

A pinpoint of light shines near the southern horizon behind a weathered ship that moves under a crisp morning sky. A lone figure stands on the deck and watches as dolphins swim in the wake. The bottle-nose mammals trail the rusting ship for miles. The man who studies them turns his eyes skyward to see a pale moon surrounded by tiny specks of light. What he gazes upon is the International Space Elevator and the spaceships docking at the moon.

The man speaks to no one in particular. "Keep at it, Turner. We're counting on you to get that sub over to Europa."

Here in the leeward blue waters of the Hawaiian Archipelago, a team of researchers pursues a find for what is expected to yield answers to questions that have been with humans from the very beginning.

The research vessel Surveyor motors to the coordinates. The decommissioned ship made available from the Australian government drops its anchor. Sporting a beard and wearing a T-shirt over khaki shorts, the man wipes sunscreen on his face then nods to the skipper. With his signal two divers wearing scuba gear go over the side and swim hundreds of feet to the rocky bottom.

The researchers are Dr. Marshall Winton and Klaus Kuntz, who have waited for some time for this moment. They work for the recently formed Extraterrestrial Marine Institute, an organization that will study marine life on the two moons where life has been found. The only new paint on the decommissioned craft is the lettering for the institute.

Kuntz is distracted by the crewmembers that are unclear on "what ETs would be doing on the ocean floor."

“Might not be the best place for underwater UFOs, mate. Don’t you think the Mariana Trench is where you should be looking?”

Kuntz is writing a thesis for his doctoral degree in marine biology. His chosen subject: the shrimp-like creatures that dwell on Europa’s rugged sea floor and the leviathans that feed on them. His candidacy for direct study of the alien animals with the institute has been forwarded.

“We study a variety of things,” Kuntz tells them, smiling. “Right now we would like to know more about life here before we move on to Jupiter’s moon Europa sometime in the next month. What we may learn is that all that ice has been protecting life, even better than the atmosphere here. Like UFOs, but not today.”

A minute later the divers report back. “We’re here on the sea floor. No aliens for as far as we can see.”

Two of the crewmembers can be seen slapping a knee and laughing. On a monitor in the lab, the scientists see the asphalt-black rocks. His research assistant turns to Dr. Winton, who signals his approval with a nod. Dr. Winton’s pocket begins ringing. Kuntz hears him ask the caller if they can talk another time. He hangs up wearing a big grin. Kuntz looks to him, but his boss simply shrugs.

“That’s what we came for,” Kuntz tells the divers. “Give us five good specimens, the black ones we described. They’re lowering the net. You should be seeing it now.”

The divers load the rocks into a net that a moment later moves away toward the shadowy hull of the Surveyor.

Kuntz wears swim trunks with a Hawaiian shirt that would be the envy of the legendary singer Don Ho. Crewmembers snicker as he heads out of the lab and approaches the net that is lowered to the deck. A wand in hand, he sweeps it

back and forth across the “find.” A silver box hangs at his side. The Geiger counter issues a crackling sound. The gauge needle jumps.

Dr. Winton arrives at his side.

Kuntz asks: “Can I ask what that call was about?”

“Sure. When we finish here, we are getting on the space elevator.”

Kuntz swallows hard. His astonishment is clear in his expression. “Don’t play with me. I’m too excited right now.”

Hearing the Geiger counter, Dr. Winton exclaims: “Fantastic! The smoking gun! Here we are one billion years later, and the ferromanganese crust still tells the story.”

The ship’s skipper appears near the net and inspects the “catch.” Skipper: “Rocks? We should be hookin’ marlin. We came all the way out here for rocks?”

The researchers turn to the skipper. “Not just any rocks,” Kuntz says. “These specimens confirm our theory. Cosmic radiation from a supernova hit the earth a long time ago.”

“Tell me again. What is a supernova?”

“A supernova is the most powerful explosion that occurs in nature. It happens when a star collapses in its death throes. Proof is not easy to come by, my friend. We spent the summer floating balloons in the Outback. What we have been looking for here is the signature in the rocks that shows the ozone layer was destroyed and that caused a mass extinction. Ozone protects us from UV light. We would all be dead without it.”

“Frankly, I thought you guys were lost,” the skipper says in a thick Australian accent. “There’s no ET down there. Rocks

killed dinosaurs ... You Poindexters ever find any real treasure?"

