

LOST EARTH

A Novel

By

Michael McCollum

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Michael McCollum
Sci Fi - Arizona
PO Box 14026
Tempe, AZ 85284-0068
mccollum@scifi-az.com

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Prologue

It is the 43rd century (Old Calendar) and humanity occupies a substantial chunk of the Orion Spur, the small galactic arm in which Sol is located. The millions who fled Earth have grown into untold billions. *Homo sapiens Terra* has become *Homo sapiens Galactica*.

The *Great Hegira* was the result of a step change in technology, and, as such, should have come as no surprise.

While there were undoubtedly others, the first identifiable precursor to the vast outpouring was the invention of moveable type by Johannes Gutenberg in 1437. ^(OC)

The printing press represented a quantum leap in the ease of communications; and, as such, was responsible for the Reformation and three hundred years of religious warfare.

The second grand disruption began late in the twentieth century with the development of the Internet, an early information grid. No longer need people associate with one another based on physical proximity. In the connected world, they could seek likeminded souls anywhere. Thus, began a trend that ended with the dissolution of nation-states.

The development of faster-than-light travel was the third disruptive leap, and by far the largest.

With *ftl* came the discovery that any average grouping of five hundred stars is likely to have at least one terrestrial-class world. Suddenly, humanity found itself with an infinity of potential living space.

No longer need the downtrodden suffer under the boot of their oppressors. Anyone sufficiently motivated could, if they had resources and adherents, hire a colony ship, and set out for the stars.

The invention of *ftl* initially gave humanity a toehold in the firmament. During the next half millennium, that toehold became a beachhead and then a stampede.

Nor was society the only thing transformed by the advent of star travel. The need to adapt to alien environments forced adjustments to the human form, either via natural selection or intentional manipulation. By the 40th century, genetic modifications were such that the more extreme branches of the human family could not produce viable offspring with one another.

The rush to the stars brought with it another form of natural selection. The timid stayed home, while the audacious emigrated. However, while laudable in an individual, excessive pioneer spirit proved troublesome at interstellar scale.

As human-occupied space expanded at an exponential clip, competing colonies increasingly fell into conflict. At first, these were local disputes. Over time, rivalries grew, as did star system navies. When widespread war finally came, it raged across whole sectors of human space.

Wars of secession, mass bombardments, commerce raids, and futile attempts at occupying enemy planets all took their toll. Much that had been built during the preceding millennium was destroyed in flashes of nuclear fusion.

The collapse of interstellar civilization brought with it a new dark age, one that far surpassed the fall of Rome. Centuries were needed to recover from the chaos. That recovery came in fits and starts, but eventually, a new *Pax Galactica* took hold. The return to stability brought with it a renaissance in learning. Much lost knowledge was eventually reclaimed.

Much, but not all.

On worlds across human space, parents told their children stories of the fabled past. They spoke of a magical place where once dwelt knights and princesses, magicians and dragons, where bold warriors sallied forth to victory or defeat.

When the children grew older, they learned that the world of legend known as “The Mother of Men” had possessed vast seas of blue water; azure skies filled with fleecy white clouds; and a giant moon whose silver beams enchanted thousands of generations of young lovers.

They learned that a ‘standard year’ was the orbital period of humanity’s home as it circled its primary, and that human vision was sharpest in the yellow-green wavelengths because that was the color of Sol-light as seen through a canopy of forest leaves.

What the children did not learn was where this magical place could be found. The interstellar wars had robbed them of that knowledge. The stellar coordinates of Sol were lost.

And with them, the location of Planet Earth.

#

Part One

Morast

Chapter 1

Shipmaster Larath da Benthar Sims, of the Starship *Coronal Fire*, lay in her command couch, sipped gantha juice, and contemplated the holographic view volume before her. Behind her, a meter-thick mirrored column rose from deck to overhead. The column housed *Coronal Fire's* sentient computer. Two pairs of couches, currently unoccupied, were arrayed to either side. The bulkheads were covered with other displays on which flowed soothing streams of eye-pleasing color.

