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Launch

by

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Zane Waterman glared at the hyperdrive engine in frank bewilderment. Not a single thing about it made the least bit of sense to him. The wholly alien device should, by all rights, be no more functional than a random assortment of gears and levers put together by an artist with no eye to engineering practicality. He, like every other human being, simply had no idea how or why it worked. Unlike most people, this bothered him. He was the engineer of the commercial starship *Corpus Georgi* after all. *You'd think the engineer would understand the engine*, he thought.

After years of staring at it and pondering the whichness of the why, he was no closer to comprehending it than anyone else. He knew how to maintain it and how to operate it... but how it actually worked remained a frustrating mystery. For most people, the simple fact that it worked was enough.

"Hey, Zane! We've got another job!"

Zane reluctantly turned his back to the hyperdrive, admitting to himself that it would remain to him as women: incomprehensible. Responding to the voice projected into his head, he worked his way through the long maze of corridors within the silent vessel towards the main entry hatch. There he found ship's owner Sarah Rhoades smiling the subtle smile he knew meant *"we're going someplace we've never been before."*

"We're picking up a second cargo at Barlerton, going on to Fahd's World."

"Fahd's World?" It sounded familiar to Zane, but he couldn't immediately place it.

"About 21 lightyears out, almost straight on from Badon. Take a month to get there," Sarah said with a shrug and a smile. They had never gone this far out before.

"Oof." Zane looked out the hatch to the tropical island beyond. The late afternoon sun had put the south-eastern face of the small jagged peak at the north end of the island into hazy shadow. Autumn was beginning to set in... at least, what passed for autumn on this tropical water-world, so different from the relatively chilly and mountainous world of his youth. A month out and a month back would see them return at the beginning of winter... there just might be a bit of snow on the peak. Not likely, but it was just barely possible.

"What's the load?"

"Some sort of fabber unit."

Zane scratched his head. "What the hell would they need something like that for, all the way out there? Why not just have local fabbers make the new fabber?" It hardly seemed reasonable. When everything in life that you could possibly want was made at the atomic level by fabrication units, anything new - including new fabbers - could be made by simply updating the programming. So long as you had a single functioning fabber, you could eventually bootstrap your way up to an entire industrialized world.

Sarah beamed one of her lopsided grins. "Apparently it's hand-made. Something of an art object... the outer casing was sculpted by hand and cast in bronze. The whole thing was actually *built*, not *fabbed*."

Ah. That would explain it. When everything was free for the fabricating, the only things of any real value were things that could not be replicated. And that meant that hand-made art was one of the most profitable ventures that most people could hope to engage in. Heck, one of the best runs

the *Georgi* ever went on was transporting a load of wicker chairs from Asgard to Mars. "Well, alrighty then. Sounds like a hoot and a half. Sure you're not going to miss the Atlantis social scene for the two months we're gone?"

"Ha," Sarah said, turning and walking down the loading ramp to the hangar floor. Zane followed watching her appreciatively, noting especially the way her long brown hair flowed as she moved. Then he sighed silently and moved his eyes away. *Best not to gaze too long at what you cannot have*, he told himself, and not for the first time.

As always, a breeze was blowing; Zane thought he could detect a hint of the autumn he knew from his youth on Asgard in the air. But he knew he was probably just imagining it.

Three days later, after picking up the first load (a school of cryogenically frozen fish and fish eggs, to stock a world that so far lacked that species) at an Atlantis City colonization depot, the *Georgi* made the short hop to the warehouse in Barlerton. There they were met by a team of non-sentient robot cargo loaders and their surly human supervisor. George, the aivatar of the *Corpus Georgi*, grumbled about the "mechanical idiots" being employed. Like many Class One AIs, George thought very little of non-sentient machines. Unlike many Class One AIs, George felt no compunction against loudly expressing his views. Fortunately, the cargo loaders, being non-sentient, merely went about their business with many a "please" and "thank you."

The warehouse was in a gray, drab industrial district of Barlerton, which itself was gray and drab, perhaps the most uninteresting large city on Atlantis. The warehouse was situated next to the local beach, which in this case was made not of fine white sand but gritty cinders. Normally not a scene that merited much interest, the setting sun cast red light over the whole scene and cast long shadow that put much of the warehouse in darkness.

