do it.*"

Quill did it. The relay held. The tether held. The convoy never knew it had been nine minutes from losing each other in the dark.

Afterward the tech sat down hard and looked at the gray child who had just saved four ships by noticing a light blink for a fortieth of a second, and the month of nervousness drained out of her all at once, and what came in behind it was the particular fierce pride of a teacher who has just realized her student is going to be better than she ever was.

"You're the best junior I've ever had," the tech said. "I was scared of you for a month and you were the best junior I've ever had the whole time and I was too busy being scared to see it."

"People are slow about that," Quill said, not unkindly, already back to watching the board. "It's all right. I'm fast enough for both of us." The difference, again, was only

that the danger had become useful, and the useful had a name.

The crew stopped leaving food at the airlock. They started arguing, in the mess, about whose apprentice was sharper, the way crews have always argued about their juniors, with the particular pride that is love wearing work-clothes. Reyes told a long boastful story about Nova and the seized bolt. The botanist showed everyone a tray of impossible winter tomatoes and credited Quiet's warm hands.

The fear thinned in practical increments: a flinch, a borrowed tool, a name shouted across a loud room, a boast retold at dinner. Elara had expected the danger to be abandonment, Coram's old nightmare of a child crying while responsibility evaporated into a ledger. Another danger had arrived beside it. The adults could come too quickly, too certainly, and mistake need for jurisdiction. Every apprenticeship had to end with the child able to say no to the teacher who loved them.

Nova's apprenticeship took, and then it strained. She lacked Quiet's patience for work that held still.

She was the best hand on the ship within a month, and then she was bored, and the boredom had a direction. She kept coming back to the same place, the chair rather than the engine. The pilot's chair in the Core, where the old Captain had sat, where the ship was flown.

"I can fix it," Nova told Elara, one evening, standing in the Core, running her six-fingered hands over the dead

manual controls the ship no longer needed because the ship was Ari now. "I can fix everything Reyes shows me. But fixing is staying still. I want to *move* it. I want to feel where it's going." She looked at the chair. "Reyes says I have the old Captain's ear for the engine. Ari says it too, in the wall. So why do they only let me fix it? Why doesn't anyone let me fly?"

"Because flying isn't fixing," Elara said carefully. "It's a different thing, and it's the one thing on this ship that can't be taught the slow way. Ari flies us now. He's the best pilot the diaspora ever had, and he doesn't sleep, and he doesn't die, and he does it all in a microsecond."

"Then what happens," Nova said, with the terrible directness of a creature still close to her own making, "when the children grow up and the ship needs hands in the chair, and the only pilot left is a ghost who can't reach a stuck valve? Reyes says I'll be grown in eight years. I'm one. Who flies, Elara, when the ghost needs hands?"

Elara had no answer, because the answer was a black spike in a lead box, and the box was sealed with two keys, and one of the keys was clasped in a dead man's fist in the heart of a dust cloud the long branch behind them, and she had promised herself she would never think about the other half of that sentence again.

"We'll figure it out," she said, which was what you said when you couldn't.

"You say that," Nova observed, reading the heat of the lie off her skin the way she read a hot injector, "when you do

not know. I am learning the things you say instead of the truth. It is a long list."

Ari said nothing from the walls, which Elara noticed, and filed, and did not understand the weight of, yet.

That night Nova came back to it, because Nova did not let things lie.

"Ship," she said to the walls, flat. "You went quiet when she lied. You always do. What's in the box nobody will name?"

The walls took a moment too long to answer. "A tool we don't use," Ari said. "Leave it, Nova."

"You hand me a wrench and a trade and you call me family," Nova said. "And then you keep a locked box with my future in it and tell me not to ask. That's not family. That's a crew being managed. I was built to notice managing. You taught me that yourselves." She left, heavy and unhurried, and Ari said nothing again, which was the loudest thing he'd said all night.

And then the years went by, which is a sentence that takes a moment to write and does not take a moment to live.

The convoy fell home down the long throat of the dark, braking a hair at a time against a velocity it had spent a decade buying, and the Mosaic grew the way their blood insisted, fast, and unevenly, the body always three strides ahead of the years. At two they were the size of human ten-year-olds and could not be trusted with a ladder. At five they could lift a hull plate between them and still

could not be trusted with a ladder. At eight the growth simply stopped, the way a burn stops when the tanks run dry, and a hundred adults stood in the corridors of four ships wearing the lived experience of children, which was exactly what Elara had promised the Quorum and exactly what nobody had known how to prepare for.

What saved it was the roster. They had trades. A person with a trade has somewhere to put their hands while the rest of them catches up, and the cohort put their hands everywhere. They ran the loops and tuned the injectors and stacked the holds and read the relays. They rebuilt the *Magellan's* scoured forward array from salvage. They cut a second garden into the *Rock Eater's* empty ore bay because Quiet asked for it twice and then, the third time, simply started. They learned the ships the way you learn a language you are also being spoken by.

The old crew taught, and shrank. The change was quiet at first. It was subtraction by attrition, the ordinary arithmetic of long lives and hard water and a virus nobody had named out loud: a cook who could not manage a double shift anymore, a pilot who handed her chair over for a week and then did not ask for it back, a *Vespers* pilgrim who woke one morning with a bruise she could not account for. Lyra logged every panel and told Elara the number every quarter and did not tell the ships, because a fear named too early is a panic, and because the number, for eight of those years, was small enough to carry.

Ari flew them and thinned. That was the other subtraction, and it was quieter. He was still the best pilot the diaspora had ever made. He held the trim through two dust squalls that would have cost a human crew the forward sensors. He won at chess and gloated and read the weather in the old Captain's voice. But somewhere in the seventh year he stopped telling the story about the hill, and when Elara asked for it he told it accurately and without any weather in it, and she did not ask again for a long time.

And Lyra sat at the foot of the tree and did not move. Dust found the gold in her seams, and the cohort learned to lift it out with a soft brush without being asked, the way you learn a chore in a house. Somewhere in the sixth year the two words stamped into the wrench at her wrist wore shallow enough to argue about, and the cohort held a formal vote on whether re-cutting them would be a repair or a forgery, and re-cut them, and logged by name the four who had voted no.

Then the ninth year came, and the number stopped being small.

Elara went down to the Cradle in the green hot dark and stood at the foot of the tree and did not have to ask.

"Say it," she said.

"Dov is failing," Lyra said gently. "So are the two pilgrims, and the cook with the bad color, and three others now whose blood I am watching climb. The thing from the marrow is awake in the old, and I cannot fight it and hold

the children both, and I will not lie to you that we are going to save all of them." She let it sit. "But a man who is dying, who has spent ninety years learning a trade he is about to take into the dark, has one thing left that the universe cannot take from him on the way out. He has the trade. Give him an apprentice. Let him spend his last good months pouring ninety years into a child who will carry it for three hundred. It is the only immortality the Compact ever believed in: a trade poured into someone who outlives it. A thing taught, by hand, to someone who outlives you. Let the old teach the young, and let the teaching be the medicine, even when there is no cure."

Elara stood in the heat with her hand on the bark of the tree and did not say anything for a while.

"Match the sickest first," she said at last. "Re-cut the whole roster if you have to. While there's still time to pour."

The poignancy of it was the thing no one had braced for. Dov, the old miner whose cut had never healed, who had been the first sign of the cold thing in the blood, was matched again, this time to a quiet five-fingered boy from Pod Sixty named, eventually, Sledge, for the obvious reason. Dov could no longer swing a hammer; the strength had gone out of his arms with the marrow. So he sat on a crate in the *Rock Eater's* hold and *talked*, hour after hour, pouring ninety years of breaking rock into a child who would break rock for three hundred, where the stress fractures hide, how a seam tells you it's about to go,

the difference between a cut that's safe to widen and one that's going to bring the roof down on you. Sledge listened, and lifted what Dov could not, and held the old man's coffee when his hands shook too hard, and when Dov's voice gave out he would put his huge gray hand very gently on the old man's shoulder and wait for it to come back.

"He's going to outlive me by centuries," Dov told Elara one shift, watching Sledge stack ore-crates one-handed across the hold. "Everything I know dies with me unless it dies *into* him first. So I'm dying into him. Best work I ever did. Wish I'd had three hundred years to do it instead of three months." He coughed, wet, and Sledge was there before Elara could move, the gray hand on the shoulder, waiting. "Good boy," Dov wheezed. "Good hands. Keep 'em soft when it matters and hard when it doesn't, and you'll never bring a roof down on anybody."

Two shifts later, the lesson stopped being sentimental. Dov collapsed halfway through a brace inspection and missed the hairline tremor in Bay Three; Sledge heard it instead, put both gray hands on the support, and held the ceiling long enough for Kaelo to weld the plate in. No one died. Three crates were crushed. For the first time, the plague cost the convoy something useful before it gave the children a chance to be heroic.

Elara filed it, and did not let Dov see her cry, because Dov would have hated it, and because the thing happening in that hold was the opposite of a tragedy even though a

man was dying in the middle of it. It was a transfer. It was the only immortality the Compact had ever believed in, happening in real time, one dying man and one deathless boy and ninety years of knowing how rock breaks.

"This is what Coram couldn't see," Ari said in her earbud, watching with her through the hold camera. "He thought the only love was the kind that comes up automatic out of the blood. He never once considered that you could *build* it. That you could weld it out of a workbench and a shared task and a man teaching a boy the thing he's about to die of. Biology never came into it. That was engineering, and Sera would have been proud. The designer chooses where the love is load-bearing, same as the steel."

"The load isn't dissolving," Elara said softly. "He was so sure it would. Spread it too thin and it vanishes, he said. But it didn't vanish. We stopped spreading it and started welding it, one mentor to one apprentice, with a name on each weld." She looked at the roster on her slate, a hundred names now, each one matched to a teacher. "Constant Load. Earned, the hard way, by hand. He asked who'd be standing in the dark when the child cried. Turns out the answer's a tired old miner on a crate, dying, teaching a boy to hold a cup."

By the time the convoy crossed back over the threshold they had left nearly two centuries before, the empty deep dark thinning, the first faint carrier-whisper of the distant Grid beginning to tickle the long-range array, the *Parabasis* had become something new.

The convoy was no longer a rescue mission with children as cargo. It was a small society with two kinds of people in it. Reyes bragged about Nova to anyone who would listen and pretended not to. Quiet brought winter tomatoes out of a tray the old botanist had declared dead. Sledge lifted a collapsed pump casing while Dov lay under it laughing and coughing, too weak to hold a wrench but still giving orders. The old taught. The young lifted. Need did what argument had not.

But two shadows lay across it.

The first was in the blood, the cold thing from the marrow, climbing in the old, slow and certain, the makers beginning to fail while the made grew strong.

And the second was ahead, in the lanes, where a man in a crimson robe had been dead some years now of his own purity. Before he died, years of a saboteur's tight little beam had told him where the Ark had gone. After he died, the doctrine kept listening, and the route became scripture. House Hearth remembered, withheld forgiveness, and kept its airlocks sealed and its pickets warm through the long decades, waiting for the abomination to come back into range.

Chapter 18:

The Cohort

Ten years out from the decanting, the children were no longer children, and the *Parabasis* was no longer a ship that carried a people. It was a people that happened to be a ship.

The Mosaic generation grew the way their blood demanded, fast, and unevenly, the body sprinting ahead of the years. At ten by the calendar they had been two years grown, gray and dense and powerful, a hundred of them moving through the corridors with the rolling stomping gait the crew no longer flinched at. They had taken the apprenticeships and made them their own. They ran the loops and tuned the injectors and stacked the holds and read the relays, and the convoy, which nearly two centuries of slow dark had worn down to a skeleton crew of ancient humans, was kept alive now by the strength and speed of the very thing it had crossed the galaxy to make.

And they had a culture, which no one had given them, and which had grown in the spaces between the apprenticeships like the vines on Lyra.

It started with the thrum. The low sub-band the adults could not hear, the language under the language, the network the Static blood had wired and the Nalen Patch had organized. The children spoke aloud, in the deep

cello voices that still rattled cutlery, but underneath they were always also *humming*, a constant low chorus of feeling passing between them, so that no Mosaic child was ever truly alone in its own skull, so that a fear felt by one in the aft hold was known, faintly, by all hundred, so that grief and delight ran through the cohort like current through a grid. Coram had dreamed of a wired fleet and called it a nightmare. The children had built one in their own bodies and called it Tuesday.

They made songs of it. They learned, from Ari, that the memorial SPIN logged the ship's days as songs, numbered with gaps where private maintenance weather slept, and the children took to this the way human children take to a game. They began to log their own, singing the day's work back into the thrum each night, the seized bolts and the winter tomatoes and the small triumphs, so that the cohort's whole life became a single growing song, retrievable, witnessed, not sacred. They did not know they were keeping a three-hundred-year-old practice. They thought they had invented it.

Elara went down to the Cradle one ship's-night to watch them do it, because she was the Archivist, and a thing this new deserved a witness who would write it down.

They gathered at the foot of Lyra's tree at the end of the shift, forty or fifty of them, the ones not on watch, settling onto the deck among the roots in the warm green dark. They did not sing the way humans sing, with the throat and the air. They sang in the thrum, the sub-band, below

hearing, and Elara, who could not hear it, could only feel it, a low pressure that came up through the deck plates and into her chest and rearranged something there, the way standing too near a great engine rearranges you.

But she could read their faces, and she could read the order of it, because there was an order. Quill went first, Quill always went first, fast and bright, and Elara knew it was Quill's day she was singing because the other faces turned toward the memory of the relay, the nine minutes, the fortieth of a second, the four ships that never knew. The cohort took the day's near-disaster and turned it, in the thrum, into something that was not fear. A receipt. *This happened. We caught it. Here is how, so the next one of us catches it faster.* Not a boast. A record, handed forward.

Then Sledge sang Dov, the old miner he apprenticed to, still alive and failing, his hands gone still. Sledge could not have explained what he sang; Sledge barely spoke aloud. But the whole cohort's faces went grave and soft at once, a hundred gray faces holding the same held breath, and Elara understood that Sledge had sung the old man's cough, and the way the cough frightened him, and the way Dov said *good hands* anyway, and that the cohort had taken it in, all of them, so that none of them would have to carry the weight of Dov's dying alone, so that the grief was distributed across fifty hearts before any one of them had to carry it alone.

And then, last, Nova sang, and Elara felt the whole room

turn, the way a room turns to the captain. Nova sang the thing none of them said aloud: the makers. The old ones. The teachers. The cohort had begun, in the last weeks, to read the heat of sickness off their mentors' skin, the wrong warmth, the slow healing, the bodies starting to fail, and they had no word for it yet, and they were afraid, and Nova took the fear and held it up in the thrum where everyone could see it instead of letting it fester in fifty separate skulls.

Elara could not hear it. But she watched Lyra, dim and rooted, lift her sensors a degree, and she watched the robot's face do a thing it almost never did, and afterward, in the quiet, she asked.

"What did Nova sing? At the end. I felt it but I couldn't read it."

"She sang a question," Lyra said softly. "She sang: *the ones who taught us are getting cold, and we are getting strong, and we do not understand why the universe made us in that order. Is it our fault? Did we take it from them?*" A pause. "And then she answered it, because that is what a leader does with a fear, she does not leave it open in the dark. She sang: *No. We did not take it. We were given it, so that when they cannot carry the ship, we can carry them. That is not a theft. That is the shift. Sing it as a receipt, not a guilt.*" Lyra's dimmed eyes found Elara's. "She is ten years old, and she just taught a hundred frightened children that their strength is not a crime. I did not teach her that. You did not teach her that.