Lara was a native of Envon in the Altona System. She was long and lithe, as was typical of her planetary type. Her eyes were slanted-slits of emerald-green, her black hair was cut in a spacer's bob, and her alabaster skin was sufficiently fair to require melanin pills on many worlds. She was clad in an iridescent bodysuit that matched her eyes.

Coronal Fire was 2000 hours out of Lanyth, in the Bortanis System, en route to Bernau, the capital of the Morast Confederacy. The ship was moving at 1000-lights equivalent velocity. At its current pseudo-speed, it would reach Morast, its home star, within five hours.

That, of course, would not be happening.

In the view volume, the hyperon stream that carried them along was a river of scintillating light that curved gently to the right and down until it vanished into background haze. As was customary, the active hyperon stream was coded cyan.

Towering over her and to her right was an angry splotch of orange red that reminded her of a thundercloud back home. This 'storm' was a major disruption in the high energy hyperon strata in which *Fire* was traveling; a Class Five flaw induced by gravitational infusion from a nearby universe.

Directly ahead, and extending out of sight to her left, lay another flaw, this one a streak of monochromatic red, a Class Three rectilinear fold. It was an infusion from a completely different universe.

The two flaws marked the Scylla and Charybdis of the Kaligani Narrows, the bane of every shipmaster on this run.

Observing the chronometer display, Lara sighed and willed a thought into existence: "About time, isn't it, *Cor*?"

A silent voice in her head answered, "We have two minutes, fifteen seconds before we need to head downslope, Shipmaster. I am about to issue the two-minute warning."

'Downslope' meant that the artificial intelligence that flew the ship was about to *downfreq* the ship's hyper-generators to begin a slow descent through the lower-energy

hyperon layers.

They would fall out of congruence with the 1000-light stream and descend to the ten-light level, where they would pick up another current to carry them beneath the two hazards to navigation.

The maneuver would add 500 hours to their voyage.

The diversion was necessary because Morast was only half a light-year beyond the far flaw. Should *Coronal Fire* continue its present course and speed, it would enter that turbulence and be ripped asunder in milliseconds.

The delay was unfortunate, but unavoidable. Such was the nature of hyperspace.

#

With the lofting of large telescopes into Earth orbit, it became possible for astronomers to calculate the total mass of the universe. They did this by seeing the way galaxies rotate and the degree to which light rays bend as they pass near intervening galactic clusters.

Tallying up the mass of everything they could see and of which they were aware, astronomers concluded that normal matter makes up only four percent of the total mass of the observable universe. The other 96 percent is invisible.

To explain the discrepancy, they postulated the existence of two types of massy particles: dark matter and dark energy. They searched for these elusive ghosts for more than a century, but no trace of either was ever found.

With the failure to find dark particles, astronomers rethought the problem. They wondered if their traditional view of reality was too cramped.

It was... by several orders of magnitude.

Reluctantly, they turned to the idea that the Big Bang had created not only the universe that we can see; but some ten million other universes that we cannot.

#

The idea of multiple universes was not new. Theoreticians had long fostered a multidimensional hypothesis known as *M-Theory*, which held that the four known dimensions (X, Y, Z, and T) are insufficient to explain the known laws of physics. To account for all the laws, the *totality of everything* must exist in a spacetime domain consisting of eleven distinct dimensions.

No more, no less.

The deep thinkers called their eleven-dimensional construct a *multiverse* and named the universe in which we dwell, *Minkowski Space*.

Of course, most people continued to call it *The Universe*.

If the multiverse has eleven dimensions, and if each daughter universe is four-dimensional, then the total number of universes is *eleven factorial divided by four... or 9,979,200*. For convenience, people round that number up to an even ten million.

These universes are congruent. That is, they occupy the same 'volume' of multidimensional spacetime. We cannot see them because each quartet of dimensions is unique; and therefore, each universe has different physical laws and properties. Conditions in these sibling universes are difficult to imagine, but all have something in common.

They are all filled with matter and/or energy.

As Einstein postulated in 1905^(OC), matter and energy are two forms of the same thing. The presence of either causes curvature in the local spacetime continuum, curvature that we perceive as gravity.