"Sure do," Dr. Winton begins. "That stuff is worthless to our research. We toss the doubloons back. Keep the rocks."

Kuntz laughs. The skipper mutters something about "crazy bastards" and wanders off.

"It's important," Kuntz calls after him. "A supernova pointed evolution toward our ancestors. Toward us!" He turns to Dr. Winton: "What is this about the space elevator?"

"It's the kind of news we have dreamed about." Dr. Winton pauses to gauge his research partner's reaction. "We did it! We have been assigned to the new project. We're going to be on the Burr trolling the undersea waters of Europa!"

Kuntz screams and Dr. Winton throws his hand out. They shake hands and Kuntz begins to dance a jig.

"What a day!" Kuntz calls to everyone in hearing distance. "Wah-hoo! We're going to space!"

The Research Vessel Burr was named for the scientist who developed the first submersible to drill its way down to water below Europa's thick ice. There, the NASA probe found life – a surprising amount of life thriving in the solar system's largest ocean.

The skipper has a scow on his face as he takes in the sight from the bridge. "Suppose this means the buggering bastards will be outta our hair." A seaman within hearing distance adds: "And we'll be out of work again."

The object flies in front of a spreading halo of debris as large as a galaxy. The multi-colored halo has only distant stars shine in the space from which it originated. Across a vast

sea of time and space, the object flies in the inky darkness toward yet another galaxy – and that was eons before the science vessel Surveyor left the Maui harbor and the doctors climbed aboard the space elevator. The extraordinary voyage began as a great explosion swept across a binary system's several rocky planets turning them to dust. Only minutes earlier, dark matter poured into the dwarf star. The collapse was instantaneous and it sent its fury across an entire galaxy and beyond. In the blink of an eye, all was gone save for this lone object fleeing from that explosion. The halo yawns behind it. Before the object left the galaxy, the shockwave slammed the vessel sending it on this odyssey that would last eons.

Millions of years pass before the object finds its way to a system with a single, ordinary star orbited by eight planets in a remote region of a spiral galaxy. The object falls into the massive gravity well of the largest of the gas giants. With no one at the controls, the object is immediately thrown at great speed toward the inner planets.

On a trajectory out of yet another system, the object intercepts a small moon. The icy mountains shake when the object slams into the surface. Fractures travel to the far reaches of the cold mass. Cracks open wider. Finally, a colossal berg flips on the exposed water dropping the traveler into the abyss. The object sinks below a region that would come to be known as chaos terrain.

Eons pass before a heavily shielded satellite turned its spectrographic instruments on the hidden sea. A strange object is flashed back in images to Mars and Earth. As quickly as possible, a commercial ship is dispatched from Mars to Europa.

A glint of light moves beyond the glare of a small sun. When the ship crosses into Jovian space, the massive vessel towers over a satellite and its solar panels. Acres and acres

of milled material pass into the domain of the gas giant. Lifeboats and a fin for the communication towers protrude from the otherwise flawlessly sleek hull of the vessel that plunges toward the undeniable grasp of Jupiter's gravity.

On the flight deck, readouts jump in a multi-color display. A floor to ceiling monitor provides a view of space outside the craft. A lone pilot sits at the controls and watches five smaller monitors suspended above the instruments. A burst from the rockets days ago drained all but the last drops of fuel on the record setting flight from Mars. Among the many important systems and conditions the pilot watches is a graphical image of the ship and its relation to the 68 large celestial bodies. The pilot has his eye on the monitor that shows the hull and the dozen lifeboats. He holds his chin in his hand and wonders to himself. "Will we make it to the boats, if something goes wrong?"

The large face of Jupiter grows on the big screen. The vessel will intercept the big planet in a matter of hours. The Hesperus reached a tremendous speed of 300,000 mph before it slowed to its current pace. And the vessel still maintains speed much too fast. The speed will fall again to 200,000 mph or slower before the ship slams into the atmosphere and descends 2,000 miles where the pressure is measured in millions of pounds per square inch. The dense clouds will keep the Hesperus from flying off into space.

The harrowing journey turns more perilous under "Hell's Hammer." Clouds taller than planets wait in the atmosphere. Manned ships have been coming here for a decade. Some never returned. The Hesperus is the first merchant ship to brave the intense radiation of the gas giant. Other ships refuel in the asteroid belt. Not the Hesperus – not the ship on a unique and secret mission. If the vessel survives Jupiter's asteroid field just ahead, the hull will be tested as never before in the vise of those clouds.