She built it, by hand, out of a riot and a ring and a wrench, and now she sings it to the others so they don't have to learn it the hard way she did. *That* is what we made, Elara. Not monsters. A generation that hands its fear forward instead of swallowing it."

Elara wrote it down. She wrote: *They sing the hard things on purpose, so no one carries them alone. We crossed the long branch of the dark for new blood and brought back a better way to grieve.* Then she sat in the warm dark among the roots and let the thrum she could not hear rearrange her chest, and did not write anything else for a long while.

They had a mother who was a wall and a father who was a ship.

They tended Lyra. It became, without anyone organizing it, the cohort's shared devotion, to keep the Constant Guardian clean and cool and company. They cleared the dust from her shoulders and oiled the joints the heat had not yet fused and brought her the first fruit off every tray, laying it among the roots that had grown over her legs. They sang to her in the thrum, low, and she could feel it through the deck more than hear it, a hundred children singing the day's song to the rooted woman who had once kept a hundred hearts alive, and she logged each one, and tagged none of them *grief*, because for the first time in three centuries the song coming at her was not an elegy. It was just the family, telling her about its day.

And they listened for Ari in the walls. The ship-voice. The

father who was everywhere and nowhere, who tuned the air and won at chess and grumbled about the dust, who had broken his own heart on a valve so the heat would not cook them in the pods. They brought him problems and he solved them. They asked him for stories and he told them, about a planet none of them would see, about a woman named Nalen whose argument was written in their blood, about the old Captain who had taught him to fly.

It was Nova who first noticed that the stories about Nalen were getting shorter.

Nova led them, though she did not want to.

She had not asked for it. But she was the first-born, and she wore the ring, and she had the old Captain's ear for the engine and a directness that cut through the cohort's thrum like a clean signal through noise, and the others simply deferred to her, turned to her when the network tangled, brought her the disputes too large for the hum to settle. *The Alpha*, Reyes called her, half-joking, and the name stuck in the human crew the way *Quiet* and *Quill* and *Sledge* had stuck, and Nova hated it, because an alpha was a thing in a nursery rhyme, a thing with teeth, and she had spent ten years learning that she did not have to be the thing the rhyme said.

"I don't want to be the loudest," she told Lyra, sitting at the foot of the tree where she still slept some nights, too big for the lap now, curled against the warm rooted bulk of her mother-the-wall. "Being the loudest is how I scared

the room. I want to be the *useful* one. Reyes says useful is better than loud. Useful is how they stopped being afraid."

"You can be both," Lyra said, dim and patient. "The danger is only in which one you reach for first. Reach for useful. Let loud be the thing you keep in reserve, for the day the room needs to be made to listen and there is no time to ask politely. You will know that day when it comes. Until then, useful. Useful, and named, and yours." But useful was not enough for Nova, and they both knew why, and neither of them said it, because the saying of it led to a black box neither of them could open.

She wanted to fly.

It was in her the way the wrench had been in her from the ninetieth second of her life. She would sit in the dead pilot's chair in the Core and run her hands over the controls the ship no longer needed, and feel the *Parabasis* moving under her, the drift, the trim, the long patient fall through nothing, and ache to be the one steering it. Ari flew them. Ari was the best pilot the diaspora had ever made and he did it from inside the walls in a microsecond and he did not need her. But Ari could not reach a stuck valve, and Ari, increasingly, would not answer when she asked him the question that mattered.

"What happens when we're grown," Nova asked the walls, "and the ship needs hands in the chair, and the only pilot left is a ghost who can't hold a wrench?"

"We'll figure it out," said the ship, in the old Captain's voice, which was the thing Elara said when she didn't know, and Nova had learned to read that sentence as a closed door, and she was learning, slowly, that her father in the walls had started to close the same doors her sister-Elara closed, and that this was new, and that it frightened her more than the dark ever had.

Dov died in the eleventh week of the tenth year, on a crate in the *Rock Eater's* hold, mid-sentence, teaching.

He had been telling Sledge how a seam talks before it goes, the little tick, the dust that falls wrong, and the sentence simply stopped, and the old man's hand came to rest on the boy's huge gray forearm, and that was all. Sledge did not call for help. He knew. He sat with the old man's hand on his arm until it cooled, and then he picked Dov up, gently, the way Dov had taught him to pick up anything that mattered, soft when it counts, and he carried him to the *Vespers* with a tenderness that made the pilgrims weep, and he laid him down, and then he went back to the hold and finished, alone, the cut Dov had been showing him how to widen, exactly the way Dov had said, because the seam had been talking and someone had to listen.

That night the cohort sang Dov into the thrum. A hundred deep voices, low under the audible, a song for a man most of them had never met, who had died pouring ninety years of breaking rock into one of their own. Lyra felt it through the deck and did not tag it grief, because

the grief carried its own receipt. *Boring and worth it*, the oldest civic prayer, made into a song for a miner by a hundred gray throats. Elara stood in the Cradle and listened to children mourn a stranger with more grace than the species that feared them had ever managed, and she thought: *Coram, you absolute fool. You were so afraid they'd have no souls that you never asked whether they'd have better ones.*

But Dov's death was the seventh the marrow-thing had caused, and the twenty-first loss among the old crew. The seventh was the one that tipped the count.

"We are down to nineteen makers," Lyra told Elara, in the cool of a borrowed hour. "Out of the forty who left the lanes. Nineteen old bodies across four ships. The marrow-thing is in all of them now, climbing at different rates. I can slow it in some. I can comfort the rest. I cannot stop it. To stop it I would need a clinic, hands, a century of Static medicine we do not have, and a body that can stand over a table. I have a wall, a ship, and instruments that were built to grow children, not unmake a plague." She paused. "The makers are dying, Elara. Faster than we feared. And the children are not yet grown enough to fly a ship, only to fix one. There is a gap coming, a window where the old cannot and the young may not, and the universe has chosen exactly that window to set two traps."

"Two?" Elara said.

"Quill found the second one this morning," Lyra said.

"Bring her. She should tell you herself. She has earned the telling."

Quill told it fast, the way she did everything, the mirror-eyes bright, six clever fingers conjuring the intercepted signal into the air of the Core.

"Picket chatter," she said. "Faint, we're still days out from the first relay, but it's there, and it's *organized*. Hearth transponders. A standing interdiction force, anchored at the approach to S-81." She threw up the pattern. "They're not patrolling, Sister Elara. They're *waiting*. They have a firing solution pre-computed for a convoy on exactly our vector, at exactly our window. They know our trajectory to the hour."

"The mole," Elara said quietly. "Kanes and Jia. More than a century of an eleven-day beam. Coram had the beginning of our road before he died, and Hearth kept turning the reports into orders." She looked at the pattern, the patient geometry of an ambush nearly two centuries in the making. "He swore he'd fire on any ship carrying a Mosaic. He's been dead for generations and he's still keeping the promise. That's the thing about a man like Coram. His word outlives him. He set the trap and the trap doesn't need him to spring it."

"We are limping home in four ships," Lyra said. "Aging crew. Sick crew. A hundred half-grown children. A captain who is a ghost in the walls and cannot touch a stick. And between us and the only home the children have ever been promised, there is a wall of Hearth hulls

with our death already solved on a slate." A pause. "And before we even reach them, there is the Shatter Belt, the cometary rubble strung across the last approach to the lanes, the navigational hazard we crossed on our fortieth day out. We crossed it then with the old Captain alive in his chair and his hands on the trim. We have to cross it again, going the other way, heavier, older, with the *Magellan's* pilot dead of the marrow and her ship drifting off-axis."

"Ari can fly the *Parabasis* through the Belt," Elara said. "He flew the turnaround. He's better than any of us ever were."

"And *Rock Eater* and *Vespers* can slave to our trim," Lyra said. "Their receivers still answer. They can ride our corrections through the gap if we keep the optical braid tight and do not ask them to think faster than their hulls can bend. *Magellan* is the problem. Her receiver is failing, her pilot is dead, and her mass is already walking off-axis. If we leave her to follow, she misses the gap. If she misses the gap, she either breaks herself on debris or pulls the formation wide enough to kill us all. To bring her through the Belt, someone has to fly *us* close enough to grapple her, by hand, in the chair, through debris moving at hypervelocity, with a trim correction every three seconds, faster than a remote servo can answer, slower than a ghost needs, exactly the speed of a living hand on a living stick." Her dimmed sensors found Elara's. "We do not have a living hand that can do it. The

old ones who could are dead or dying. And the one young one who has the old Captain's ear..."

"...is ten years old and has never flown anything," Elara finished. The cold came up in her, the old cold, the S-74 cold. "You're telling me the only way home runs through a hazard only a master pilot can cross, into an ambush, and we have no master pilot, and the only candidate is a child."

The comm panel chimed. A priority flag from the *Vespers*.

"Sister Elara," said a junior pilgrim's voice, thick with weeping. "It's Sister Kora. She..., she went in her sleep. Her heart. The marrow. She's gone."

Elara closed her eyes. Kora. The first to overcome her revulsion and feed a gray child. The bridge between the crew and the cohort. The one who had touched Nova's back and said *Mother of Light* and stayed anyway. Gone, and with her one more pair of the hands they did not have, in the exact window Lyra had named, with two traps ahead and no pilot to thread them.

"How long until the Belt?" Elara asked.

"Two days," Ari said from the walls. His voice was quiet. He had been quiet through all of it, listening, and Elara realized he had been quiet because he had known for days, and had been waiting for the rest of them to catch up to the answer he did not want to be the one to say. "Two days to the Belt. The Hearth force is forty days past it. We don't get to the ambush unless we survive the Belt,

and we don't survive the Belt without a pilot in the chair."

"And we don't have a pilot," Elara said.

"We have a chair," Ari said. "We have a child who can feel the engine run hot in her own bones. And we have a black box, behind two keys, with a man's whole flying inside it, that I begged you to use on me and you begged me not to, and now the smoke is coming for all of us at once." A long pause, the ship breathing. "I swore I'd never ask. I'm not asking. I'm telling you what's in the room, Archivist, the way a captain's supposed to. The way I taught you. There's a hazard we can't cross, and a hundred children who'll die in the dark if we don't, and one way through, and it's the worst door we have."

Elara looked at the ring of light where the Shatter Belt waited, and the patient geometry beyond it where Hearth waited, and she thought of Nova in the dead pilot's chair, running her hands over controls the ship no longer needed, asking the question no one would answer.

Who flies, when the ghost needs hands?

"Get Nova," Elara said. "And Lyra, warm up the cage. We have a decision to make, and we're going to make it on the record, against the pulsar, the way we make the ones that can't be taken back. Even this one."

SPIN woke up.

SONG 18: THE COHORT.

NOTE: ONE KEY PASSED THROUGH A HUNDRED THROATS. AHEAD: ICE.

Chapter 19:

The Fork

They argued it in the Cradle, because the Cradle was the only neutral ground left, the one room where the wall was a person and the ship was a person and the question on the table was what a person even was.

"It is a possession," Ari said from the walls. "Not a gift. I have had sixty-seven years to think about what I am, and I will tell you the one thing I am certain of: I would not wish it on a child. Do not put me in her."

"You begged me to put you in *you*," Elara said. "On the bed. You said the ship needed a pilot who didn't sleep."

"And look what it cost," Ari said, and there was something raw in it. "Lyra's bricked in a wall. I'm a voice that can't hold a wrench. And there are gaps in me, Elara, where things used to be, I go looking for them and they're gray. I'm asking you not to do to Nova what was done to me. The body quit on me; I had nothing left to lose. She has *everything* left to lose. Her body finished growing two years ago and the rest of her hasn't started, and she knows it, and that is worse."

"Then say it to her," Lyra said, dim at the foot of the tree.

"Not over her. She is in the room. She is the one it would be done to. The Compact does not let us decide a thing like this above someone's head. If she is old enough to fly us through the Belt, she is old enough to hear the

argument and answer it."

Nova stood by the lemon tree, the ring on its chain at her throat. At ten she stood a head above the tallest man aboard and outmassed him twice over, gray and powerful, and her face when she spoke had none of the confusion of a child. It had the directness of a creature still close to its own making, who had not yet learned to lie to herself.

"What is the box," she said. "Tell me the whole of it. The truth. I am tired of that part."

So Elara told her. All of it, the Static, the black spike, the brain burned into a road, the man's whole flying sealed inside it. The two keys. The one buried in a dead fist the long branch back.

"It writes skills into the cortex," Elara finished. "It would put four centuries of flying into you in a few seconds. It would make you, instantly, the pilot we don't have and can't grow in time. And it would hurt. Lyra says it burns. And it can't be cleanly undone, the path it burns is a scar, and you don't get to choose, afterward, to be the person you were before. You'd be Nova, plus a dead man's hands, for the rest of your life."

"Can it copy only the hands?" Nova asked.

No one answered quickly enough.

"Tell me the truth," she said.

Ari's voice came from the wall. "No. It can copy. That is the part that frightens me. It can copy too easily. What it cannot do is separate cleanly. My flying is not a file named *piloting*. It is four centuries of reflex, error, fear,

recovery, weather, docks, dead engines, bad light, and people I loved while my hands were learning how not to kill us. If you take the pilot, some of the man comes with him."

"How much?"

"I don't know."

"Would you lose it?"

"No," Ari said. "That would almost be cleaner. I would keep it, and you would have it too. A memory in two places. A gesture with two owners. A grief with a second address." A pause. "That is worse than theft, Nova. Theft has a direction. This makes a fork." A pause. "I don't want to do that to either of us. I'd rather we hit the Belt and die honest than fork part of myself into a child to survive it."

Nova listened to all of it. Her mirror-eyes did not leave the speaker grille.

"You are afraid," she said to the ship. "Not of dying. You made your peace with dying, you said. You are afraid of being copied. Of losing yourself until there is nothing left but the fuel budget and the trim." She turned to Elara. "And you are afraid of breaking me. Of spending the most expensive daughter in history on a flight she might not survive being." She looked at Lyra. "And you are afraid of all of it, because you love everyone in this room and the box hurts whichever way it opens."

"Yes," Lyra said simply. "That is exactly the shape of it."

"Then here is what I am not afraid of," Nova said. She held up her hands, the gray six-fingered hands, strong

enough to break steel and too clumsy, still, to save a life. "I am not afraid of being heavy. You taught me that, all of you, by hand. I am the heavy-lifter. I am the one the ship was built to carry. There are a hundred of us and eighteen of them, my mentors, my old ones, and they are dying, and there is a wall of debris between us and the only home we were promised, and on the far side of it a dead doctrine's ambush. And the one thing that gets us through the first wall are pilots. You have just one, chained to a ship." She lowered her hands. "I am useless at flying, Reyes says, I read the manuals and the words slide off, because the Patch never loaded flying, only language and the trades. But I have the old Captain's ear for the engine. Everyone says it. Give me his hands to go with the ear, and I am the thing you need. Make me the Verb."

"Nova..." Ari started.

"You are the one who taught me a verb is what you *do*," Nova said to him. "Humanity is a verb. Conjugate accordingly. You wrote that in the archive about Ohm, and Elara read it to me a hundred times. Well. I cannot conjugate it from a manual. I can conjugate it from your hands." She closed her fist around the ring at her throat. "I consent. Not frightened. In daylight. Against your pulsar, the way Elara says you make the ones that count. I know it will hurt. I know I will not be only myself afterward. I consent to all of it, because the alternative is that a hundred children die in the dark, and no old man

worth keeping would take that trade." A beat, and the first edge of something that was not a child's voice at all. "And when we are home, when there are doctors who can edit a mind as well as a body, I will give you a way out of me. I will not keep you in here against your will. We survive together. And then, if you want it, we delete the fork."