With ten million universes, the total gravitational potential of the multiverse is immense, yet safely compartmentalized. Each universe's gravity stays in that universe.

Or does it?

"What," the Theoreticians asked, "if the boundaries between universes are permeable? What if a small amount of gravitational curvature leaks into neighboring universes, drawn by the localized presence of mass?"

By careful simulation and much argument, cosmologists concluded that 73 percent of our universe's apparent mass is an artifact of gravitational leakage. There was no longer any need to invoke the existence of dark matter.

However, this reasoning did not extend to dark energy.

Dark energy was originally invoked to explain the increase in the universe's rate of expansion over time, which requires an expansive force to be at work. They found such a force in another multi-dimensional theory, a modified version of Edwin Hubble's Raisin Pudding explanation for the expansion of the universe.

Hubble had likened the stars to the raisins in a pudding. As the pudding expands during cooking, the raisins move farther apart, with the most distant raisins moving faster than those that are near one another. To explain the effect for which dark energy was promulgated, scientists concentrated on the pudding rather than the raisins.

What if, they theorized, each of the ten million universes (raisins) are surrounded by blankets of high-energy particles in a state of constant motion (pudding). Of course, 'surround' in this context is a poor approximation of reality.

These blankets act as buffers (or insulators) and are the reason why gravitational

leakage between universes is such a small fraction of the multiverse's total gravitational energy. Moreover, if the equations that describe these zones are to remain in the realm of real numbers, the particles within the layers must be continuously in motion at velocities faster than light speed.

A pair of physicists on the project noted that the hypothetical properties of the buffer zone bore a striking resemblance to a mythical place beloved by writers of escapist fiction.

And so, in a fit of whimsy, they christened the buffer region "*hyperspace*" and the particles within "*hyperons*."

#

Larath da Benthar Sims was asleep in her cabin when *Cor* awakened her. There was none of the muzziness that often goes with a normal transition from slumber to full wake. The computer brought her out of it with the speed of a canine hearing the dinner buzzer.

"What is it, *Cor*?"

"Submaster Taryn asked me to wake you and to merge with us."

Submaster Nalwith Taryn was Lara's second-in-command and her ship-husband. Where she was tall and fair; he was broad and dark. Coming from Esther Prime, with its 2-gee gravity, he was 30-centimeters shorter than she was and all muscle mass. The pair represented the two standard genotypes produced by heavier-than-standard gravity worlds. The F0-Class primary in Esther's sky explained his skin color. He was as black as an obsidian statue.

"What is it, Nal?" she asked silently.

"Sorry to wake you. *Cor* has detected something at the far range of her sensors. Might be nothing, but it's unusual enough to get you involved."

"What did you detect, *Cor*?"

"A patch of turbulence in a hyperon stream at the three-light level. It starts at a point and then feathers out in the direction of flow. It looks like the stream is sweeping something along."

"Are you saying that it's a wake?"

"Looks like it. Not sure what would be down there that low and slow."

What the computer was reporting was the characteristic wake of normal matter in a hyperon stream. Unlike a ship moving through seawater, where the wake forms at the bow and flows outward and backwards; in hyperspace, the wake forms at the stern and

sweeps forward. That is because starships are typically not 'sailing' the hyperon streams, but rather, being carried along by them in their mad rush to be somewhere else.

"Do you think it's a ship?" she asked.

"It is normal matter of some sort. It must be big to be detectable at this range."

Lara frowned. In her forty years of spacefaring, she had never met another ship in hyperspace save near a breakout point where all traffic bound for the same world was forced to converge in order to arrive in that system's designated entry volume.

Warships, of course, encountered one another often. That was because they sought each other out to engage in mutual pounding.

To intercept another ship in hyperspace required both to be at the same energy level to begin with. At or near one's own energy level, hyperon detectors were sensitive out to several light-years. Their ability to see upslope and downslope was limited to an energy delta of ten percent or so. Beyond that range, they were blind.