The canopy lifts off the seal allowing mist to escape to the floor. The woman inside the capsule is oblivious to the alerts that are broadcast over the intercom. The alert accompanied by a shrill beep repeats: "Warning! Asteroid field dead ahead." The pilot at the controls turns off the alarm.

The woman slowly comes around as the mist rolls away revealing her nude form. She moves her hand out to find a bedside glass that is not there. Her hand bumps the side of the shell that has been her habitat for three weeks. She lifts her head and searches for a pouch as the canopy withdraws. Her tongue moves around in a mouth that tastes like what she imagines the floor tastes like. She grabs the pouch from her side and drinks urgently.

A memory of hastening out of her clothes comes to her. She slipped off to sleep confident that the cryogenic vapor would warm her. Now outside the capsule, she is shivering. The cold on her skin has her rub her arms vigorously as she slides off the couch and stumbles toward a locker. Her legs are stiff. Another sip produces a strong reaction. Her face contorts as her taste buds awaken. She coughs. Then she pulls out a flight suit from the locker and tugs the fabric up to her waist. The tag on the flight suit reads: "Advanced Fibers," an assurance she will be protected from the cold and radiation.

The captain's voice over the intercom interrupts her preparations. "Good morning. Going to be a rough ride. When you come up would you mind grabbing a pair of scrubbers?"

"We can send a man to the moon, but the ass will forget to bring a condom every time – old joke. What's up with him?" she says to herself. "Is he getting old?" She raises a thumb.

The ship's computer inquires: "Breakfast is a high-protein orange drink. Lt. Jamison. Would you like a pouch?"

"No."

The patch on the sleeve is the insignia for lieutenant. Another patch signifies she works for the Turner Mining Division. A petite woman at 5-6, Lt. Carol Jamison signed on for the task of co-piloting ships between Mars and Jupiter. She pulls her short brunette hair back. The shirt that she packed was snug the last time she pulled it on. Not now. Her hand inspects her abdomen. She pinches her flesh and she can tell she has lost weight. She looks down at her smaller breasts.

"My gawd!" she says aloud. "This can't be happening."

The captain's finger depresses an illuminated square on his instrument panel: "magnetic shield." With the shields engaged, he activates other machines throughout the ship. The covers for the portholes begin to move slowly over armored glass. Hatches close sealing off the compartments.

Lt. Jamison steps down a ladder to a passageway that will take her to the bow. She stops to stretch her legs next to the glass determined to work the stiffness from her limbs. She sets her laptop on the floor. Suddenly, she is powerfully reminded that she is flying through treacherous space. Rocks slam the bulletproof glass. The sudden explosion of sound sends her to a knee. The laptop hops. Her mouth agape, the co-pilot shakes her head.

The ship's captain, meanwhile, takes his eyes away from the monitors. He considers his words and then enters into the log:

22:03:2055

On course to intercept Jupiter

Our page in history will never be written because this mission is secret. The holds are empty. The passengers, strangers.

The Hesperus pushed beyond the limits of its engines on this 'journey of discovery.' The company has told us nothing of this mission to Europa except that we would be transporting two men. I won't even know their names. Our two passengers tend to their business in isolation as we approach the most dangerous part of our passage.

I have to assume these are important people, important enough to risk our lives getting them here quickly. We will drop speed in Jupiter's thick clouds. If this maneuver fails, please tell everyone the usual: It was a distinct pleasure. To friends and relatives of those aboard, they should know we are not hauling minerals on this run. At any rate, there will be no cargo coming back on the Hesperus. I have been told to spare no fuel getting there. They tell us we go to Europa on the noblest of pursuits, the pursuit of knowledge.

*James Danvers,
Captain of the Hesperus*

He files the log entry and presses the button that will extend the catwalk that connects the flight deck to the rest of the ship. The crew and passengers wear thin radiation suits. But the thousands of gallons of water filling the space between the flight deck and the hull's inside wall will afford protection from extreme radiation. The water carries ravenous bacteria that will consume radiation that the boron nitride in the hull does not stop. The passengers are deep inside the interior of the ship in rooms that usually accommodate a larger crew. They will be enclosed in a compartment that has a lead shield.