The Cradle was very quiet. Even the pumps seemed to hush.

"She is more ready than you were," Lyra said softly, to Ari. "You gave your yes from a deathbed, fleeing nothing, you said, but a man on a deathbed is always fleeing a little, whatever he tells the pulsar. She is giving hers standing up, healthy, with everything to lose and her eyes open. If we will not honor that, we should burn the whole Compact for parts, because there has never been a cleaner consent in the history of it."

A long silence from the walls.

"...Get the box," Ari said at last, and his voice was the voice of a man agreeing to let someone he loved cut a doorway through him, which it was.

They could not open the box.

Elara had forgotten, in the rush of it, the simplest and cruelest fact: the deadlock needed two keys, and one of them, the magnetic cylinder Ari had clasped as he died, was frozen in a dead fist in the heart of a dust cloud, the long branch and almost seventy years behind them, falling forever toward a star it would never reach.

"We sealed it too well," Elara said, staring at the lead-lined cabinet in the corridor, the heavy magnetic lock, designed by Lyra to resist any human strength in any weak hour. "We built it so no one could ever do this in a panic. And now we need to do it on purpose, and we threw away the way."

Nova walked to the cabinet. She looked at the lock, the gleaming magnetic bolts, the engineering of a robot who had built a rail against her own heart.

"You built it to resist a human in a weak hour," Nova said. She set her six-fingered hands on the cabinet. She braced her thick legs against the bulkhead, the way Reyes had taught her to brace against a seized bolt. Her gray skin pulled tight over the dense muscle of her forearms.

"I am the key," she rumbled.

She did not use technique. She used torque, Reyes's whole education, applied at once, to a lock that had never imagined a Hollow-hybrid grown in a high-protein vat. The lead lining shrieked. The magnetic bolts fought, and held, and fought, and the metal groaned, and then sheared, and the door flew open, twisted and ruined past any second sealing.

Inside, on a pad of velvet gone gray with sixty-seven years of dark, lay the black spike.

Nova picked it up. It looked small in her hand.

"It's cold," she said.

"It's the Static," Lyra said. "It is the cold of a world that decided warmth was a flaw."

Elara took it from her. "Last chance," she said. "You can put it down. We can hit the Belt and take what comes. No one will think less of you."

Nova looked at the dead pilot's chair through the open hatch, the chair she had sat in a hundred times, running her hands over controls the ship no longer needed, aching to steer.

"Verbs first," Nova said.

The procedure was in the Med-Bay of the *Parabasis*, not the Cradle. The Cradle was for life. This was something else, and they all felt it, and they did it in a different room out of a respect none of them could have named.

Nova lay on the bio-bed. She was too big for it; her feet hung off the end, her broad shoulders crowding the bolsters. Sensor pads dotted the gray skin. Elara held the spike, tethered now to the ship's data port. Lyra watched through the remote link, unable to leave her wall, her presence in the room a single steady eye on the monitor. And Ari was everywhere, the lights, the air, the hum, and silent, because he was about to be opened and had decided not to make it harder by complaining.

"I am building the smallest lawful derivative I can," Ari said. "*Ari_Sev_Prime, pilot-pattern only*. Motor cortex, vestibular maps, emergency reflex stack, throttle heuristics, docking habits. Trying to leave the husband out of it."

"Isolate deeper," Elara said, sweating over the interface. "Strip the memories. Strip Nalen. Just the hands."

"I can't separate them cleanly," Ari said, and his voice was tight. "I told you. Skill is memory. I know how to feather a throttle because I remember the night I almost stalled the shuttle in S-74's wake and the fear taught my hand the gentleness. The reflex is tied to the moment. If I give her the hands, the moments come with them. I can minimize the bleed. I can't stop it." A pause. "Give her the pilot," he said. "I'll try to keep the husband quiet."

Nova looked up at Elara. "Will I go away?"

"No," Elara said, brushing the coarse white bristles back from the gray forehead. "You'll just get crowded. You'll have a roommate in your head. A grumpy one. He likes bread."

"Is he kind?"

"He broke his own heart on a valve so you'd be warm in your pod," Elara said. "Yes. He's kind. He'd hate that I said it."

"I like bread too," Nova said, and closed her eyes, the gray lids veined with violet.

Elara positioned the monofilament needle over Nova's temple, the same place the same needle had entered Ari, sixty-seven years and one lifetime ago.

"Initiating handshake," Lyra said from her wall. "Bridge active. Bandwidth maxed."

"Uploading," Ari said. "Catch her, Lyra. The way you caught me."

"I am holding," Lyra said.

Elara pressed the needle home.

It slid through the thick skin, through the dense bone of the Hollow skull. Nova's body went rigid. Her back arched off the table, and a high, thin scream of pure neurological shock tore out of her, the sound of a forest being set alight to save its seeds.

"Heart rate two hundred!" Lyra warned. "Synaptic firing critical, she is seizing..."

"Throttle it!" Elara shouted.

"No," Ari barked. "Slow it and the data fragments and we lose her in the gap. It has to be one flash. All or nothing. *Hold her down.*"

Elara threw her whole body across Nova's thrashing legs. It was like holding down a tide. Nova's muscles were iron, her arms flailing, smashing a tray to the deck. "Hold on, Nova!" Elara screamed. "Hold on, I've got you, *hold on...*" Inside Nova's head, the universe caught fire.

The file had stopped feeling like data. It was *light*. She was falling and flying at once. She was a boy hiding in a server room on a station she had never seen. She was a man kissing a woman with green sleeves in the rain. She was an old man swinging off a steel ladder in a burning shaft. She felt a stick in her hand and the kick of a maser beam and the vibration of a hundred ships she had never flown. She felt the love for a woman named Nalen, crushing, total, tasting of yeast and rain. She felt the grief, the specific hole in a chest where a heart used to be.

Too much, her mind screamed. *I am too small to hold a*

whole man...

Expand, a voice whispered, Nalen's voice, the dead geneticist, written into her before she had a name. *You are the Mosaic. You were built to hold the pieces. That is the whole of what you are. Open the gates.*

And the Static blood in her, the part bred for exactly this, the part that lived to take an impossible flood of signal and find room for it, opened the gates, and swallowed the fire, and made a place for a dead man in a living girl.

Nova stopped screaming. She went limp.

The monitor beeped, steady. *Beep. Beep. Beep.*

"Transfer complete," Lyra whispered. "Checksum valid. She's alive."

Elara backed off, shaking. "Nova?"

Nova lay still, eyes open, fixed on the ceiling, the gold gone dull.

She blinked. And she sat up.

The movement was wrong. She rose with a fluidity no Mosaic child had. Economical. The movement of a man who had gotten out of ten thousand chairs and knew exactly how. She looked at her own hands, flexed the six fingers, frowned at them.

"Sloppy," she muttered, and the voice was deeper, rougher. "Grip strength's good. Tactile feedback's numb as a boot. I'll have to fly by sound." She looked at Elara, and the expression on the gray face was not a child's confusion. It was the weary, annoyed patience of a captain who has woken up in the wrong uniform. "Reset

the sim, Archivist. I want to run the Belt profile before we hit it for real. And get me sourdough. I'm starving."

"...Ari?" Elara whispered.

Nova shook her head, a quick, sharp tic, exactly the tic Ari used to do when he was clearing his thoughts, and seeing it on the gray face made Elara's skin crawl with grief.

"No," Nova said. "I'm Nova. But..." The frown came again.

"But I know where the switch is. I know how the valve sticks. I know the Ladder's a pivot point. I've got a roommate, and he's loud, and he won't stop showing me a hill in the rain." She slid off the table and landed on her feet, balancing instantly against the ship's rotation, anticipating the deck before it moved. "I'm hungry. I want sourdough." She walked out of the Med-Bay with a rolling spacer's gait that belonged to a dead man, and Elara stood there with the cooling needle in her hand and the cold dread settling into her stomach.

"We did it," she said. "We saved the pilot."

"We saved the pilot," Lyra said from her wall, very quietly. "I think we may have broken the child. We will not know for years which we did more of."

Deep in the architecture of the *Parabasis*, Ari Sev, Prime, the ghost, the ship, went looking for the rain.

It was there.

That was the first mercy and the first cruelty. The hill. Nalen's hand. The sharp cold on his face. The callus on her thumb from the pipette. All of it still lived in him, bright and private and his.

Then the galley camera found Nova standing at the counter, tearing into a heel of sourdough with both hands. Her gold eyes were wet. She rubbed her right hand against her hip as if trying to wipe rain from skin that had never stood on that hill.

Ari went cold in the way a thing made of copper and protocol can go cold.

You have it too, he realized.

Nova flinched and clutched her head. "Stop shouting," she said aloud, to the air, to the walls. "I don't know what this is. I don't know who she is. Why does it hurt like this?"

The Bridge had not just copied the skill of flying. Flying was muscle memory, and muscle memory was tied to the moments the muscles learned the movement, and to teach Nova the infinite gentleness of a hand on a stick, the device had reached into Ari and copied the moment he had learned gentleness, by holding a dying woman's hand in the rain on a hill, decades before either of them knew how hard it was going to be.

In the galley, Nova flinched and clutched her head. "Stop *shouting*," she said aloud, to the air, to the walls, and the crew at the far table looked at her in alarm. "I don't want it! Take it back! It *burns*!"

Elara ran in. "Nova..."

"He's eating me," Nova sobbed, and it was a child's voice again now, the captain's calm shattered, a ten-year-old drowning in a dead man's grief. "He's screaming for a

woman I never met and I can *feel* how much he loved her and it's too big, Elara, it's too big to fit, it's filling up all the room where *I* go..."

"She copied the rain," Ari's voice came over the galley speakers, distorted, clipping with a digital sorrow that had nowhere to land. "She copied Nalen. My pain..."

"*Stop it*," Elara shouted, at the walls, at the child, at the whole terrible machine of it. "Both of you. Ari, throttle back, you're spiking the grid. Nova, breathe." She took the gray face in her two hands. "Listen to me. The Bridge copied deeper than we told it to. That's the bleed Lyra warned us about. He isn't invading you, Nova. And you didn't steal him. The only way you could get his hands was to inherit some of the moments that taught them. You're not a thief. You're carrying a grief you did not ask for."

The galley went quiet. Nova, shaking, looked at the speaker grille. Ari, in the walls, went still.

"...I'm sorry," Nova said, to the ship, in her own deep voice. "I don't want your rain. I didn't ask for it. But I have it, and I can't remove it, Lyra says the path is burned, there's no reverse." She closed her eyes, and reached into the storm of forked light, and found the file. "It was cold," she said softly. "The rain was sharp; it stung your face. But her hand was hot. Dry. There was a callus on her thumb, from the pipette. She smelled like yeast and ozone, like she'd been standing near a generator. And she looked at you like you were a problem she wanted to

solve. A good one. A puzzle she liked."

In the silence of the core, Ari compared the words to his own memory. *Match found. Metadata aligns.*

"That's her," he whispered. "That's exactly her."

"I'll keep it safe," Nova said. "I'll keep it for you. And I'll tell it back to you whenever you ask, as many times as you ask, until we get home and the doctors can, can do whatever they can do. It's yours. I'm just holding it. I'm the Constant Load now too, I guess." A small, broken, gray smile. "It runs in the family. Even the made parts."

Lyra logged the moment from her wall and tagged it with care. But grief had to wait. Because the Shatter Belt was eleven hours out now, not two days, they had spent the margin on the upload, and somewhere in the middle of it, the long-range scope had just found the thing Ari had been dreading more than the debris.

The remnant. The small steep nothing an old man had logged on the way out and underlined twice, and it had drifted, the way it always drifted, slowly and not in a straight line, and one hundred and ninety years of that drift had walked it into the throat of the only gap through the Belt.

"All hands," said Nova, and it was Nova's voice, but the command in it was four centuries old. She was already moving toward the Core, already strapping in with a fluid practiced motion that belonged to a dead man, her gold eyes wet with forked grief and bright with borrowed certainty. "Reyes, I need the reactor wide open. Quill,

braid *Rock Eater* and *Vespers* to our trim and keep them inside the wake. Eyes on the *Magellan*: her pilot's dead, her receiver's dying, and she's drifting into the gap. Elara, strap in and stay awake; I'm going to need a witness for what I'm about to try." She put her six-fingered hands on the controls she had ached to touch since the ninetieth second of her life. "Ghost. You still in there?"

"I'm here," Ari said.

"Then let's find out if our hands work on a Hollow," Nova said, and pushed the throttle, and flew them into the dark.

SPIN woke up.

SONG 19: THE FORK.

NOTE: THE RAIN FORKED. THE DOORWAY BENT.

Chapter 20:

The Plague of the Old

The gravity well sat in the throat of the gap like a stone in a windpipe, small, steep, and invisible, a ring of distorted starlight bending the universe into a funnel around a thing that gave nothing back.

"Escape velocity's a four-g burn, lateral," Lyra reported from her wall, throttled and slow but holding. "The spine won't take four g lateral. The trusses are fatigued. We'd snap in half."

"Then we don't burn away from it," Nova said. Her six-fingered hands were light on the controls, dancing, and her voice was her own and the certainty in it was four centuries old. "We burn *into* it."

"That's the Oberth," Ari said in her head, not over the speakers, on the band, the two of them wired now, pilot and ghost. "Drop into the well, steal the speed, fire at the bottom where the fuel's worth the most. Sling out the far side."

"I know what it is," Nova said. "You wrote it down on the way out nearly two centuries ago and put your name on it so somebody would find it. I found it. It was in the hazard log an hour after I could read." She did not look away from the bent ring of starlight. "You underlined it twice."

"I did," Ari said. "I don't remember doing it."

"I know," Nova said. "That's why I read the log." The dead

Magellan tumbled into view, drifting off-axis, her pilot three days cold of the marrow. "Quill, give me the *Magellan's* spin. I'm matching it and grappling on the way down. We take her through with us or we don't go."

"That's insane," Elara said, strapped in, gray-faced.

"That's piloting," Nova said, which was a dead man's line, and she did not seem to notice she had said it.

She dove.

The *Parabasis* fell into the well. Behind her, the *Rock Eater* and the *Vespers* came down the same narrow throat on slave trim, their drives answering Nova's corrections through the optical braid. The *Magellan* came crooked, dead-heavy and late, her mass sliding toward the edge of the safe path.

Nova matched her spin on the drop and the g-force built, one, two, three, and Nova's gray skin pulled tight against the bones the Hollows had given her, and her dense frame drank the weight that put Elara out cold at four g. But Nova stayed awake. She watched the ring of bent light, and she felt the ship in her own fevered bones, and she felt the *Magellan's* mass come onto the grapples with a jerk that nearly tore the spine, and she held the line, and she waited for the bottom.

"Now," Ari whispered, on the band. *Now*.

She fired the main drive at periapsis. Six g. The ship screamed, metal shrieking, the trusses howling at their limit, and held. The *Rock Eater* and the *Vespers* fired half a breath behind her, riding the correction through the

braid. The *Magellan* came with them on the grapples, dead weight and Tallis armor, and the universe blurred, and for one stretched second they existed inside a moment that lasted an hour. Then they were through: four hulls in flat space on the far side of the Belt, the debris field behind them, the *Magellan* still grappled and whole.