The seagulls didn't seem to mind the second-rate tropical surroundings; they went about their normal business of eating, flying and crapping on anything that dared exist beneath them. In this case, the *Corpus Georgi*. George was sorely tempted to unship the machine gun turret stowed in the aft fuselage and blast the winged pests from the sky. Sarah, sadly, had long ago expressly forbidden such actions. However, she failed to think of, and thus forbid, the use of the upper phased array radar system; a few quick zaps with finely focused microwaves sent the birds screaming away.

After the centuries-old tradition of filling out paper forms, the warehouse doors opened and the package came out, held in the arms of a large dingy-yellow cargo loading bot. A large crate, the shippers made a statement just in the material choice: wood. Zane stared at it with a raised eyebrow, Sarah with a frown. "There's something you don't see every day," she commented.

At the foot of the *Georgi's* cargo ramp, Zane stopped the cargo bot and had it lower the crate to the ground. The bot backed off, letting Zane and Sarah walk around the shed-sized crate, examining it. Neither of them had ever seen a wooden crate before. It was a sign of ostentatiousness that was rarely encountered.

"Ummm..." she said at last to the bored-looking supervisor, "I guess it looks intact. The contract doesn't say that we have to check out the contents, just assure that the crate doesn't look tampered with or damaged."

The supervised feigned shock and dismay over what was a perfectly standard clause. "Ain't nobody gonna mess with the stuff stored in *my* warehouse, lady." He snapped his fingers and the Tyrannosaur-sized cargo loading bot slammed its loading prongs together in a well-practiced bit of mechanical theater. "Ol' Jimmy here would mash anyone trying to break in."

"Yeah huh," Zane muttered, with well-practiced sarcastic boredom. "Say, that's neat."

The supervisor just scowled. Typically, Jimmy the Bot's display impressed people. The failure in this instance was annoying.

Sarah and Zane circled the crate once, looking for any sign of damage prior to accepting the package. In the horizontal sunlight, slowly fading as the sun sank into the sea, there was not so much as a scratch visible. Sensors indicated no radiation, no dangerous chemical emissions and the mass matched the customer specification. Zane nodded to Sarah, she nodded back. With Sarah's final signature on the supervisor's clipboard, Jimmy the Bot resumed its work and picked up the crate. With slow, methodical steps, Jimmy carried it up the loading ramp and into the ship; George "ugh"-ed in disgust. The warehouse supervisor looked around for the source of the dismayed noise, while Sarah and Zane knew it well and simply ignored it.

After the crate was stowed, the *Corpus Georgi* lifted off from the parking lot as the temperature outside continued its evening drop. Vaguely reminiscent of a finless sea turtle made out of planes and sharp edges, the ship had its full complement of crew: Sarah, Zane, George, Esmeralda the cat and Loff the Thessi. The cat was not a genetically engineered cat capable of speech; she was a bog-standard unenhanced feline capable of disdain for lesser beings. Loff was also a standard example of his race... little more than a meter tall, furry and four-armed, otherwise indistinguishable from a teddy bear. Like the rest of his people, he was seemingly unexpressive; his people did not show emotion through facial expression. This made them seem rather inscrutable to most humans, but he was a good mechanic and could fix anything on the *Corpus Georgi*. And it never hurt to have a friendly member of an alien species on the crew... only two non-terrestrial intelligent species were known, and the Thessi were an important trading partner. Fortunately, Thessi and felines got along well enough.

The sun was down and the sky rapidly darkening by the time the *Corpus Georgi* lifted off, heading east away from the sun. With its running lights

on, it was soon little more than a red-and-green dot in the night sky... until it passed ten kilometers altitude and reached the sunlight. To the few observers on the ground who saw it, the ship suddenly blazed with light. The angular planes caused the ship to flash between black and brilliant. The fusion exhaust was a nearly invisible faint blue flame stretching a kilometer behind the ship. As the ship continued its shallow curve around the world, the sun soon set on it again.

More than a thousand kilometers downrange, Zane turned the ship more or less straight up, following the filed flight plan. From his seat on the port side of the flight deck, he could see the sky above and ahead through the armor-like transparent canopy, but he wasn't looking through the canopy, not exactly. He had turned on his heads up display: sensors around the ship projected their views directly to implants within his nervous system, allowing him to "see" via any of a number of methods. Just now, he was piloting by optical light sensors around the ship, overlaid over reality with various levels of opacity. From his point of view, the ship itself was nearly invisible; his own body was ghostly transparent. It was as if he was an insubstantial spirit flying through space unaided. Behind him, the dark planet; ahead of him, the depths of space. To his right, Sarah in the co-pilots seat was set as perfectly visible, seemingly floating in empty space, as was Loff behind her. Esmeralda had started off in Loff's arms, but soon transferred to her favorite seat of power: the middle of the instrument panel, under the large flat transparent canopy. There she curled into a nearly featureless round lump of sleek black fur, snoring slightly.