Capt. Danvers confirms the ship's course: straight on into the asteroids. The asteroids have collected here for eons. There are enough to make a dwarf planet, and that thought stirs the great discomfort for this unscheduled test. He is a veteran of many years in the company, having transferred from the aerospace division to the mining division. On this journey, Capt. Danvers hopes to borrow the kinetic energy of the rocks to slow his spacecraft going into the more treacherous miles ahead. In other words, he will direct the ship to hit everything he can.

Danvers has a moment to reflect on the contrast with the harrowing voyages of the 18th Century. He thinks of when wooden ships sailed the seas, and a ship's commander might have to elude capture. Capture was unthinkable and if sometimes it meant scuttling the ship, the commander would order the pilot to sail for shallower water. Better that the ship and its cannons be thrown onto a rocky shoal than face the consequences of surrender. Danvers considers the asteroids, some as large as houses. "I hope they are right about this hull," he tells himself.

The Turner ships were constructed at a space yard on the dark side of Earth's moon. Materials were invented for extremely hazardous space travel where the giant merchant vessel would spend its career. The Hesperus was introduced as the state of the art – no more keels. The hull was composed of material so strong a keel was unnecessary. Nothing imaginable could damage the hull, not asteroids and not the incredible gravity of Jupiter – if the proud ship does not venture too far inside the clouds. The crew would certainly hear the crashes against the hull, but they were safe. Photos of CEO Neil Turner and the Hesperus appeared on magazine covers before its maiden voyage. One of the magazines carried the title: "New era in space travel." Turner declared hull strength had been multiplied 1,000 times. Carbyne composite material forged in space was a first, the authors wrote. With the boron nitride exterior liner, the ship would be save from the intense radiation

associated with Jupiter and the Gallilean moon Callisto. Many shared the skepticism for the unusual ship. The men and women who helped build the colossal Hesperus said the carbine sandwiched by boron nitride was fit for travel through anything the devil could throw at it. The Hesperus was given the unofficial name of the Devil's Backbone.

"Not even an asteroid traveling dead on at hypersonic speed can breach the hull of this ship," Turner claimed, smiling for the photographers. To illustrate his point, Turner arranged to have large cannons fire on the Hesperus. The company had gone to war against the hazards of space and the company had won, Turner proclaimed. The shells shattered amid a shower of fire and sparks. The impact points suffered not as much as a dent. Turner's demeanor in the video was one of confidence. But Danvers recalls, the company owner will not be on board when the ship faces a real test. For Capt. Danvers, the boasts of his employer sounded a bit too much like the proclamations of the infamous White Star Line, the company that put the RMS Titanic into service.

Danvers is determined to carrying out his task 400 million miles from Earth. *Why worry? If the shield and hull fail, we'll be yanked from the ship in the outrushing air before we know what hit us. Death will be instantaneous.* He preferred not to think about that possibility. He had work to do.

Turner never did anything that did not pay a massive return for shareholders. As CEO and chairman he was the wealthiest individual on two planets, and determined to keep building his holdings up to the day he dies. And that date will not be soon, he warns. Neil Turner's father was the risk taker. He bet the company's future on bringing back to the moon the first load of metallic hydrogen from Jupiter. The hull of that ship was made of boron nitride and the third voyage ended in disaster. The company teetered on the brink of insolvency.

Neil Turner forged on. He begged, borrowed and stole every cent he could get his hands on to complete his father's plan. The hydrogen propellant, when combined with oxygen, was the most explosive thing that ever left the nozzle of a ship's rockets. Turner, however, had no intention of allowing his wildcat mining operation to be revealed to the public. His permits always carried proposals for "surveying" the 67 worlds that orbited Jupiter. In one of those ironies that have people ponder such things as destiny, it was a Turner satellite surveyor on Europa that found the object. Turner stared at the image for hours. The man worth more than all the billionaires alive spent many a sleepless night in his office imagining what kind of technology might be found in the anomaly under Europa's ocean. His gut told him he would bury the competition after the technology was securely in his hands.

Neil Turner was unlike the old man, the older executives said. Neil was drawn into finance instead of aviation. He was the type to laugh off criticism that his mining operations in Jovian space were a blatant violation of treaties signed by the United States. His father obsessed about Jupiter for different reasons. In the company founder's mind, the theorized metallic hydrogen near Jupiter's core could tremendously boost speed of his ships. He considered the threat to astronauts and crews that would spend long stretches in space exposed to radiation. The fuel was the first step to safer travel.