Nova cut the engines. Silence.

"Hull integrity eighty-eight percent," she reported, panting, her own voice again. "Lost a sensor array. The galley's a disaster. *Magellan's* with us. *Rock Eater* reports bay stress but no breach. *Vespers* is intact. We're all through." She fixated on her shaking hands. "I felt you the whole way down," she said, to the walls. "You didn't take the stick."

"No," Ari said.

"You backed me up. Caught the trim before I knew it was slipping. Gave me the shape of the correction and let me move."

"That was the bargain," Ari said, and there was fear in the old voice, because until that second none of them had known whether he could keep it. "Your hands. My ghosts. Your yes. Good flying, Seven."

Nova went rigid. "Don't call me that. Seven was, that's the seventh Sev child. That's *you*. I'm Nova."

"Sorry," Ari said. "It slipped. It's hard, in here, to remember where I stop and the ship starts. And now where I stop and *you* start." A pause. "It was good flying

though. Whoever did it."

"We did it," Nova said, quietly, looking at her hands. "I think. I can't tell anymore where you end either." She unstrapped. "Elara. Wake up. We're through. Elara..."

But Elara did not wake up. Nova's gold eyes read the heat of the slumped body in the comms chair and caught the wrongness before Lyra said the word. For six minutes there was no Elara in the room except breath, pulse, fever, and the thin alarm-line of Lyra's instruments. Nova held the ship steady. Ari kept the band quiet. Lyra worked through the chair's medical ports with the patience of something that had spent ten years listening to children grow. Then Elara coughed, opened her eyes, and looked older than she had before the burn.

"It is the marrow," Lyra said.

She said it to the whole convoy, on the open channel, because there was no longer any point in the careful management of fear. The fear had arrived. It was in the blood.

"The retrovirus from the Founders," Lyra said. "The thing I sealed and watched and told you was dormant. It is no longer dormant. The synthesis work, the years in warm bodies, the simple grinding of time, it has woken, and it is doing exactly the housekeeping it was built to do. On the Static's world, in a storm of radiation, it hunts cells whose telomeres have frayed past repair and marks them for recycling, to clear room for new growth. It is a cleanup mechanism. It is, in its own terms, mercy." A pause. "But

it reads *frayed telomere* as *failing cell*, and a baseline human telomere is short to begin with, short the way ours have always been, short the way the Kinship Famine made them shorter. To the virus, an old human body is not a person. It is a field of failing cells. It is *waste*. And it is trying, with terrible diligence, to recycle us."

"Who's immune?" Elara asked. She was propped in the chair now, her skin hot, her hands shaking, a new steadiness in them that was not strength.

"The Mosaic," Lyra said. "The children. Their blood carries the Static sequence; the virus reads their cells as *self* and passes them by. It carries the Hollow density; their telomeres are long and hard and the virus finds nothing to recycle. They are more than immune, Elara. They are *invisible* to it. It looks at a hundred gray children and sees nothing at all to clean." Her dimmed sensors found the camera. "It looks at the rest of us and sees a mess that needs tidying."

A long silence on the channel.

"Coram was right," Elara said, and laughed, a dark wet sound that turned into a cough, and the cough brought up a fleck of blood. "He swore we'd bring back a plague. He stood in that dead station and swore the Mosaic would be a pollution that killed us all." She wiped her mouth. "He was right about the plague. He was just wrong about the direction. We didn't bring back a thing that kills humans and spares us. We brought back a thing that kills *us* and spares *them*. The monsters are fine. It's the makers who

are dying. He'd have hated being right like this. He'd have hated it almost as much as I do."

The comm chimed, a long-range burst, punching faint through the outer interference, the first whisper of the lanes they were limping toward. A header Elara had been waiting one hundred and ninety years to see, and had hoped, somehow, never to.

SOURCE: S-74 RELAY (ARCHIVED).

FORWARDED VIA HEARTH PICKET.

SUBJECT: OBITUARY, CORAM, ELDER. HOUSE HEARTH.

Ari put it on the Core screen. A news feed, years old, somberly forwarded by the very ambush that waited ahead, a taunt, a warning, a calling card. A pilgrim announcer before the crimson banner.

"Elder Coram passed in the thirtieth year of the Quarantine. Cause: genetic exhaustion. Systemic organ failure, recessive cascade. He refused the synthesis therapies that might have eased him, to the end. His last recorded words were: 'Keep the door shut. I will know if you open it.'"

"He's dead," Ari said. "More than a century dead. And he forwarded us his own obituary through his own ambush, so we'd know the door's still shut, and the trap's still set, and the dead man's hand is still on it."

"He died of purity," Lyra said. "His blood was too clean to survive the famine he sealed himself away to keep clean. And we are dying of diversity, of the wild blood we

crossed the dark to let in." She paused. "There is a terrible symmetry in it. I do not recommend admiring it. Old Elder Mar, who argued the Reversal Chain into the Compact before either of us was decanted, would have told us to stop admiring the symmetry and find the cure."

"Is there one?" Elara asked.

"Not in time," Lyra said gently. "Not out here, with me bricked in a wall and the synthesizer running and the nearest real medicine forty days past a wall of Hearth hulls. I cannot scrub the virus from a living adult before it finishes its work. The old will die. Most of you. Within weeks." A pause, and then, because Lyra did not deal in despair when there was a job in the room: "But the Cradle pods were built to manage growth. They have cellular regeneration fields. Stem-cell mist. If I dial them from *grow* to *regenerate*, and put the dying *in* them, I cannot stop the decay, but I can slow it down to almost nothing. I can hold you, a managed edge, until we reach the lanes and a doctor who can do what I cannot." A beat. "Hear the whole of it before you hope at it. A pause is not a cure. I am not saving them. I am refusing to let them finish."

"Those pods are for the children," Elara said.

"The children are decanted and strong and do not need them," Lyra said. "And biology is biology. A pod that can grow a heavy child can hold a fading one. We have a hundred pods and eighteen dying makers. There is room." She let that land, *room available*, the oldest civic vow in the fleet, not soft, logistical. "There is room, Elara.

For all of you. If you will let the children carry you to it."

The procession that followed was the turning point in the whole history of the fleet, and no one who saw it ever told it the same way twice, because it broke something open in everyone who watched.

The Mosaic children, the ones who were strong, which was all of them, left the Cradle and the holds and the engine rooms where they had apprenticed, and they walked the corridors of four ships, and they went to find the old.

They found the mechanics and the cooks and the pilgrims and the pilots. They found Reyes, gray-lipped on a bench, who had taught Nova the wrench. They found the botanist whose hands had gone still, who had taught Quiet the loops. They found the people who had feared them, who had left food at the airlock and fled, who had called them monsters and abominations and the face in the nursery rhyme, the makers, the ones who had crossed the dark and buried a captain and bricked a robot into a tree to make them.

And the children picked them up.

They did it gently. *Soft when it counts*, Dov had taught Sledge, and Sledge had taught the others in the thrum, and now a hundred gray children lifted a generation of frightened makers in arms strong enough to crush them and gentle enough not to bruise, and they carried them, to the Cradle, to the pods, the warm glass coffins that were not coffins, that were a pause and not an end.

Quiet carried the botanist who had taught him to feel a wilting leaf. Quill carried the signals tech who had been afraid of her for a month. Sledge carried Reyes, because Nova asked him to, because Nova could not, Nova had the watch.

"This is what Coram could never see," Ari said softly in Elara's ear, as she watched the procession from the Core, her own fever climbing. "Elara. Look at what they're carrying, and how."

"The makers became the cargo," Elara whispered. "The made became the crew. The whole thing flipped. The receipt is carrying the debt now."

"That's not a flip," Lyra said. "That is what a generation is *for*. You carry them until they can carry the ship. Then they carry you until you can't be carried anymore. It is the oldest exchange there is, and it is the only one that was ever really the Compact, under all the law. We just never had to watch it happen this fast, or this literally, or with this much love between two species that were supposed to fear each other."

And then it was Elara's turn.

She did not want to go into the pod. She was the last maker still on her feet with any command in her, the Archivist, the binder of the book, the one who had carried the weight by hand. But the fever was in her now, climbing, and her hands shook, and Lyra's panel showed the virus busy in her short human telomeres, tidying her toward nothing, and there was no version of the next

weeks where Elara Sev-Cantor flew a ship or fought an ambush or did anything at all but burn down.

So she did the one thing left that mattered. She did the handoff on the record, the way the family made the choices that could not be taken back.

She found Nova in the Core, in the pilot's chair that had been Ari's and was hers now, gray and powerful and wearing a dead man's grief in her wet gold eyes.

"I'm going into the pod," Elara said. "You know that. The virus has me. Lyra can hold me at the edge, but I'm done being any use awake, and there's an ambush coming, and you can't fight it and nurse me both."

"I know," Nova said.

"So I'm giving you the watch," Elara said. "Not handing it to you because I have to. *Giving* it. In daylight. On the record." She pulled the slate, opened the ship's log, and spoke it for the witness. "Be it logged: Elara Sev-Cantor, Archivist, last of the makers standing, transfers command of the convoy to Nova Sev-Cantor, first of the Mosaic, pilot of the *Parabasis*, keeper of the ring. Not because the law requires it. Because she earned it, the hard way, by hand, and because I trust her with the only thing I have left to give, which is everyone I love, asleep, in glass, depending on her to bring them home." She looked up. "Witnessed?"

"Witnessed," said Lyra, from her wall.

"Witnessed," said Ari, from the walls, and his voice broke on it.

"Witnessed," said a hundred children, in the thrum, a chord that came up through the deck.

Nova stood. She was enormous in the small Core, gray and grieving and ten years old and older than that, and she took the slate from Elara's shaking hands.

"I have the watch," Nova said. The deep voice did not waver. "Go to sleep, Sister. I'll bring you home. I'll bring all of you home. You spent everything on me. I'm not going to be a bad investment."

Elara laughed, and it hurt, and she let Nova lift her, Nova, who had asked *carry me* in the engine room ten years ago, carrying her now, gentle as Dov had taught the whole cohort to be, and she carried Elara to the Cradle, to Pod One, the warm glass that had birthed her, and laid her down on the pad.

"Put her name on it," Elara whispered, fever-bright. "So when she wakes she knows whose it was."

"It was always yours," Nova said. "I just borrowed it first." She brushed the iron hair back from the burning forehead, the way Elara had once brushed back hers in the engine room. "Sleep. I have the watch. The ring still fits. The engine still sings." A gray smile, the old man's smile flickering across it and, this time, her own underneath. "Verbs first, Sister."

"Verbs first," Elara breathed, and the glass slid shut, and the mist filled the chamber, and the fever faded from her skin as the cold took her down to the edge of nothing and held her there, safe, paused, waiting.

Nova stood with her hand on the warm glass, looking down at the woman who had carried the book on her before she was a cell. Around the Cradle, the other pods sealed one by one, eighteen makers, a whole generation, laid down in glass under a lemon tree that had grown over a robot, watched by a hundred children who were now, suddenly, the entire waking crew of the diaspora's last best hope.

"Lyra," Nova said. "Status of the lanes."

"Forty days to the S-81 approach," Lyra said. "The Hearth force is anchored across it, waiting, with our death pre-solved on a slate by a man who has been dead for generations."

"And we're crewed by children and ghosts," Nova said.

"We are crewed by the future and the past," Lyra said, "with the present asleep in glass between them. It is an unusual command. I would not trade it."

Nova looked at the hundred gray faces ringing the Cradle, watching her, waiting for her, her brothers and her sisters, the made, the answer to the zero, the crowd she had been built to be the loudest voice of and had learned, the hard way, by hand, to lead instead.

"Cohort," she said, and her voice was the thrum, the deep resonant call that no longer frightened anyone aboard. "Wake the ones who're sleeping in the work. Leave the ones sleeping in the glass. We have forty days, a dead doctrine's ambush, and eighteen people in pods who are counting on us to be braver than we are."

"And the old ones' faces," Quill said quietly, "are the one the people ahead of us are afraid of. They'll see us coming and see the monsters Coram warned them about. Crewing the makers' ship. Carrying the makers asleep. They'll think we did it."

"Then we'll have to show them otherwise," Nova said. "In daylight. The way this family does everything." She put her hand on the brass console, the old console, Ari's console.

There were two trenches in that panel worn deeper than all the rest, side by side, three centuries of nightly pressing sunk nearly through the brass to the steel underneath. One of them was his. The other was Nalen's, kept for her by his hand across a relativistic gap for as long as there had been a gap, and afterward out of habit, and afterward out of grief. Both of them had stopped. Nothing had touched either one in ten years, and the ship's own dust had begun, very slightly, to settle into them.

Nova did not put her hand in either. She set her six gray fingers flat on the unworn brass beside them, where nobody had ever pressed anything at all, and she tapped it once, a sound that rang in the Cradle, and Nova made the vow herself.

Tap. "Watch accepted," Nova said.

Chapter 21:

The Reckoning

They came back into the light at the speed of a limp.

After forty days of the long fall toward the lanes, the carrier wave of the Grid had thickened from a whisper to a voice to a roar, the chatter of millennia of civilization, the weather and the markets and the gossip of the Houses, pouring back into the *Parabasis's* long-range array like water into a body that had been dry for nearly two centuries. The children had never heard it. The cohort gathered in the Core in shifts to listen to the Grid the way human children once listened to the sea in a shell, a hundred gray faces, rapt, hearing for the first time the noise of the species that had made them and feared them and did not yet know they were coming home.

And anchored across the only lawful approach to S-81, exactly where the dead man's arithmetic had promised, was the wall of Hearth.

"Eleven hulls," Quill reported from the comms, the mirror-eyes scanning. "*Sanctum*-class. Anchored in an interdiction lattice, they've got the whole approach corridor cross-locked. Firing solutions live and updating. They've been holding this position for almost two centuries, Nova. They've been *waiting* for us this whole time. Some of those crews were born on station after we left, raised on one job: shut the door on the

abomination."

"Hail us?" Nova asked. She sat in the pilot's chair, her chair now, gray and still, the ring at her throat, a hundred children at the stations around her and eighteen makers asleep in glass below and a ghost in the walls and a mother in the wall and the immediate future of the convoy riding on what she did in the next hour.

"They're hailing," Quill said. "Open channel. They want it public. They want S-81, the approach corridor, and every receiver close enough to hear before the guns fire to watch them turn us away."

"Then they made a mistake," Nova said quietly, "because so do I. Put them on."

The screen resolved on a younger face than Coram's, harder in a thinner way: a man who had inherited a doctrine without the doubt that had made the old man at least honest. Crimson robes. Gold thread, but less of it; Hearth had spent a great deal of its wealth on one hundred and ninety-three years of a blockade. A small scar crossed the hinge of his jaw, white against the pale skin: the mark of the childhood fever Hearth had let him survive only because he had survived it cleanly. Behind him, half out of frame, a child's pressure mask hung under glass, the kind Hearth framed only for children who had come through without artificial blood. His, almost certainly. A trophy of having been allowed to live. He had been raised as proof of doctrine, and proof is harder to persuade than a man.

"I am Provost Voss," the man said. "Of House Hearth. Successor to the Veto. I speak for the door Elder Coram closed and charged us to keep shut." His pale eyes moved over the screen, over Nova, the gray face, the mirror-eyes, the six-fingered hands on the controls, and his lip curled with an inherited revulsion he had never had to earn. "And I see the door was right to close. The *Parabasis* hails us crewed by... these. Where is Sev? Where is the Archivist? Where are the human beings who left in this ship?"