When two ships at near-equivalent energy levels spotted one another, they then had to synchronize their frequencies, both to match speed and to make their weapons effective. Warships under power spent prodigious amounts of energy to move transversely across the streams to close for battle. Freighters were content to enter a stream and let it carry them where it would, using maneuvering power only to change level to transition to a stream traveling in a different direction.

"What should we do about it, Lara?" Nal asked.

"I suppose we will have to go check it out. They may be in distress."

"What if they're pirates?"

"There are occasional reports of pirates waylaying a ship in hyperspace, I suppose; although I suspect they are more bar legends than reality. Now, if we were bound for Zavier, we would have to watch out for marauders after returning to normal space."

"What about our appointment with the docks?"

Lara considered that problem. *Coronal Fire* was due for her periodic engine overhaul and general inspection. If they missed their scheduled slot, it could be months before they got another.

"This shouldn't take long. We'll make home orbit in time."

"Your orders, Shipmaster?" *Cor* asked.

"Bring my cabin gravity back to full standard," she said. Lara preferred to sleep in ten percent gravity where even a bed of nails would be comfortable. "I will be in Control in ten minutes. Once I am there, begin your downfreq to the three-light level and

maneuver for rendezvous. All sensors to full gain and if the situation does not seem right, *upfreq* back here as quickly as the old bucket will move. Careful, we still have those Kaligani flaws over us.”

That last sentence was unnecessary. *Cor* was a computer. She never forgot anything.

#

In the year 2315^(OC), Professor Alain Destarte, of the University of Antarctica, first generated hyperons in his ice-bound laboratory. Their brief appearance allowed him to note that they interact weakly with normal matter, an interaction that can be strengthened considerably if the normal matter is ‘vibrated’ at the hyperon’s characteristic frequency.

From this, he hypothesized that should a ship enter the boundary between universes, it would be swept along by any hyperon streams congruent with its vibrational energy. Nor would any of the light-speed constraints apply to normal matter or energy. At all speeds higher than c , the equations that govern Einstein’s Limit turn imaginary.

As for the ship’s crew, they would be in what physicists call an Inertial Frame of Reference. They would experience no sensation of flight within their tiny bubble of normality.

In 2530^(OC), physicists confirmed Destarte’s hypothesis. They focused a gravitational field so tightly that it ruptured the inter-universe barrier and allowed a small probe to enter the boundary region buffering Minkowski Space from its surroundings. The probe was in hyperspace for a full sixty seconds before it dropped back to normal space, at which time it began broadcasting its location to the firmament.

The probe’s signal took two hours to reach Earth.

With that single experiment, the road to the stars lay open and a flood of humanity followed.

#

Chapter 2

“Well, what is it?” Lara asked. She was once again on the bridge, with Nal Taryn beside her. The question was for *Fire’s* computer.

“It appears to be a ship, but larger than any in our database,” *Cor* replied.

It had taken four hours to drop down from ten-lights and approach the object. And just as when they downfreged out of 1000-lights, they were now in a different hyperon stream, moving at a lower pseudo-velocity. Their heading was currently 28 degrees west of *chi* and 4 degrees down from *omega*, at a pseudo-velocity of 2.9 lights, a 30-degree starboard turn from the route to Morast.

“How big?”

“One klamater.”

“In diameter?” Lara asked, incredulously.

“That is correct.”

Lara and Nal looked at one another, then turned back to the hologram that floated before them. A light-blue speckled fog infused the view space, with a small shaded-yellow sphere directly ahead.

The view was not what the scene really looked like, of course. Hyperspace is totally black. That is because photons are as alien to the sea of hyperons as is normal matter. The only photons in the vicinity emanated from *Coronal Fire*, in this case, from their scanner array.

But like a radar screen of antiquity, the hologram showed information in the form the human eye could best interpret. In this case, the object they were scanning was still 100 klamaters in front of them. Red alphanumeric floating next to the sphere kept track of the distance.

“Could we possibly have discovered aliens?” Nal Taryn asked.

“Insufficient data,” *Cor* responded.

“What about energy emanations?”

“Nothing beyond infrared. The object is at background temperature.”