The substance had been synthesized at Livermore. Under the then modest conditions of the lab, the material vaporized an instant later. The great Michael Turner Sr. died before his vision became reality. Neil Turner inherited a company that was on the verge of greatness – and bankruptcy. He would change space travel and forget to mention it was his father's vision.

Science had delivered. The Turner Corporation would boast of its triumph over radiation and asteroids – in time. For

now, the ships traveled undetected. Occasionally, an amateur astronomer would spot “something unusual” transiting Jupiter. NASA dismissed the sightings as asteroids or comets.

Men like Turner had their own genius. He was despised. Many were trampled in the stampede to riches that was there at the very start. Though, considerations such as safety seldom made it to the top floors of the space needle where decisions were made. It was up to men like Danvers to insure that plans became reality and they were executed without flaw. While machines and ships became more powerful and more durable, the mind remained as fragile as ever. Danvers thought he would lose his mind over the incident on Mars.

For reasons only he knew, Danvers would face down the loneliness, mental stress and terrible fear that lurk out. His mind carries memories of a day gone terribly wrong. Danvers was a veteran of the Mars campaign. He was cited for bravery in carrying out an operation that ended scarcity of water on the planet. After the terraforming of Mars, Danvers was never the same again.

Turner’s brilliant plan would make water abundant on Mars. He described it in simple terms: “All that is required is the ability to move mountains. People, we move mountains.” None of the executives in attendance argued about his epic plan. The mountain would come from space – actually several mountains. When the plan was set into action, asteroids rained on Mars for days. As predicted, the impacts created heat from molten rock and that heat became trapped under a thicker atmosphere.

Danvers became a folk hero, though he desperately wanted to forget that day. As planned, he spent those days on Mars evacuating lost prospectors and stubborn squatters, some of whom had to be moved onto his hover jet at the point of a

gun. When photographs of great lakes were beamed back to Earth, it was Danvers' face that appeared with them. The press hounded the Turner Aerospace Division for interviews. Danvers declined.

His reputation for bravery bordering on recklessness would only grow. Turner, who knew the ugly truth, nevertheless chose him again for the Europa mission trusting he would remain silent and history would wait for mention of the coveted object. A man hiding from his past was a prime candidate.

Deep inside the hull, down to the atomic level where electrons dart around in vast galaxies of empty space, sound passes among the neutrons, protons and smaller particles. The thumping begins as the ship passes into the field. The floor-to-ceiling screen shows the field of rocks fly toward them. Just then, a rock slams the hull and shatters. The violent collisions send sparks and debris flying. Before the cover moves across the glass, a rock bounces along the hull and slams the bulletproof material.

"Damn it!" the lieutenant screams. Looking at the porthole, she complains: "A meteor big enough to be detected. Who's flying this damned thing?"

She is shaken and she is forced to regain her composure before setting off again for the flight deck. Before the reflection in the porthole disappears, she sees herself and gasps. In the unflattering reflection, the woman who returns her stare is gaunt. Her pleasant features remain but the flesh is more taut. The time in hypersleep left her skin a shocking white. For a second, she thinks she sees something and looks more closely. It is gone. She picks up her laptop, folds it and places it into a pocket. She finds the scrubbers in a locker and hefts them onto her shoulders.

“Carol Jamison, you are a fright,” she remarks and continues down the passageway to arrive on the flight deck. With the artificial gravity engaged, she has to make her way across the catwalk to get to the flight deck, a spherical room. The catwalk completes its extension and she hastily steps across. The hatch closes as she enters. They are sealed off from the rest of the ship. She looks forward and sees a lone figure spin his seat around to greet her.

“Sleep well?” the pilot says from the command seat amid a constellation of controls.

“Well is not how I would describe it,” she replies. “The scrubbers are in place.” She deposits her slender frame in the co-pilot’s seat and buckles herself snugly. She turns to the captain who has spun around.

“Most of the ship is dark.”

The captain nods. “You look like something the cat dragged in.”

“Right. I’m sore from training, but you might take a look at that hypersleep capsule. Three weeks in a tube shouldn’t make me this tired,” she complains. “Is there anything good to eat on this tub?”

The captain acknowledges with a grunt. “Yeah. The body takes quite a beating in just days. I’ve got something that will help ... somewhere.” He pats his pockets.

“I would give anything for a filet of something. A big salmon steak ... I was stupid ramping up my training so soon. Now, I crave pasta. Got any pasta in your pocket?” One of the five monitors that is illuminated shows the ship’s course laid out on a map. The asteroid field is outlined in red lines.