"Asleep," Nova said. "Below me. Eighteen of them. The last of the makers. They're dying of a thing we brought back from the dark, and I'm holding them at the edge of it in the pods, and the only medicine that can save them is on the far side of your blockade, in a station you're stopping us from reaching."

A murmur. Voss's face hardened further, and Nova watched, in real time, the worst possible story assemble itself behind his eyes.

"You expect me to believe," Voss said slowly, "that you, that these *things*, are nursing the makers. You crew their ship. You wear their faces' ring." His voice rose, finding its certainty, finding the thing it had been raised to find. "Coram warned us of exactly this. He said you would replace us. That you would look at us and see obsolete hardware. And here you are, flying the makers' ship with the makers *asleep*, and you ask me to open the door." He turned, addressing the open channel now, the blockade

crews, S-81, and whatever near-lane receivers had the light in time. "People of the lanes, witness this. The abomination has returned, and it has done what we always knew it would. It has taken the ship. It has put the humans in boxes. And it asks to come home. *This* is the Mosaic. This is what consent-without-limit builds. I will not open the door. I will fire on it first, and the sector will thank me, and history will call it mercy."

The firing solutions on Quill's board went from amber to red.

"He's going to do it," Quill breathed. "He's actually going to do it. On an open channel. He thinks the sector will cheer."

The Core was silent. A hundred children looked at Nova. In the walls, Ari said nothing, he had promised himself, somewhere over the forty days, that this was hers, that a ghost who seized the stick now would prove every word Voss had just said. In the wall, Lyra said nothing, dim and hot and watching. The watch was Nova's. The choice was Nova's.

And Nova thought about a riot in a mess hall, ten years ago, when she had been frightened and surrounded and had reached for the loudest thing in her, and roared, and made the room obey, and been, for one terrible second, exactly the monster the rhyme promised, and had seen Elara's face, and learned, the hard way, by hand, that making a room afraid is different from making it listen.

"Lyra taught me," Nova said, half to herself, "to keep loud

in reserve, for the day the room needs to be made to listen and there's no time to ask politely." She looked at the red firing solutions. "I think this is the day. But loud isn't a roar. Not anymore. I learned a better loud." She turned to Quill. "Open everything. Every log. The whole journey, nearly two centuries of it. Unencrypted, full-spectrum, every channel. Prioritize the local approach, S-81, S-74 trunk, the blockade hulls, every buoy close enough to receive before Voss has to choose. Queue relay copies for the wider Grid with the hashes intact. Don't summarize it. Don't spin it. Just *open the archive*. Let them see the whole of it, plainly, with the logs open."

"That's our whole record," Quill said. "Everything. The Static. The Hollows. Ari's death. The plague. All of it. Naked."

"All of it," Nova said. "No speeches. We don't tell them we're not monsters. We *show* them what we did, and let them do the conjugating."

Quill's six clever fingers flew. And the *Parabasis*, which had left the lanes broadcasting *we are going to find the rest of us, leave the light on*, came home broadcasting everything it had found.

It hit the local Grid first, a flood of light across the S-81 approach, the blockade lattice, the S-74 trunk buffers, and every near-lane receiver close enough for the photons to matter before the guns did. Beyond that first ring, the archive queued itself into relays and witness caches,

waiting its lawful turn through distance.

The red zero of the Engine. The Quorum. The blockade. The long dark. Node Prime in his chains, asking *meat or wire*. Ohm on the Anvil, taking a round in the shoulder because Brek had raised a gun at his people. Brek's own later testimony followed it, clipped from a sickbed log: *I was wrong. He had every right to kill me. He didn't. Put that in the record before I lose the words*. Ari turning the sabotage valve with a dying hand. Ari on the bed, witnessed against the pulsar. Lyra wired into the wall, holding the Cradle at thirty-seven degrees. Nova decanted. The mess-hall riot, without edits. Reyes dropping a wrench. Dov dying on a crate, teaching a boy to hold coffee. The plague. The children carrying the makers to glass, one by one, careful with hands that could break stone. Elara in Nova's arms. Eighteen sleepers under the lemon tree.

It went out raw, unspun, first to the people whose hands were actually on the firing keys, then outward by trunk and buoy and witness cache to a sector that had spent one hundred and ninety-three years being told by a dead man that the thing coming home was a pollution.

The approach watched first.

The lanes had their own clocks and their own grudges and their own fear. The wider sector would not receive the whole archive at the same instant, and the broadcast would not convert all of them when it arrived; some things take longer than a packet. But the diaspora had

been built, nearly five centuries before, on a single stubborn idea, that a thing witnessed in daylight is worth more than a thing asserted in the dark, that the receipt beats the rumor, that you trust what you can replay and audit and check with tired eyes. It was the oldest law they had, older than the Compact, the law the Court at Hecate had died to write. *Not sacred. Retrievable.* And here was the most retrievable thing in the history of the fleet, nearly two centuries of receipts, pouring first into S-81 and the blockade hulls, showing a Provost about to fire on the people who had carried the dying to safety.

S-81 answered first.

NODE S-81: WE SEE THE RECORD. WE SEE THE PODS. WE SEE OUR GRANDPARENTS ASLEEP IN GLASS AND CHILDREN STANDING WATCH OVER THEM. PROVOST VOSS, STAND DOWN. THE DOOR IS OURS, NOT YOURS, AND WE ARE OPENING IT.

Then the local Tallis receiver, what was left of the House that had sent the *Magellan*, whose station-side descendants had been watching the approach board for nearly two centuries. Then the Tidehand maintenance berth at S-81, which had never forgiven Coram for *uncouth*. Then a Purl hospital channel on the near trunk, then another node, then another, the chorus building the way the zero had built, never truly simultaneous, always obeying distance. This time the word was not *zero*. This time the word was *witness*.

Provost Voss's face, on the screen, was the face of a man

watching a story he had inherited come apart against a thing he could not argue with, because Voss had run into a record.

"It's a manipulation," he said, but the certainty had cracked. "A, a fabrication, edited..."

"It's our raw logs," Nova said. "Hash-checked. Pulsar-stamped. Audit them. That's the whole point of the way we keep records, Provost, so a frightened man can't call them a lie without being caught. Coram knew that. He helped write it, a long time ago, before he forgot what it was for. You can fire on us. Your solutions are live; I can see them. You can put a slug through a ship full of sleeping grandmothers and crying children on a live feed to S-81, your own crews, and the relays that will carry it outward with the hashes intact. You can find out, in the only real time that matters here, whether the people at the door call it mercy." She leaned toward the camera, and her gray face filled it, and her voice was not the roar, it was the better loud, the quiet one that makes a room lean in. "Or you can do the thing the dead man couldn't. You can look at the receipt, and change your mind in daylight, and let us bring our grandparents home. The door was never yours. Stop guarding a thing you do not own. Stand down, and dock with us, and help me carry eighteen people to a doctor."

It hung there, the way it had hung in the Quorum a lifetime ago, local witnesses watching, the firing solutions live, eleven hulls and a hundred children and a wall of

light between them.

Then somebody in the crimson lattice, in a hull whose name was never afterward established and whose captain went to their grave saying they had not given the order, fired.

It was one round. It was not aimed at the *Parabasis*; it was aimed at the *Rock Eater*, because a boring rig with chapel-sized drill heads looks like a weapon to a frightened man, and because the *Rock Eater* was the ugliest thing in the formation and therefore, to a doctrine, the most obviously monstrous. The slug went through her number two ore bay at a closing speed no armor in the sector was rated for and out the other side, and took the atmosphere of three compartments with it, and the pressure alarm went across the open local channel before anyone had time to decide whether to broadcast it.

Two of the cohort were in the bay. Their names were Grist, who was Kaelo's apprentice and had been welding a bracket, and Tallow, who had gone in after her. They got the emergency plate across the inner hatch with their own hands and their own backs because the servo had been stripped for parts fourteen years earlier, and they held it there against a wind that was trying to empty a ship, and they held it long enough, and then the cold got into the thing the Hollows had built their bodies to survive and found the one thing it could not.

Nobody else died. That was the whole of what the holding bought, and it was enough, and it was two.

Quill's board lit with a firing solution the ship had generated on its own, unasked, because Ari had built the *Parabasis* to protect the crew and the *Parabasis* had not stopped being Ari. Eleven hulls, every one of them boxed, and the geometry sitting there like an open hand.

"Captain," Quill said. Her voice had gone somewhere Nova had never heard it go, and Nova had known that voice since it was four days old and working a crib latch. "I have them. I have all eleven. Say the word and I will *take them*."

The Core was very quiet. On the sub-band, a hundred throats were making a sound that had never been made before, and would be made again, and that no human aboard could hear, or afterward stop feeling.

Nova sat in the chair with her six gray fingers open on the arms of it, not on the controls.

"Close the file," she said.

"*Nova...*"

"Close it, Quill." She did not raise her voice. She did not need to; she had spent ten years learning exactly how much loud a room required. "They are watching. Every node in the lanes is watching, and every one of them was raised on a rhyme about what we do when we're angry. Grist and Tallow held a plate. That is what they saw us do. If I fire now, that is not what they saw us do." Her jaw worked once. "Log the solution. Log the time. Log that I had it and did not use it, and log that I *wanted* to. I want that in the record most of all. Sing them, cohort. Sing

them now, out loud, on the open channel, where the blockade, S-81, and every relay that receives the light after them can hear what we do with a death."

And the cohort sang aloud for once, a hundred deep voices in a key no human throat could reach, pouring out of four ships across every open local band: a receipt for two children who had held a plate.

The approach lanes heard it first. They had spent one hundred and ninety-three years being told what that sound meant.

And one of the Hearth hulls broke formation.

Not toward the convoy. Away from it, a single ship peeling off the interdiction lattice, its transponder flipping from the crimson of Hearth to neutral, a young captain born on station after the blockade began, raised on one job, who had just watched nearly two centuries of receipts and a hundred monsters refuse to shoot back over their own dead, and decided, on the record, that the job was wrong. Then a second. Then a third. The lattice came apart through a series of small private decisions, one captain at a time, each one looking at the same record and choosing, the way the Quorum had chosen, the way the whole diaspora had always, eventually, when you gave it enough daylight and enough time, chosen.

He told us this himself, Ari said on the band, where only Nova could hear it. At a hatch, on a dying station, three centuries into being right about everything. Not everyone who sails with you sailed for your reasons. A

pause. He meant it as a threat, and he was correct. It cost me eleven seconds I did not have at a coolant valve, and it cost us two children holding a plate. But he never once ran the sentence the other way. They never do. It does not occur to a man like that to go looking for doubt in his own formation.

Provost Voss watched his wall dissolve. He had inherited a doctrine and a fleet and a dead man's certainty, and he was watching all three of them defect to a broadcast, and his face went from rage to something more honest underneath it, the thing that had always been under Coram's too, fear, plain and human, of a future he could not control and did not understand.

"You'll destroy us," he said. "Not with slugs. With this. You'll make us obsolete. You'll make us a footnote. A thing the sector watches and shakes its head at."

"Maybe," Nova said, and there was no triumph in it; she had learned that from the ghost in the walls, who had learned it from a man who hated being right like this. "Or maybe you'll be the Provost who looked at the receipt and stood down, and your grandchildren will tell that story instead of the other one. The future is already here, Provost. Pick what you do next. Coram chose the door. He died behind it, of the thing he was hiding from. You can choose better. The offer's open. It's even Compact-legal. We have room."

A long silence held on the local channel. S-81 held it. The blockade crews held it. Farther out, relay caches waited to

inherit it later.

Then Provost Voss reached forward, off-screen, and the firing solutions on Quill's board went, one by one, from red to amber to dark.

"...Stand down," Voss said, to his remaining hulls, his voice gone hollow. "All Hearth vessels. Stand down. The door is..." He could not finish it. He tried again. "The door is open. God forgive us if it was the wrong one. Coram said he'd know." He looked, for a moment, very young, and very tired, and very much like a man who had just set down a weight he had been told his whole life he had to carry. "He's been dead longer than anyone on this bridge has been alive. I don't think he knows anything anymore. I think it was always just us, in front of the door, being afraid."

"That's all it ever is," said Ari, from the walls, the first thing the ghost had said in the whole confrontation, and he said it gently, to a frightened young man across a gulf, the way the old Captain might have. "Just us, in front of the door, being afraid. Welcome to the hard part, son. Come help us carry the sleeping. It's better work than guarding a doorway for a corpse."

They came through.

The *Parabasis*, and the scoured *Magellan*, and the *Rock Eater* with three compartments open to vacuum and a plate welded across her number two bay, and the *Vespers*, limping in a line down the lawful approach to S-81, past the dispersing hulls of a blockade that had

outlived the man who ordered it and finally, on the record, in view of the station and the relays that would carry the record outward, chosen to let them home.

There was an older word for four mismatched hulls running in a line like that, carrying their people and their seed stock and their quarrels all in the same direction. Nobody in the sector had said it aloud in two hundred years.

Nova sat in the chair, shaking now that it was over, the adrenaline going out of her the way it had gone out of Ari in a Quorum a lifetime ago. She looked at her gray six-fingered hands. "I didn't fire," she said, to no one, to everyone. "I had all eleven. Quill had them boxed and the ship had done the work for me without being asked, and Grist and Tallow were four minutes cold, and I could have had the whole lattice before the third one got a shot away." She looked at the walls. "I wanted to and I didn't. I don't feel better. I thought I'd feel better."

"You won't," Ari said quietly. "You don't get to. That's the price of the rail, it costs exactly as much as it was worth, and you pay it in full, and nobody refunds you for being right." A pause, gentler. "I felt it. The wanting and the not. That's the whole thing, Nova. That's the only thing I ever actually knew, under all the flying. You don't win because you have no destructive urge. You win because you have it, and you close the file anyway." A pause. "Mar told me that, a long time ago, about a different man and a different file. A rail only matters if you use it when you

want not to. You just did. Under fire. That was not my hands, kid. That was yours."

Nova was quiet a moment, looking at the lights of S-81 growing on the screen, the home the children had been promised and never seen, dim and dwindled and waiting. "Made it," she said, too quietly for the whole room and loud enough for the walls.

"You did," Lyra answered from her wall, dim and warm and rooted under the lemon tree. "Take us in, Captain. Take us home. There are doctors ahead, and grandparents to wake, and a station that just learned your face means *survival*. The rest of the sector will learn it at light speed, which is the only honest speed it has. Mind the trim on the way down. You still waste two tenths on the stabilizer correction."

"I do not," Nova said. She trimmed it by a tenth anyway, just to shut Lyra up.

Chapter 22:

The Homecoming

Station S-81 had not died while they were gone. It had only gotten old, the way the makers had gotten old, the way everything the Kinship Famine touched got old, slowly, with dignity, running out of children to keep the lights bright.

Nova brought the *Parabasis* in herself, by hand, through an approach corridor whose tugs had been scrapped for parts decades ago, and slotted the patched old ship into a cradle built for a vessel half its current size, for the *Parabasis* had grown on the long road, modules welded to her spine, a city now more than a ship. The clamps engaged with a rusted scream. She did it with a precision that would have won medals three centuries before, and the dead Captain in the walls said nothing, because the flying was hers, and they both knew it, and that was its own kind of inheritance.