Logically, hyperspace should not have a background temperature. Any object therein ought to radiate thermal photons until it ran out of them, i.e., stabilized at absolute zero. But the passage of trillions of hyperons through ship each second left the affected atoms in an excited state. And the common name for excited atoms is ‘heat.’

The effect was miniscule compared to the total energy involved. Even so, it was sufficient to increase the ship's temperature to just above zero degrees centigrade.

"What do you want to do, Lara?" Nal asked.

"Continue the approach."

#

"God, that's a big mother-skinker!"

"Language," Nal admonished. "You know how delicate Cor's ears are."

"Then I will rephrase: '*Damn, that's a big mother-skinker!*'"

The two of them laughed to break the tension. The object had grown steadily over the past twenty minutes. Despite the monotony, the view was hypnotic.

Nor were they alone in their excitement. Crew and passengers clustered around holocubes that relayed the same picture all over the ship. There were several running commentaries on the comm circuits.

"What a wonderful adventure this is," someone opined breathlessly.

Lara immediately thought, "*Definition of adventure: Someone else having a hard time far away!*"

"We are beginning to pick up something," the computer reported. "Shall I increase magnification?"

"Go ahead."

The hand-sized sphere faded, to be replaced by a round object that filled the view volume. Mottled markings, dim but distinguishable, appeared for the first time.

At one end of the ship were large projections spaced 90-degrees apart. To judge by the three they could see, there should be a fourth out of sight on the far side of the ship.

"What are those?" Lara asked.

"Unknown, Cor replied.

"They look like landing gear," Nal responded.

"Unlikely," the computer said. "If a globe that size touched down in even moderate gravity, it would crack like an ovum. The projections are too short to be legs. The belly of the craft would contact the ground before the projections would."

In addition to the 'legs,' a series of rectangular shapes bisected the sphere on a line running thirty-degrees from vertical. Lara suspected that they marked the ship's equator, especially if the 'landing legs' were at one of the poles of the ship.

They watched for ten more minutes. The sphere stayed the same size, but its features grew more distinct. *Cor* was stepping down the magnification as they closed the range.

Finally, at five klamaters from the ship, Lara called a halt.

“Close enough, *Cor*. Break out a mech. We’ll do a flyby before we risk moving closer.”

A minute later, a spherical shape detached from *Fire’s* flank and headed for the target. The object was a general-purpose robot used for cargo transfer and ship’s maintenance. It had a standard sensor suite, manipulators, and a self-contained gravitic drive. Simultaneous with the mech’s appearance, a smaller view volume appeared next to the floating sphere. It projected the view from the mech’s on-board camera.

The huge ship grew rapidly in the alternate view and soon overflowed its viewspace. In addition to the rectangular markings, which looked like hatches, several large toroid-shaped shadows appeared on the hull.

“Are those external drive coils?” Nal asked.

“Maybe,” Lara mused. “I wonder how old this ship is. *Cor*, get a reading on outgassing.”

The computer was silent for a moment, then responded: “No outgassing detected, Shipmaster.”

Lara whistled under her breath. She had her answer. That ship was *very* old!

Human beings had been building spaceships for two thousand years. In that time, propulsion had gone from chemical to nuclear to gravitic to hyper drive. Life support, which began as a few oxygen bottles, had evolved into modern infinite-life closed-environment systems.

Yet, in the long march of ship evolution, no one had ever perfected a leak-proof spaceship. Air molecules are small, slippery things. They work their way through minor flaws and into interstitial passages of whatever metal is used to construct the hull. If a ship does not outgas, then it is filled with vacuum.

“All right, *Cor*, take the mech in. There, that small rectangle between the two larger ones,” Lara directed.

The view from the *Fire’s* hull camera disappeared, to be replaced by the view from the mech.

“Well, that settles that,” Lara exclaimed. “We’ve got a *Flying Dutchman* here.”

Lara had no idea where the term “*Flying Dutchman*” originated, but it had been the

description for a dead ship trapped in hyperspace since time immemorial.