Sarah did not care to view the world through anything but her eyes. She had a horror of implants any more capable than basic communications links, and was happy to see the crystal-clear stars of her homeworld through the canopy. But by not using heads up, her view of the outside universe was limited to the small portion visible through the canopy. Thus, she didn't see

what Zane saw by looking "down" through the floor of the ship, towards the north pole of Atlantis.

Huh, he said to himself. There's something worth getting a better look at...

Deviating from the flight plan, he pitched the ship down, pointing the nose towards the pole. Atlantis Air Traffic Control squawked with displeasure; Sarah cast a quizzical look at him. He grinned, and turned down the lighting within the flight deck. "Take a look at this," he said, gently rolling the ship onto its back.

Ahead of the ship, circling the pole, was an extraordinary auroral display. Now visible through the canopy, giant ghostly curtains of green topped with pinkish red were arrayed before them, flowing through the thin gasses of the planets upper atmosphere. From their point of view, the planet was a dark ball hanging over their heads; the aurora hung below it. The curtains waved with majestic slowness, following the weave of the planets magnetic field down to the upper atmosphere. Charged particles from the sun, in unusual quantities due to a recent flare, were falling down the slope of the magnetic field and energizing the thin oxygen and nitrogen of the ionosphere. The result was the hundred-kilometer high display, the surface of a vast rippling green river turned on its side and cast into the sky.

The ship was climbing too fast to intercept the aurora, but it would pass close. From their vantage point, the aurora was contrasted against the deep black of the night time polar region of the planet Atlantis. Only a few lights on the surface were visible; villages and a few cities on islands in the northern regions, a few ships and ocean platforms, vast patches of ocean faintly blue-lit by bioluminescent plankton, the aurora reflected in the water. A few far-northern islands, ice and snow covered, glowed faintly as fixed green spots under the reflected auroral light. The planets limb ahead was dimly backlit red, orange and yellow by the sun on the far side of the

world. Sarah was, as Zane knew she'd be, wholly enchanted, straining upwards against her seat straps to get the best look. Her smile was broad and her eyes wide.

Loff, sitting behind Sarah, undid his seat straps so that he could stand behind the co-pilots seat gripping it with his four hands, gazing upwards, down at the aurora. Zane noted that the expressionless alien had just the faintest look of wonder in his eyes.

The green light had attracted the attention of the cat. She woke from her dreams of mice and birds, looking up at the aurora. In the green glow her eyes shone, casting back a bright emerald reflection. Her glossy black fur caught the glow as well, turning her into a glittering specter.

A green light filled the flight deck. This close to it, the powerful auroral display was bright enough to cast slowly flowing shadows. But the three beings were too entranced with the outside view to note their immediate surroundings. They were looking at the aurora from directly above, now; multi-layered curtains were seen as thin wavy ribbons. Complex curves of green light stacked next to each other, flowing in unison, passed by at great speed.

The aurora formed a three-thousand kilometer cylindrical wall around the pole; within it, the sky was clear. After the ship passed over the wall of the aurora into the empty interior, Zane slowly pitched the ship down, pointing it again towards the stars. They soon returned to the sunlight.

What they could not see: the relativistic helium ions and electrons beamed out of their fusion engines lanced into that same atmosphere, making an aurora of their own. Smaller than the natural one, but sharper, brighter... visible as a green and red spike in the sky to those in the northern polar regions who happened to be outside, looking up.

Sarah turned to Zane, shooting him a smile. "Thank you," she murmured.

"Any time," he replied. "All part of the service."

Esmeralda returned to the serious business of sleep.

Once well outside the atmosphere of Atlantis, Zane plotted the hyperspace course to Badon. This was an unnecessary task given that George was perfectly capable of doing it, many times more efficiently. Still, it was nominally what he was paid to do, so...

With a theatrical press of a button, the hyperdrive engine was engaged. An observer outside the ship would have seen the *Corpus Georgi* simply disappear... no bright flash, no thunderous boom. Just... gone. From inside the ship, the outside universe similarly went away, replaced with infinite blackness. Nothing from outside the pocket universe which the ship now resided could affect the ship; it was, until the hyperdrive shut down and dumped the ship back into normal space, entirely cut off. With a mental command and a shake of the head, Zane shut off the heads up display, returning to the reality of the flight deck.

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