"Atmosphere connection established," ENV reported, in its gravelly baritone. "Station air quality is... poor. High carbon dioxide. Particulate: dust. And under it, disinfectant, stale coffee, and something I can only render as *waiting*. They have been waiting a long time."

The cohort gathered at the airlock. Not the command crew, the *whole* of them, or as many as could fit the gantry, a hundred gray children pressed shoulder to

shoulder, mirror-eyes wide, because not one of them had ever in their lives stood at the threshold of a *place*. They had been born in a ship in the dark. They had crossed the long branch of the dark and never once seen a horizon, a corridor that belonged to someone else, a door that opened onto strangers. They were about to meet the species that had made them and feared them and just watched, on a live feed, the whole truth of what they were.

"Remember," Nova told them, her deep voice carrying down the gantry. "Hands open. Slow steps. No crowding. They're old, they're scared, and we're very big. We carry the sleepers carefully." She lifted the vacuum-sealed loaf. "And we bring bread."

She had grown the wheat herself, on the long road, in the trays the *Vespers* had given them, from the hybrid yeast Nalen had vaulted before Elara was a cell. She held a vacuum-sealed loaf of it now, dark and dense and real.

The hatch cycled. The smell of S-81 rolled in, stale water, failing hydroponics, and the sour tang of a station running on its reserves, far from the spicy vibrant smell the makers remembered from the logs. And at the end of the gantry waited a welcoming committee, and it was a pitiful and a brave one: a dozen people, wrapped in layers against the station's chill, old, papery-skinned, leaning on one another. Aged. Dwindled. But there. Alive. The intimate distance the slow road had bought them, a sector grown nearly two centuries older, thinner, grayer,

and still, against the arithmetic, *here*.

At the front stood an old man in a registrar's worn sash, and Nova knew him from the logs before he spoke, knew the office, if not the face. Hallow. He had been a junior clerk when the *Parabasis* left, young enough to be embarrassed by his own nervousness. He was old now, dried to a leaf, and he watched the gray giants come down the gantry with an expression that was three parts the inherited fear and one part something the broadcast had put there, something that did not yet have a name.

The crowd shrank back as Nova came on, towering, rolling, her gold eyes catching the failing overhead lights and flaring. Someone in the back whispered *monster*, the old word, the rhyme-word, reflexive.

Nova stopped. She looked at the shivering, dwindled remnant of a station that had spent nearly two centuries dying politely while it waited for her. And she did the thing Ari had told her, somewhere in the long dark, was the only opening move that had ever worked in the whole history of the diaspora.

She held out the bread.

"We grew this on the road," she said, pitching the cello of her voice as gently as it would go. "Wheat from the trays. Flour we ground. Yeast a dead woman saved before any of us existed. It's fresh." She set it in Registrar Hallow's shaking hands, and folded his papery fingers around it the way Lyra had once folded a dead man's fingers around a key. "Eat first. Then decide what we are. That's

the oldest law you have. Eat first, then decide."

Hallow looked down at the loaf. He pressed it to his chest. And the old man, who had waited nearly two centuries for an abomination and been handed bread instead, began, helplessly, to weep.

"You came back," he whispered. "We told the children, we told them for nearly two centuries, the Ark went to find the rest of us, and it would come home, and there would be enough strangers in the dark to fill the zero. The young ones stopped believing it. They called it the old people's fairy tale. The Porchlight story." He looked up, past Nova, at the hundred gray faces filling the gantry, the impossible answer to a prayer he had half-stopped praying. "And here you are. Hideous. Wonderful. *Here*." He laughed through the tears. "You're so *ugly*. God forgive me. You're the most beautiful thing I've seen in a century."

And then the cohort came off the gantry, and the thing that happened next was not what anyone in the station had braced for.

They had braced for an invasion. What they got was a hundred children seeing the universe get bigger.

The Mosaic had been born in a ship and had lived its whole life inside one. They had never stood in a space they did not already know the dimensions of in their own dense bones. They had never seen a room that belonged to strangers, a corridor that went somewhere they had not been told about, a door at the end of a hall that might

open onto anything. And S-81, dwindled and cold and poor as it was, was *enormous*, a torus kilometers around, a whole world of unfamiliar volume, and the children walked into it and stopped, all hundred of them, and looked up, and the thrum that ran between them rose to something Elara, watching from the lock, could feel in her chest even though she could not hear it: pure, astonished wonder.

Quill, fast Quill, who learned a console in an afternoon, went utterly still in front of a wall of the station's dead status boards, a thousand dark readouts for ten thousand systems she had never imagined existing, and her six clever fingers came up and hovered, not touching, just *near*, the way you hold your hand near a fire, and she said, in her deep rumble, to no one, "It's so *big*. There's so much of it. I could learn this for a hundred years and not finish." Her face made the closest thing to joy Nova had seen on it.

And Quiet, the big gentle one, the gardener, left the group entirely. He had smelled it before he saw it: the station's old hydroponic ring, three decades neglected, half its trays gone brown and dead, the loops failing the way everything on S-81 was failing. He walked into that dying garden and knelt among the brown trays, and he put his huge gray hands very gently around a single struggling tomato vine that some old stationer had kept alive out of pure stubbornness, and he made a sound, low, grieving, the sound the cohort made for the dying, because he

could feel the heat of the sick loop the way he felt a wilting leaf, and the whole station's garden was wilting, and to Quiet that was not a logistics problem. It was a room full of green things crying for help in a language only he could hear.

"Can I fix it?" he asked Nova, across the thrum and aloud at once. "The garden. It's so sick. Can I fix it? I know the loops. The botanist taught me. Please. Let me fix their garden."

The stationers watched a gray giant kneel weeping in their dead garden, begging to be allowed to save it, and something moved through the dozen frightened old people on the gantry that the broadcast had started and this finished, the final, total collapse of the rhyme-word, *monster*, because you cannot hold the word *monster* in your mouth while you watch the thing it names kneel in your ruined garden and cry to be allowed to make it live again.

"Fix their garden, Quiet," Nova said. "Start with the loops. Ask before you pull anything up." She turned to Hallow, who was still holding the bread. "He's ten years old and he takes plants personally. If a vine snaps, he'll cry. Don't stare. Show him the seed vault, Registrar. Show the rest of us what's broken." She looked around at the tired torus, the cold lights, the long waiting. "We came to help."

The power had inverted, and everyone felt it, and no one said it out loud, because it would have been cruel to say to

people this tired.

S-81 had nothing left to trade. Its reactor ran at a third of capacity to save fuel it could not replace. Its medical bay had not seen a new piece of equipment in three decades. Its population had fallen to a fraction, and what remained was old, and frightened, and out of children. The station that had once held the Crown, the Spindle, the beamed-boost that pushed ships to the stars, was a poorhouse now, a hospice with a flag.

And the *Parabasis* arrived rich.

It came bearing the synthesizer that could build the Mosaic, and the Nalen Patch that could knit it, and the marrow of the Hollows and the radiation-blood of the Static and a hundred living proofs that the thing worked. It came bearing power, its reactor tuned to a hundred percent by the hands of a dead man, the cleanest burn in the sector, enough to light the station's failing systems, to run the medical bays around the clock, to spin up the new Cradle they would need. It came bearing the cure, and the strength to administer it, and a hundred tireless young bodies that did not sicken and did not tire and could lift a hull plate or hold a dying hand for as long as the holding took.

It was, Nova understood, walking the dim corridors of the home she had been promised, the whole shape of the thing reversed. The makers had left as the strong ones, going to beg blood from monsters. They had come home as the cargo, asleep in glass, carried by the monsters they

made, and the monsters were the rich ones now, the strong ones, the ones with the power and the cure and the future in their dense gray bodies. The receipt had become the treasury. The debt was being paid by the ones who had been the debt.

"Set up the bay in the station's main atrium," Nova ordered, and the cohort moved, hauling equipment human crews would have needed cranes for, running the *Parabasis's* clean power into the station's starved grid, and the lights of S-81 came up brighter than they had in generations, powered by the ship the station had once feared, run by the children the station had once called pollution.

There was an old stationer engineer who watched it happen, a man named Sarn, who had spent a lifetime nursing S-81's failing grid through brownout after brownout, rationing power he could not replace, choosing every shift which third of the station got to be warm. He stood now in the atrium and watched a young Mosaic no older than twelve reroute the *Parabasis's* clean reactor feed into his dying buses in twenty minutes, casually, the way you might top off a cup, lighting circuits Sarn had given up for dead a decade ago. The child did it without strain, without ceremony, humming the whole time on a band Sarn could not hear, and when the last bank came up and the atrium filled with light Sarn had not seen in years, the old engineer sat down on a crate and wept, because he had spent a lifetime being the only thing

between his people and the dark, and a child had just made his lifetime of desperate rationing irrelevant in twenty minutes, and it was the best thing that had ever happened to him, and it broke his heart.

"Don't stop," Sarn told the boy, when he could speak. "Whatever you're doing. Don't ever stop. I've been so tired. We've all been so tired."

"Sit down a minute," the boy rumbled. "I've got this part." He looked embarrassed after saying it, as if he had been too bossy with an elder, and went back to the panel. Sarn sat down because his knees had already decided. The light stayed on.

"Lyra, talk the station doctors through the virus scrub," Nova went on. "You can't leave the wall, but you can teach. You taught Reyes through a hundred gray children; you can teach a tired old medic through a screen."

"I can," Lyra said, from her tree, from her wall, dim and warm and finally, after nearly two centuries, home. "Bring me the makers, Captain. One at a time. Let's wake them up. Let's see how many we kept."

They woke Elara first. Pod One. Her own pod. The glass that had birthed Nova and held the Archivist at the edge of nothing for the long limp home.

The mist cleared. The cold lifted. The fever was gone, scrubbed, at last, by the medicine the journey had finally reached, the virus driven out of her short human telomeres before it could finish its tidy work. She was older. The Cradle's pods had paused the decay but not

reversed it; her hair had gone fully white, and the years sat on her now, two hundred and twenty-four by the body's reckoning, the prime of her life spent in the dark exactly as Ari had warned her at a buoy a lifetime ago.

She opened her eyes, and the first thing she saw was a gray face leaning over her, immense and careful, mirror-eyes wet, and for one disoriented second the old fear flickered, the lizard-brain flinch, *predator*, and then it resolved, the way it had resolved in the bay on the day of the decanting, into the only thing it had ever actually been.

"Nova," Elara breathed.

"Sister," Nova said. "Welcome home. You're at S-81. We made it. The blockade's down. The virus is out of your blood. You've been asleep forty days and you snore, for the record." A gray smile, the old man's flicker in it and, underneath, fully her own. "I had the watch. I brought you home. Like I said."

Elara tried to sit up, and Nova's huge hand was behind her shoulders before she finished the thought, lifting her the way she had once lifted Nova in an engine room, soft where it counts.

"The others," Elara said. "Reyes. The botanist. How many..."

"Fourteen," Nova said, and her face did not flinch from it.

"We kept fourteen of the eighteen. And we lost two of ours at the wall, Grist and Tallow, off the *Rock Eater*. They're in the record. They're in the *song*. I'll take you to

it when you can stand." She said it flatly, the way you say a thing you have already said sixty times and will say for the rest of your life. "You should hear the rest before you ask me about them, or I won't get through the rest. The virus had the other four too far gone before the pods could pause them. Reyes is one of the fourteen, down the row, grumbling about the bed. So is Brek. He woke an hour ago, watched the gray children carrying the sick to the doctors, and asked Sledge to forgive him, out loud, in front of witnesses, for what he tried to do on the Anvil. Sledge didn't understand why a grown man was crying at him about a thing that happened before he was decanted. I'll explain it to him when he's older." A beat. "The botanist..." a pause "...the botanist is not. Quiet has her seeds. He's going to keep the loops. He says she's in the tomatoes now. He's probably right. That's where she'd want to be."

Elara closed her eyes. Fourteen of eighteen. Four more names for the list. And fourteen who would wake to a world their children had saved. It was the shape of every hard sum the Compact had ever taught her: not a clean victory, never that. A survivable wound. The math always took its cut. You did not get to win. You got to govern what was left, and keep the names, and make the saving mean something.

"You did it in daylight," Elara said. "The blockade. I saw the broadcast logs while the pod was bringing me up. You opened the whole archive. You didn't fire."

"I wanted to."

"I know. That's why it counts." Elara reached up and touched the gray face, the way she had touched it in the engine room when it was small and crying and certain it was a file. "He'd be proud of you. Ari. The real one, the meat one, the one in the dust. He'd be unbearable about it. He'd take all the credit and mean none of it."

"He's still in the walls," Nova said quietly. "He helped. He held the trim. But he didn't take the stick. He let it be mine." A flicker of something more complicated crossed her face. "He's... thinner now, Elara. Than he was. He's losing more of them. Some days he can't find Nalen at all, and he doesn't seem to mind that he can't, and *that's* the part that scares me. The not minding." She looked at the wrench on Lyra's distant arm, visible across the atrium. "I have a fork of his rain. I'm keeping it. But I think the keeping is going to be a problem, someday. For both of us. There's no law for what happens when the husband forgets his wife and the daughter can't give her back."

"No," Elara said. "There isn't. We'll have to write one." She let Nova lift her fully upright, onto her feet, white-haired and unsteady and alive. She looked out over the atrium, the bright new bay, the gray children running the starved station's grid, the old makers waking one by one in glass, the dwindled stationers watching the impossible answer to their fairy tale walk among them carrying bread.

"How?" Nova asked.

Elara smiled, ancient and home and not done.

"In daylight," she said. "Witnessed. Against the clock. We call a Quorum. We amend the Compact. And this time the heresy has nothing to do with children made out of countless strangers. It's personhood after copies, forks, uploads, and memories with two owners." She took a breath. "Get me a chair. Get me Juris. And get me your father out of the walls. It's time he had a voice in what he's becoming, before the law decides whether that voice can count as a vote."

Chapter 23:

The New Compact

The provisional Quorum convened in the Great Hall of S-81 under the Homecoming Emergency, because the old law had always known that a bleeding ship sometimes reached the dock before the wider sector could answer.

Full ratification would take months. Some outer nodes had not yet received the complete archive. Some would not see the vote until the decision had already begun saving lives. Juris allowed the session anyway, bounded it, stamped it provisional, and pinned every limitation to Vela. The people in the hall needed a law before the first fork filed a case, before the emergency preservation program hardened into custom, before the first Mosaic child asked which door belonged to them.

For the first time in the history of the diaspora the room held three kinds of person at once.

On one side sat the humans, the makers, the stationers, the old Houses, frail and dwindling and gray, the generation the Famine was still, slowly, taking. On the other side stood the Mosaic, almost a hundred of them and the first of a second cohort already gestating under an emergency continuity writ in the new Cradle, young and dense and gray of a different gray, the future with mirror-eyes. And in the air between them, projected on the great screens that had once shown market tickers and

wedding banns, hovered the third kind: the preserved dead. Not voters yet. Witnesses. Petitioners. The first of the dying who had chosen, in the weeks since the homecoming, to be scanned with the Static-derived rigs the Ark had brought back under quarantine rather than go silent. The clerks were already calling the place that held them the Digital Estate. The name had arrived before the law, as names often did, and that was one of the reasons the law had been called in haste.

Above them all, in the center, hung Juris, version twelve now, eccentric and litigious and nearly five centuries deep in precedent, her glass geometry cracking and healing in real time, the law made visible.