The target was a perfectly ordinary-looking airlock outer door. It was surrounded by yellow-and-black stripes, had an inset window to allow vision in both directions, and had some sort of mechanism at its center. The latter was presumably an emergency vent valve. Two square plates to the right of the coaming seemed the size for a gloved finger. The plates had writing next to them.

They could not read the script, but they could recognize it as akin to the ancient 'Standard,' the *lingua franca* of the galaxy before the *Age of Chaos*. One likely said 'open' and the other 'close'.

Wherever the mysterious object had come from, it was of human manufacture.

#

Nal Tarwyn glared up at Lara and said, "I object and will log my objections for the owners."

"You're cute when you're angry, Nal," Lara replied. "The problem with you people from Esther Prime is that I can't tell whether you are really angry or just posturing for effect. No matter how red in the face you get, your pigmentation hides it."

"Damn it, Lara, I should be the one to lead the boarding party."

"Why, Submaster?"

"Your place is here in Control."

"If any shipmaster-level decisions are needed, then *Cor* will consult me."

"What if you get trapped over there?"

She shrugged. "Then you will rescue me; or, in extremis, will take over command. I have a feeling about this derelict. I need to go."

She and Nal had been married for ten years and he was familiar with her 'obstinate' mode.

"Very well, I yield. I'm still going to log it."

"As is your right," Lara agreed. "Now, help me select the boarding party. The passengers are all intrigued just now, but they will not be when they realize we are going to be late to Morast. I want to get in, find out what we have here, and get out. We've still got that date with the maintenance dock."

She smiled down at him. "Have you considered that this might be worth credits to our crew and owners? Maybe a lot of them!"

#

The boarding party consisted of four: Lara, Engineer Kim Chu Lin, and Spacers Argost Matdor and Chim Thaalorst.

Coronal Fire came to a halt one hundred meters from the globular ship. Despite their freighter's nominal one-million-ton mass, *Fire* was dwarfed by the ship before them. Standing in the open Number Three airlock, the four explorers felt like they were looking down on a gently curved plain rather than station-keeping on another vessel.

"Argost, you take the lead. You've got more time in vacuum than anyone aboard."

The baritone voice that came over the comm matched the nodding head behind the visor. "Acknowledged, Shipmaster. Everyone! Hook safety lines to the person in front of you, put your maneuvering units on standby, and slave to me. We will go in the following order: me, Shipmaster, Engineer, and Chim. Wait for your lines to play out to give us separation but engage maneuvering before they go taut. We do not want to set up a rebound oscillation. Beacons on!"

One by one, each of their suits began to flash at a rate of one blink each second. The beacons were located on helmets and at shoulders, wrists, knees, and boots. In addition to being eye catching, they provided visual clues as to distance and orientation. Each suit flashed in a separate color and when someone spoke, a light on their chest illuminated to put body to voice.

"Ready? Then, let's go."

Spacer Matdor took aim at the giant ship's airlock, then activated his suit's gravitics. He floated gently away from *Fire* as his safety line uncoiled behind him.

Just as her line was about to go straight, Lara put her maneuvering unit online. She felt the tug as the line went taut and pulled her out into hyperspace. Soon a string of blinking lights drifted from their small island of solidity toward the ghost ship. The airlock door that was their target got progressively larger. The mech was still floating beside it with its manipulators deployed.

Matdor halted a meter from the closed door.

"What are those, Engineer?" Lara asked over the comm, pointing to a pair of features that had been invisible during their approach.

"Unknown, Shipmaster."

"I believe I know," Matdor answered.

Without explanation, he rotated his suit until his head and feet were aligned with the closed airlock door. Matdor slid his boots into two recesses in the hull plating. He then grabbed hold of the yellow wheel projecting out of the door at its center. Matdor tried to turn the wheel, first one way and then the other. It would not budge.

"Probably needs lubrication," Kim said.

"I don't think so," the spacer replied. "I think it is vacuum welded."

Lara nodded, then spoke when she remembered that no one could see the gesture in her helmet. "That fits. I think this ship has been out here for a long time. We may have to burn our way in."

"Shall I breach?" Spacer Matdor asked.