“You’re aiming for the rocks!”

“Calm yourself. We have to take speed off.”

“I almost jumped out of my skin back there. This maneuver seems radical to say the least.”

“If it will drop us to 150,000, we can make the turn and still have enough velocity to escape orbit.”

She is astonished and nearly jumps out of her seat. “Shit! Hitting the rocks? You are certifiable, Danvers.”

“Just putting some of what Newton taught us into practice. It will get loud and we’ll take a beating. You’re harnessed in there aren’t you?”

“Yeah, this belt will make a big difference.”

Lt. Jamison looks over to the older man. Nerves of steel, they told her. But lately, he was unpredictable. The sunny greeting was completely out of character. *Now this?* Danvers was the reserved type, seldom showed anything resembling emotion. He went through all of the motions of a commander and kept a professional decorum the entire time she has known him. She respected that but wondered how she became attracted to a man like him.

She is fascinated. More accurately, she unwittingly has an affinity for flawed people. Even before signing on she knew of his heroics. *This is the great Capt. Danvers in flesh and blood*, she told herself. She thought he would be taller. She was as chummy as she dared to be.

Eventually, she threw off all pretense of being mildly interested. She flirted shamelessly when back on Mars, a practice he eventually would caution her about. Until he brought her back to his cabin, she thought her efforts were in vain. They consummated their friendship and she found herself at the front of the line for copilots. She lectured

about showing favoritism. Others learned of their affair and seemed resigned to the situation “until it ran its course.”

“I know it sounds frightening.” Danvers apologizes. “Good news! We’re close,” he says and looks her way. “Take something. It’ll take the edge off.”

She looks at him evenly for a moment and concedes his point popping a tiny pill. The pummeling continues in their monitors. The graphical display shows dozens of strikes. Another display shows the magnetic field clearing a path. But other rocks penetrate the shield. An asteroid the size of a sedan grows in the wall monitor. She shifts in her seat as it explodes on the hull taking out a camera.

“Holding up just like they said it would,” Lt. Jamison acknowledges. She watches as a second camera is deployed and the large monitor blinks back on showing the asteroid field beginning to thin out.

“Here,” he says and pulls out a silvery package from his top pocket. “This will hold you over till we break through to the other side. Better check that lifeboat cover.”

“Thanks,” she says. The lieutenant holds the package up to inspection. Her stomach passed queasy a long time ago. She looks nervously at the monitor scanning the ship’s exterior and sees the boats are still there. On closer inspection, she can see a crack at the base of the cover. They might lose that one if there is another strike on it. The thought occurs to her, there would not be time to get to the boats. A disaster out here was unthinkable, but she knew everyone thought about dying out in the cold of such a remote location. It could be years before bodies are retrieved.

Then her thoughts turn again to her worry about him. She wonders if the captain has been surviving on protein bars for the entire transit. She makes a face as she contemplates the dry food. Finally, the package is pushed into her pocket.

“So, we’re sandpapering our way there with the ultra coarse variety. Not exactly by the book, captain.”

“Let’s talk physics. How many BBs do you think it would take to stop a rolling bowling ball?”

“Never heard that one. You’re point is? You’re going to tell me the meteor impacts will slow us down.”

“Smart girl. Turner would have had to test his hulls sometime. Here is the opportunity. We burned a lot of fuel on the way out. We conserve, refuel at Europa and with some luck we catch the next window. I’ll buy you that steak when we’re back.”

She expels a deep breath. She pops another pill for the soreness in her limbs.

“You called the right woman. I’m all about the burn.” She looks at some gauges and then ponders. “You know we have equipment that will pick up fuel. No processing required. And ...” drawing a deep breath, she proclaims: “There is the added feature that the scoop slows the ship.”

“We’re not taking on fuel.”

“What is the hurry?”

“Orders from the man himself.” He sees the comment register displeasure on her face. “The equipment is not tested for the speed we’re carrying.”

“You talked to Turner?”

“Through someone else, of course.”

“That is ... reassuring. I figured this was not going to be routine. Barely got my clothes off. I didn’t have time to flash

my roommate that I got called up suddenly," she frowns. "Was naked as a jaybird in the tube." She sighs again. She had another comment that would have miffed most men. She has given up. The man does not respond to jibes. "Doesn't matter now." Her laptop is still dark after it boots up. Finally, she stows the computer in a pocket next to her seat. "This thing is toast. I won't be talking to anyone using that thing."