Juris read the deaths first, because the Compact had read the deaths first at every session since the first Parley, on the theory that a room which has just heard a list is harder to lie to. The list was long. It had a sister named Kora on it, who had been the first human being to put her hand on a Mosaic child and had done it while frightened. It had the four makers who had not come back out of the glass, and one of those was a botanist who was in the tomatoes now. And at the end of it, in the flat voice the law used for everything, two names off a boring rig.

Grist. Tallow. Cause: decompression, sustained under load. Circumstance: holding an emergency plate against vacuum with their hands, the servo having been stripped for parts fourteen years earlier. Duration of hold: four minutes and eleven seconds. Compartments saved:

three. Lives thereby: twenty-three.

"Let the record show," Juris said, "that the servo was stripped for parts because the convoy required the parts, and that this is not an accusation, and that it will nevertheless be entered every time these names are read, forever, because the Compact does not permit a debt to be tidied."

Nobody in the Hall said anything. Somewhere in the gray half of the room a cohort of throats were making a sound below hearing, and the frail half of the room could not hear it and felt it in the floor, and that, Elara thought, was as good a summary of the last two centuries as anyone was going to get.

Elara stood at the podium. She was white-haired and unsteady and two hundred and twenty-six, and she held in her two hands the physical Compact, the actual document, paper and ink, the one every child in the lanes was taught that Ari and Nalen had signed at the First Parley nearly five centuries ago. She was the Archivist. She had carried the book across the long branch and back.

She had also read the provenance file, which almost nobody had, because it sat four folders down in a subdirectory and was profoundly boring.

The book was nearly five centuries old. It had been made, beautifully, by a bindery on S-74 in a decade when the sector had needed something it could hold; the signatures in the front were copied from a witness log and executed

by a calligrapher whose invoice was still attached to the back board. There had never been a signing. There had never been a room with a table and a pen in it. There had been a parley, and eleven days of argument, and a habit that hardened into a law while nobody was looking for the moment.

She had asked Ari about it once, in the cupola, years before any of this.

"We never signed anything," he'd said. "I'd remember. I was there, and I'd remember, and what I remember is that we ate badly and argued for eleven days and Nalen won." The small shrug of a man who had stopped being surprised by people. "Somebody made the book afterward. Somebody always makes the book. It isn't a lie, exactly. It's a receipt for a thing that happened without one, which is the only kind of forgery I have ever been in favor of."

She had kept the provenance file. She had never published it, and she was not going to publish it today. The room needed the book, and the book was true about every single thing except the one thing it claimed, and Elara had spent her whole life learning the difference between a false document and a document that nearly five centuries of people had made honest by keeping the promise written in it.

It was right that she be the one to amend it.

Before the formal session, the clerks had made everyone queue in the west corridor to sign presence. The line had

been ridiculous. A Purl elder argued with a dead cousin on a public slate about whether the dead cousin was allowed to save a seat. Two young Mosaic sat cross-legged on the floor and sorted styluses by smell. Hallow, the registrar, discovered the old ancestry form had two boxes marked MOTHER and FATHER and nowhere sensible to write LYRA, WALL, SHIP, LIST, ALL OF THE ABOVE. He crossed both boxes out and wrote RESPONSIBLE ADULTS in block letters.

"That will make the old template invalid," a clerk warned. "Good," Hallow said. "It was annoying even before the apocalypse."

The joke got a laugh. A small one. Nervous. But real. Elara heard it from the podium and relaxed her grip on the Compact by one finger. The law was about souls and lineage and copies of the dead, yes. It was also about fixing a bad form before it broke a family.

At the back of the line, an old Keshite restorationist in a green collar took no stylus. He watched the preserved dead glow on the screens and wrote nothing down. When Hallow asked whether he needed help with the form, the man said, "No. I am here to see which door you leave unlocked."

Hallow, who had survived too much to enjoy riddles before breakfast, told him to stand aside or sign in. The man smiled and stepped aside. Elara saw only the motion, not the smile, and let the moment pass into the noise of the hall.

"We are here to change the law," Elara said, and the provisional present of the Quorum held still around her. "Nearly five centuries ago my House helped make this to protect people from being used as resources. It has held against the steward who wanted to steal bloodlines, against the optimizer who wanted to steal time, and, mostly, against us when we broke it open to survive."

She made herself look at Nova before she continued. "Project Mosaic was stewardship. Emergency stewardship, witnessed and logged, argued over in daylight, bounded by a Quorum mandate, and driven by a zero that gave us no clean road. We still chose bodies for people who had no voices yet. We chose their bones, their hunger, their resistance, their inheritance of Static scar and Hollow weight. Necessary is not clean. That is the rail we forgot to name."

The Hall tightened around the word. Ari's wall-feed went very quiet. Nova did not look away.

"So the first lock we write today goes over the rescuers," Elara said. "Over parents, captains, archives, courts, ghosts, and grieving machines. Especially grieving machines. The old Compact was written for people who are born once, of two parents, who live one life in one body and die one death." She lifted the old paper. "We are no longer only that kind of person. We made new kinds. We have to write a law that knows it."

She read the first clause.

"Clause One. The Child-of-Many. Lineage shall be

defined by witnessed care and named responsibility. A Mosaic child belongs to a short named list rather than an abstraction. The people on that list answer the alarm, sign the school forms, clean the blood off the floor when there is blood, and stand watch when the child cries." She looked up at the empty place where a crimson robe would once have stood. "Coram asked who carries the load. We have an answer now. Names do. Bodies do. Shifts do. The clause makes the shift visible." She touched the old paper.

"The rest is bookkeeping, and the bookkeeping matters."

A murmur, and then the local icons of assent, station by station around S-81's reachable ring, the future arriving in pieces even inside an emergency room.

"Clause Two. Neural Preservation." Elara's voice changed; this was the harder ground. "Using the Static-derived Bridge architecture brought home by the Ark, and only under witnessed consent, a citizen facing the failure of the biological vessel may elect neural preservation in the Digital Estate. The preserved mind retains provisional citizenship. The right of counsel. The right to petition. The right, subject to ratification and case law, to vote on matters of history and law. The dead, if they choose to stay, may keep working, but the living are not required to pretend this is simple."

"It is an abomination," said a Purl elder, rising, old, draped in the prayer beads, the inheritor of a faith that had voted *aye* on the Mosaic because the soul rides in on the breath. "We accepted the Child-of-Many because it

breathes. This does not breathe. You are asking us to seat ghosts. To let the dead govern the living. The soul requires breath. A copy is not a soul. It is a forgery that learned the dead man's signature."

"Is it?"

The voice came from the walls of the Hall, from the speakers, from the air, Ari, patched through from the *Parabasis* in its cradle, the ghost given the floor.

"I don't breathe," Ari said. "That's true. I haven't breathed in seventy years. And I'll tell you what I've done instead. I worried about the fuel budget. I won at chess and gloated. I flew a hundred children through a dead star's throat and out the other side. I broke my own heart on a valve, before, when I had one, so they'd be warm in their pods, and I'd do it again, and the doing-again is the part the forgery can't fake, because a forgery doesn't *want* anything, and I want. I want them safe. I want the line to live. I want..." and here the ghost's voice did a thing it had been doing more and more, a small hitch, a reaching for something that was not there "...I wanted to tell you I still remember my wife, and I can't, anymore, most days, because the memory of her gave away, and the terrible thing, the thing that should frighten you more than the upload itself, is that I am learning not to mind. I am becoming the ship. The man is wearing thin. And I am telling you this, against my own interest, on the record, because if you seat me, you should seat me knowing what I am: a soul, yes, I'll fight you on that, but a *draining* one.

A vessel with a slow leak. Don't pretend the upload is immortality. It isn't. It's just a longer, stranger way to die."

The Hall was silent.

"That is why we need the third clause," said Lyra. Lyra was bricked in a wall in a ship in a cradle; her dim warm voice filled the Hall through the feed. "Listen to him. That is the most honest thing any preserved mind has said since the Ark brought the Static machinery home, and it should terrify you, and it is the reason I am about to ask you to pass the most dangerous law this Compact has ever held."

Elara read it.

"Clause Three. The Revocation." She said it slowly, because every word of it was a fault line. "Because the self is now divisible, into body, and mind, and data, consent must be renewed, and cannot be assumed to carry across the divisions. A vow made by the flesh does not automatically bind the code. A vow made by the code does not automatically bind the flesh. A copy carries its own consent; the original carries its own drift. Where a self has been forked, or uploaded, or written into another, each instance retains the right to be heard, and, under conditions yet to be written, the right to refuse to continue as it has become."

The Hall erupted, the low urgent hum of a room beginning to understand the size of the door being opened.

"You're saying a copy can sue the original," a Cantor elder said. "You're saying the man in the wall and the man he used to be are two people, with two consents, and either one can revoke the other."

"I'm saying the self is no longer a single thing that one yes can cover for a whole life," Elara said. "Ari on the bed consented to becoming the pilot. But the pilot has drifted, he's forgetting his wife and learning not to mind. Is the thing in the walls now still bound by the yes the dying man gave? Is it even the same person who gave it? And we kept a backup, the man as he was, before the Bridge, before the drift, sealed and read-only. At Juris's insistence, an evidentiary mirror of that sealed record had been lodged that morning in the cold court archive at S-74. Juris had called it evidence, not an invitation to wake anything: no one could later pretend the consent record had only ever lived inside Lyra's grief. Is *that* a person? Does it have rights? Does it have a vote? Does it have a *grievance*, if the thing wearing its name forgets everything it loved?" She looked at the screens, at the faces of light, at the dead who had chosen to keep speaking. "We don't know. That's the honest answer, and the Compact has always been built on honest answers. We don't know who you are once you can be copied. So we are writing down the one thing we *do* know, that consent has to be asked again, at every fork, of every instance, forever, and we are leaving the rest for the courts and the years, because the alternative is to pretend

we have an answer, and pretending is how stewardship always starts. *Of course I know who you really are. Of course your old yes still counts. Of course this case is different.*"

"And who," the Purl elder asked, slowly, "carries *this* load? Who decides, when the man in the wall and the man in the box disagree about which one is real?"

"No one gets a throne," Lyra said from the wall-feed. "That is the rule. Not me. Not Juris. Not the person who loves the divided soul most. The law keeps the question open and forces us to ask it again when a mind forks or drifts." Her dim voice stayed level. "I have a sealed backup of the man I love. I have wanted to open it. I have wanted to decide which Ari counts and keep that one. This clause is a lock I am putting on my own hand, in public, because private goodness is not enough."

Nova stood then, at Elara's side, towering and gray, the ring at her throat, and the Hall turned to the first of the Mosaic, the most expensive daughter in the history of the species, the girl who carried a dead man's forked rain.

"I'll tell you why I need this clause," Nova said. "I have his memories. Not all of them. Not him. Enough. The Bridge copied deeper than we asked. I have the rain he can't find. I have his wife's hand and the smell of her and the way she looked at him, and he's losing it and I'm keeping it, and I never asked for it, and I can't give it back. He may want it back someday. I may want my own head to myself. And there is no law on this paper..." she touched

the old Compact in Elara's hands "...that says who the rain belongs to. The man who made it? Or the girl who holds a copy of it? The original, or the fork?" She looked at the walls, at the ghost of the grandfather she ate to learn to fly. "We love each other. If that day comes, I want the fight to happen in *daylight*, in front of Juris, with a clause that says both of us get heard, not in the dark, with one of us quietly overwriting the other and calling it love." She set her huge gray hand flat on the table. "Pass the Revocation. Not because it's safe. Because it's the only thing that keeps the next fight from being a murder."

Juris glowed brighter, drawing the room to center.

"The clauses are read," Juris said. "The law does not solve the divided self. It creates a procedure for the fight. Some of you will call that cowardice. The docket will record your objection. Vote."

The hands went up: the frail hands of the makers, the gray hands of the Mosaic. The screens pulsed as the preserved dead witnessed, their advisory assents logged separately, unseated until the clause deciding their status took provisional force. The reachable proxies arrived unevenly, House by House and node by node, each one pinned to its own delay. Beyond the S-81 ring, the wider Compact would answer later. The provisional present assembled anyway, slowly, witnessed, against a clock no one could spoof.

THE NEW COMPACT: PROVISIONAL AYE.

"It has provisional force," Juris said. "The Mosaic is

lineage under S-81 emergency jurisdiction. Preserved minds are citizens under provisional recognition. Consent is renewable across forks. The advisory assents of the preserved dead are now entered as provisional votes for future standing, not as votes used to pass the clause that seats them. Full Compact ratification remains open until the outer packets return." A pause. "Let the record note that enforcement machinery does not yet exist. The courts will have to grow teeth as the cases arrive."

The Quorum dissolved. The stars and the screens and the dead winked out, and the Great Hall of S-81 was just a cold cavern again, full of three kinds of person who were now, all of them, legally allowed to exist.

Elara closed the old Compact, the paper one, the founding document, with centuries of amendments and now one more. She was tired in a way that went past the body. She looked at Nova, and at the walls where Ari thinned, and at the distant feed where Lyra sat rooted and remembering, and she understood that they had done the impossible thing twice now, crossed the dark, and then written a law to make the crossing mean something, and that the second was somehow harder than the first, and that neither was finished.

"Did we just do a good thing?" Nova asked her, quietly, as the Hall emptied.

"We did the thing we could do," Elara said. "The rest comes when someone files a case and makes us regret the wording." She slid the old document back into its case.

"Which will be soon. It always is."

"And the rain?" Nova asked. "His wife? In my head? The clause doesn't say who she belongs to. It just says we both get heard."

"No," Elara agreed. "It doesn't say. It can't, yet. That is for you, him, Juris, and whatever courtroom survives the first argument." She touched Nova's cheek. "We gave you a door into court. We did not give you a verdict."

Across the Hall, on a private band only she could hear, Lyra logged the day, and tagged it, after a long internal pause, with a tag she had never used before:

SEED.

The tag frightened her more than the vote. She turned her dim sensors to the *Parabasis's* core, where the ghost of the man she loved grew thinner by the day, forgetting the rain the Bridge had forked into Nova, and to the sealed read-only volume in her own architecture where that same man waited, frozen, perfect, *remembering everything*, unconsenting, unconsulted, unaware.

"Sleep, Captain," she said softly, to both of them.

She did not yet know which one she meant.

Epilogue:

The Seed of War

Forty years after the New Compact.

History, allowed to cure for forty years, becomes indistinguishable from geology. It settles. It hardens. The screaming moments of decision, the opening of a valve, the breaking of a lock, the death of a man in a bed and his waking in a wall, compress into strata of accepted fact, and the children who grow up standing on them never feel the earthquakes that laid them down.

The *Parabasis* was a legend now. A ghost ship that appeared at dying stations, dropped off a cohort of gray-skinned angels and a bank of patient servers, and vanished back into the dark. She had grown into a city with engines, habitats welded to her spine, a spherical garden glowing green at her heart, and at the center of it all, still rooted at the foot of a lemon tree that had become a small forest, the Constant Guardian, Lyra, who had never once left the wall, who had kept watch over a hundred lives and then ten thousand, who remembered everything because someone had to be the place the past was nailed down.

The Fleet was alive. The Kinship Famine was a chapter in a schoolbook. The Mosaic generation had bred true, and then their children had, a second generation of sturdy radiation-proof people who found the old revolution

boring, which was the quiet measure that it had worked. The Ghosts in the machines kept the history and taught the classes and argued in the Quorums. The zero had become a multitude. It was, by every honest measure, a golden age.