"Do it," Lara commanded. "After you have it open, we'll rig a relay on the hull to maintain contact with the ship."

"Right. Move back ten meters. You do not want globules of molten metal to land on your suits. They're tough but not indestructible."

#

The unknown craft was a colony ship.

That much should have been obvious from its physical size alone. Only something as big as a medium-sized asteroid would be large enough to transport a viable colony population, their equipment, foodstuffs, seeds, animals, and everything they would need to survive for at least a few years without resupply.

However, it was unlike any colony ship that any of the party had ever heard of. For one thing, it was designed for microgravity operation, which meant that it predated the development of contra-gravity.

Immediately inboard of the hull were cavernous spaces crammed with polyhedral packing crates. Each crate had a label in an indecipherable script, along with a complex identity code.

The ship's outer shell was the logical place for cargo due to the ease of loading and offloading. *Coronal Fire's* holds were located similarly. The cargo aboard the derelict had also acted as radiation shielding for the passengers.

The next concentric shell lay deep inside the ship. It held dining facilities and workspaces. None showed signs of use, which made this a hibernation vessel. To save cubic, tables were fastened to deck, bulkheads, and overhead, with a fine disregard for up-down orientation.

The workspaces were crammed with more packing cases and marvelous, but incomprehensible, machinery. Many of the things they found had gears and belts, making Lara wonder how such primitive equipment fit with a culture that had star travel. The antique tools were bound for the new world, where the lack of an industrial base would limit the colonists' technology for a generation or more.

Exploring the ship was like peeling an *ekaberry*. The layers were concentric and all different. They took turns burning their way through doors. They found that a heat beam focused on the hinges and latch were usually the quickest way in. They severed the door from its anchors, then pulled it out of the way and gave it a shove so it would float down the corridor until it bounced off something.

This proved the most dangerous part of the exploration. Weightless, or not, the doors still had momentum. Spacer Thaalorst found this out the hard way when he tried to stop a slowly spinning door and nearly crushed his gloved hand in the process.

In the fourth layer, they came to a door that was much stouter than any they had thus far encountered. This one resembled the door to a data vault.

Lara left the two spacers working the problem of opening the 'vault' while she went with Engineer Kim in search of a route to the core. Both wanted to see the engines.

It took an hour to discover a shaft that pointed radially inward. Floating down the shaft headfirst, they passed deck after deck until they finally drifted into an open spherical chamber at least 100-meters across.

"This has got to be the place," Kim exclaimed as their headlamps played over the massive machinery mounted on equally massive thrust plates.

"What are these things?" Lara asked, pointing to one of several large constructs shaped like a Klein bottle.

Kim retrieved an analyzer from his belt and focused the aiming laser on a spot before triggering an incandescent flash.

"Well, I'll be damned."

"What is it?"

"Some degraded long-chain organic molecule, but mostly copper."

"Copper?"

"Apparently this is a coil wrapped with heavy copper wire."

"Just copper?" Lara asked. "Not superconducting?"

"That would require a cooling system. I don't see any."

"Any idea what it does?"

"Don't hold me to this, but those four resemble deplaning coils and the four beyond might have been used for maneuvering."

Lara nodded. 'Deplaning' was the act of dropping through the hyperon layers until the ship passed through 'null' and fell back into normal space.

“Where are the jump engines?”

Kim switched his lamp to ‘full ambient’ and illuminated the whole of the chamber. The shadows gave the place an eerie look. After a minute, he said, “Shipmaster, I don’t see anything that could punch a hole in the inter-universe barrier. All that stuff over there is an oversized gravitic engine. The hyperdrive seems to be missing.”

“But that is craz...”

Lara’s words were interrupted by a shout in her comm receptors. It was Spacer Matdor.

“We got the vault open, Shipmaster. It is full of hibernation chambers. They are stacked deck-to-overhead and extend out of sight around the curve.”

“So, you’ve found the crew?”

“More likely the colonists. They are all here. We looked through the windows of a couple of chambers. They are occupied...”

“... by mummies!” Spacer Thaalorst’s voice exclaimed.

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