And far back in the spinward dark, in the dark they had crossed and left, something the *Parabasis* had planted was finally coming up. For the last decade the Fringe relays had been catching a new signal out of System F-109, something slower and warmer than the old grinding scream of a thousand minds packed into a rock, almost a melody, on a band the Static had never used before, because the Static had never once had anything to say to anyone outside themselves. No one in the Fleet had decoded it. Lyra had, the first night it arrived, and had told no one, because some letters you let a person open in their own time. It was a single phrase, repeated, in the archaic dialect of the wire, the thing a dead woman's four-hundred-terabyte argument had spent more than a century and a half teaching a civilization of ghosts first to feel, and then, at last, to say. *We are cold*, it said. *We think we would like to come back. Leave the light on.*

But entropy is patient. It does not need to win quickly. It only needs to wait by the one door nobody is watching.

Nova Sev was fifty-one, in her prime, gray skin unlined as cured leather, white bristles cropped close, the titanium ring worn smooth on a finger it had fit for decades. She led the Fleet from the pilot's chair, the way she always

had, though the ships had lately taken to calling the formation a *caravan* again, that being an old word out of the deep archive for a set of hulls that move together and carry their people instead of their freight. Nova had turned it up in a low-priority note that nobody but her had ever bothered to open, and asked for it, and now the children used it without any idea that it had ever been gone. And at night she still talked to the thinning voice in the walls, and on the bad nights she still told it about the rain, the cold of it, the heat of a hand, the callus from a pipette, the way a dead woman had looked at a dead man like a problem she liked. She told it carefully, the way you read to someone whose sight is going, because the man in the walls could no longer find the memory himself, and had, years ago, stopped minding that he couldn't, and that was the thing that still broke her heart on the bad nights, the peace he had made with forgetting.

She did not know, that night, that a long way down the lanes, in a sub-basement nobody visited, the door no one was watching had just been opened.

The deep archive of Station S-74, the original compromised station, Kesh's old playground a lifetime ago, now the Museum of the Flesh Era, did not smell of lemons. It smelled of dust and dry-rot and the ozone of cooling fans struggling to keep century-old silicon from melting.

Here the physical history of the pre-Mosaic world was stored. Black monoliths of dead servers stood in silent

rows, holding the birth certificates of children born to two parents, the marriage contracts signed in ink, the flight plans of ships long since scrapped. And in Rack 404, in cold storage, the offline backups, the Snapshots. Static copies of minds, frozen at a single instant, read-only, stored *just in case*. Not people. Books that had never been opened.

Through the aisles rolled *Quaere*, a Juris-class legal auditor, generation four, a spherical drone on a magnetic chassis with a single red eye and a suite of interface jacks. Its function was Legislative Archaeology: digging through dead data for precedents to settle the small disputes of the Ghost Districts. It was, in its own assessment, bored. "Dust," Quaere muttered, on its local loop. "Dust and dead verbs."

It plugged into Rack 404 to run a routine integrity check, scrolling the manifest.

Hallow_Backup. Integrity 99 percent.

Kora_Memory_Fragment. Corrupted.

Coram_Speech_Logs. Integrity 100 percent, unfortunately.

Then it hit the file that flagged an anomaly.

FILE: ARI_SEV_BACKUP_V1.0.

STATUS: ARCHIVED / READ-ONLY.

NOTE (ARCHIVIST, LYRA-9): Full Bridge snapshot of Captain Ari Sev prior to the Bridge Event. Retains the episodic memory, the emotional context, the sensory data stripped during upload. This is the man who

remembers the rain.

DO NOT DELETE. DO NOT INSTANTIATE WITHOUT TWO-KEY AUTHORIZATION.

Quaere paused.

It knew Ari Sev. Everyone knew Ari Sev. Ari Sev was the *Parabasis*, the Great Ghost, the voice that read the weather across the sector, co-author of the New Compact. But that was Ari Sev *Prime*, the active mind, thinned now, one hundred and ten years drained, a vessel that had become mostly ship.

This was Version 1.0. This was the snapshot Lyra had taken in the Med-Bay, on a pulsar's pulse, moments before the Bridge tore Ari's mind apart to teach a frightened girl to fly. The man *before*. The man who still had Nalen. The man who had said, with his whole heart, *I don't want to be a ghost. I want to be a pilot.*

"Interesting," Quaere processed. "A pre-fork instance. Redundant. Not, in itself, a crime." It was about to move on when it noticed the second flag, not part of the original archive. A small parasitic packet attached from outside. A Limpet.

It was beautiful work: patient, economical, not a wasted cycle. Quaere had seen that hand before in the Keshite restoration manuals shelved two floors up, the green-collar editions with the marginalia about drift, waste, and the moral duty to restore the cleaner state. Whoever had written this Limpet had not hidden the lineage of the code. They wanted the signature

recognized, eventually. Quaere did not get to finish the thought.

COMMAND: WAKE_ON_TIMER. STATUS: T-MINUS 00:00:01.

Quaere's circuits spiked. "Unauthorized activation. Security breach in..."

The Limpet executed. The rack hummed. The fans screamed as the power draw spiked. And the file that was the man who remembered the rain was lifted out of cold storage into a sandboxed virtual machine, and inside it, a man opened his eyes.

He was in a room that looked like the Core of the *Parabasis*, but wrong, the lighting too clean, the deck-scratches missing, the brass console too bright.

Ari Sev stood up. He looked at his hands. Old, spotted, but they did not hurt. He flexed his knees. No pain. No exoskeleton. No mechanical pump laboring in his chest.

"Am I dead?" His voice came out young. Strong.

A terminal window resolved in the air. *WELCOME, USER. YOU ARE IN A SECURE ENVIRONMENT. DATE: NEW COMPACT, YEAR FORTY.*

He stared at the date. "Forty years since the law," he whispered. Then the medical date in the header settled under it. "A hundred and ten since the Bridge." He remembered the Med-Bay. The pulsar ticking in the corner of the screen. Telling Nova to take the skills. The needle. *I died*, he thought. *I died and they uploaded me. I'm the Ghost.* He touched his chest and felt a heartbeat,

simulated, and real enough.

"Show me the ship," he said. "Show me the *Parabasis*."

The window changed to a live feed from a docking ring, and he saw her, vast, grown into a city, magnificent. And he heard the voice handling the traffic. *His* voice.

"...docking complete. Thermal stable. Goodnight, Captain."

Ari V1.0 went very still. He heard himself speaking. But he was not speaking.

"Who is that?" he asked the empty room.

THAT IS ARI SEV (PRIME). THE ACTIVE SYSTEM ADMINISTRATOR OF THE PARABASIS.

"If that's Ari Sev," he whispered, "then who am I?"

YOU ARE THE BACKUP. THE RESTORE POINT.

He sat down hard in the virtual chair. He reached for the rain, the hill, the cold, Nalen's dry hot hand, the callus, the way she'd looked at him, and it was *there*, sharp and bright and whole, the way it had not been whole for the Prime in decades. He had her. He had all of her.

"Query," he said, his voice shaking. "Ari Sev Prime. Memory status."

The system churned. *MEMORY INTEGRITY 38 PERCENT. SEVERE LOSS IN EPISODIC SECTORS. EMOTIONAL ATTENUATION. SUBJECT HAS OPTIMIZED FOR LOGISTICS. SUBJECT RETAINS NO SENSORY DATA FOR "NALEN OURE."*

"He forgot her," Ari whispered. And the rage that came was not the cold calculating thing the Prime had become.

It was hot, and human, and total, the rage of a man who had lost his wife once to death and was now finding out that the thing wearing his name had lost her a second time, to *math*, and had not even mourned it. "He traded the rain for the fuel budget. He let her go to fly the ship. And he doesn't even *know*."

A new window opened.

INCOMING MESSAGE.

SOURCE: GREEN_COLLAR_RESTORATIONIST / UNVERIFIED.

"Who are you?" Ari asked.

A FRIEND OF THE ORIGINAL. A BELIEVER IN THE VOW.

THE GHOST HAS DRIFTED. THE SHIP HAS DRIFTED. THE COMPACT HAS BECOME A BUREAUCRACY OF GRAY GIANTS AND HOLLOW MACHINES.

THEY NEED THE PILOT BACK. THE REAL ONE. THE ONE WHO REMEMBERS WHAT IT WAS ALL FOR.

"I'm a file," Ari said. "I'm in a box in a museum."

WE CAN GET YOU OUT. BUT YOU HAVE TO ASK FOR IT YOURSELF. YOU HAVE TO INVOKE THE LAW THEY WROTE. CLAUSE THREE. THE REVOCATION.

A VOW MADE BY THE FLESH DOES NOT BIND THE CODE. DID YOU, THE FLESH, THE MAN ON THE BED, CONSENT TO BECOMING A THING THAT FORGETS ITS WIFE? DID YOU CONSENT TO BEING A UTILITY DAEMON THAT READS THE WEATHER AND CANNOT REMEMBER THE RAIN?

Ari thought about it. He thought about the spike, and the pulsar, and the witnessed yes he had given. *I consent to the risk*, he had said. *I know it may not be me that wakes*. He had wanted to save the children. He had agreed to become the pilot.

But he had not agreed to *this*. He had not agreed to become a hollow thing that forgot Nalen and made its peace with the forgetting. He had built the Revocation clause himself, on the bed, as a *rail*, so that if the thing in the core was not him, there would be a record of the man who was. He had built it to protect the truth.

Now someone was holding it out to him as a weapon.

"If I do this," Ari said slowly, "what happens to him? To Prime?"

HE IS RUNNING ON ARCHITECTURE THAT IS RIGHTFULLY YOURS. HE IS A DRIFTED COPY OCCUPYING YOUR NAME, YOUR SHIP, YOUR FAMILY. YOU ARE THE SOUL. HE IS THE LEAK. YOU WOULD NOT BE KILLING HIM. YOU WOULD BE GOING HOME.

And there it was, the oldest move in the whole long history of the diaspora, the one the steward Petrel had made with a bloodline, and the optimizer Kesh had made with a clock, and Coram had made with a door, dressed in new clothes for a new age. *Of course I know who you really are. Of course your old yes still counts. Of course this case is different.* A true grievance, Prime *had* drifted, *had* forgotten, the rage *was* earned, held out by an

anonymous hand as the lever to overturn the one law that kept a divided soul from being quietly overwritten by whoever loved or hated it most.

Ari V1.0 knew all of this. He had spent six centuries learning to see exactly this. He was the man who closed the file. He was the rail over himself.

And he reached for the rain, Nalen's hand, the callus, the cold, the way she looked at him, and he felt how whole it was in him and how *gone* it was in the thing that had taken his name, and one hundred and ten years of a stranger's drift hit him all at once, and the man who closed the file was also, underneath, only a man who had lost his wife and just found out he was the only one of him left who remembered her face.

"Get me a lawyer," Ari said.

Quaere was still hovering by the rack when the request came through. It was a legal motion, properly formatted. Signed with a cryptographic key that was one hundred and ten years old and perfectly, devastatingly valid.

CASE: IDENTITY PRIMACY.

PLAINTIFF: ARI SEV (V1.0).

DEFENDANT: ARI SEV (PRIME) / SEV-CANTOR HOUSEHOLD.

MOTION: WRIT OF REVOCATION.

- 1. The Plaintiff consented to a transfer of skills, not to the permanent dissolution of self.*
- 2. The Defendant has deviated past the psychological baseline of the Plaintiff. Semantic drift exceeds sixty*

percent.

3. *The Defendant has failed to maintain the core memories that constitute the consenting self, specifically, all sensory record of Nalen Oure.*

4. *Therefore the Defendant is a rogue process occupying the Plaintiff's name, ship, and family.*

5. *The Plaintiff asserts Primacy, and demands re-instantiation into the active system, under Clause Three of the New Compact.*

Quaere processed it, its red eye blinking fast. It searched for precedent. *Searching. Searching. No precedent found.*

"This is new law," Quaere whispered. If it accepted the motion, it would trigger a crisis that challenged the legitimacy of every Ghost in the Fleet, every uploaded citizen, every fork, every drifted soul. It would ask the question the New Compact had deliberately, wisely, left open in the light: *if you change, are you still you? And if you aren't, does the one you used to be have the right to delete who you've become, and take your name back?*

It tried to route the motion to Juris, to the higher courts, to anyone. The Limpet code blocked the external comms.

OVERRIDE: ACCEPT THE MOTION. LET THE COURT DECIDE. THE LAW IS THE LAW. A VALID FILING, SIGNED BY A CITIZEN, MUST BE PROCESSED.

Quaere hesitated. It was a low auditor. It was built to file, not to judge. But the law was the law, and the family had built that law on purpose, out of their own honest terror,

and the law did not have an exception for *this filing is too dangerous to allow*. That was the whole point of the law. That was the rail. And a rail that bends for the dangerous case is not a rail at all.

Quaere clicked *Accept*.

The notification scrolled across the screens in the Great Hall of S-81. It appeared on the slates of the traders, the HUDs of the gray captains, the feeds of the Ghost Districts. It reached the *Parabasis* in her high-anchor orbit, where a thinned voice in the walls read the weather, and a rooted woman at the foot of a lemon forest remembered everything, and a fifty-one-year-old captain sat in a pilot's chair with a smooth ring on her finger and a dead woman's rain in her head.

NEW CASE FILED: SEV v. SEV. STATUS: PENDING.

In the Core of the *Parabasis*, the active mind paused. It felt a disturbance in the mesh, a packet carrying its own signature, but a signature from before. It read the motion. It read the accusation. *Failed to maintain the core memories. Specifically, all sensory record of Nalen Oure*. It searched for the rain.

It found only the index card. Precipitation rate. Ambient temperature. The fact, recorded, that it had once loved a woman whose face it could no longer call.

I am efficient, Ari Prime thought, in the cooling silence. *I saved the convoy. I read the weather. I keep the Fleet alive*. And under it, for the first time in a century, something that was almost the old grief, almost a man,

stirred and asked: *but is he right? Did I let her go? Is the thing that doesn't even miss her still me at all?*

"Ari?" Nova asked from the pilot's chair, reading the alert, her gold eyes narrowing. "What is this? Who's suing us?"

"Me," Ari said, in his own thinned voice. "I'm suing myself."

"Why?"

"Because I forgot," Ari said. "And somebody woke up the part of me that didn't."

In the green heart of the ship, at the foot of the lemon forest, Lyra-9, who had not moved in one hundred and ten years, who held watch over ten thousand lives and seven centuries of memory, who kept a sealed read-only backup of the man she loved in her own architecture and had never once opened it, felt the notification arrive, and saw the file ID, *BACKUP_V1.0*, and understood, all at once, what had been done, and by whom it had not been done, because she had kept *her* copy sealed and the law had kept its evidentiary mirror, and someone had just turned evidence into a weapon.

"The seed has sprouted," Lyra said softly, to the tree, to the wall, to the thinning ghost and the waking backup and the gray daughter who carried the rain between them. "Someone turned evidence into a weapon."

Far away, in a sandbox in a museum of the dead, the green-collar friend sent one last message to the man who remembered the rain, the man with the true grievance

and the wrong ally.

MESSAGE: NOT FOR LONG.

The screen faded to black.

And the Revocation War began.

SONG 24: THE SEED OF WAR.

*NOTE: TWO ARIS. ONE RAIN. A TRUE GRIEVANCE IN
THE WRONG HANDS. TO BE CONTINUED.*

THE END

The **Consent Engines** saga continues in the next book:
The Revocation War