"Oh," he says, lingering on the word. "Someone didn't read the company memo. We were supposed to leave everything behind." He makes a frown for her. "And please note, they are eavesdropping and hear every word."

She groans.

The ship's computer interrupts: "Orbital insertion in T minus ten minutes."

"Time to earn our pay."

They go to work making their pre-insertion checks along with a list of preparations. The bands of color that belong to Jupiter's massive face fill the screen of their monitors. They audible their readings as the mining vessel encroaches on Jupiter's swirling atmosphere. Danvers is right. They need to slow.

"Flaps deployed."

"Won't need them. Remember?"

She is about to retract the flaps and then she sees the monitor. "Hold on! We've got something down there, some kind of explosion and it is a big one." The lieutenant is the first to notice the glow in the northern hemisphere.

"You might want to look at the two o'clock on the monitor."

Danvers is already focusing his monitor on the top right quadrant. The boiling clouds spread out beyond Jupiter's horizon.

"See it. That kind of fireworks has to be none other than a comet. There are two more inbound. Massive suckers, too."

Not since the fragmented Shoemaker-Levy 9 comet slammed into the gas giant has there been a collision as massive as the one they are witnessing at Jupiter's edge. The pair watches as the first of the barrage lights up the clouds from what must be deep inside. The fireball that emerges has ballooned to the size of Earth. Outside the ship, the meteor shower has died down. They are oblivious to the fading sound as their adrenaline surges again. The worst is to come, far worse. The shockwave appears on the graphical display in a monitor overhead. The ship's alarm sounds.

The intercom: "Impact imminent. Secure all stations."

"We should make some martinis – shaken not stirred," she laughs with mock courage. Seconds later, the flight deck sways as if hit by a hurricane. The jarring impact is followed by calm – too calm.

"That going to change our path around the planet?"

"You okay?" She looks at him and nods. He continues: "We're coming out of the asteroid field, but we're not going to get a break for long. Nasty weather inside Jupiter." His fingers rapidly tap his keyboard. "The computer is plotting a new course that will put us in the south. This will be a rough ride, regardless. Got any suggestions of your own?"

"You're the captain," she says.

The ship creaks and groans.

"I've got a pressure leak!"

“Where?”

“Two of our bays have broken seals.”

“Get a bot on it.”

“The data is coming now on those impacts. Amazing! Tidal waves in the liquid hydrogen, and it gets worse.”

“Worse? How can it get worse?”

She is too staggered by the information and is unable to speak for a moment.

“We can’t go in there. We can’t! Mars has to be viewing this, right?”

“Yeah ... Why?”

“The core oscillates all of the time. But what we’re seeing now is extraordinary. Radiation is spiking, too.” The instruments show the already deadly radiation push the gauge far past the red line.

“We should abort.”

“That’s not our call.”

“Not our call! If our protection doesn’t hold, we’re toast. Mars will be on the other side when we pass. They won’t see a damned thing. We’ll ...”

“Lieutenant!” She is surprised by the only emotion she has ever seen from him. “We turn around and this will be the last time we fly – ever!”

“We’re barging into a storm with the radiation equivalent of hell, and we’re worried about some grief from a bunch of angry suits? What have you been drinking?”

“Not this time.”

“You have to be suicidal.”

She drops her head into her hands. For a long moment, she keeps her head down. Her thoughts bring images of her mother, a woman who has aged greatly in her struggles with cancer. She was frail 85 pounds when last she saw her in a linkup from Mars. The lieutenant’s eyes are moist when she raises her head again. She knows Danvers, 17 years her senior, is a longtime veteran with the corporation and he would obey orders even at huge risk to the ship. She raises her head. Danvers looks over to her. She says nothing for a time. But, her arms are folded. He knows he is in for it.

“So, we go. But I want something to record all of this. If I’m going to die on the dark side of Jupiter, I want those bastards to face the music. We drop a probe.”

“We’re going to have our hands full. Remember, it’s just you and me up here.”

“Enlist one of the passengers.”

“Against orders.”

They fall quiet. A display shows her BP climbing. He is astonished as her pressure continues into the 170s. He expels a large breath of air. “I’ll drop the probe. You prep it. Remember, lots of pretty pictures for back home. They love the stuff.”

“You seem strangely calm.”

“You should do the same.”

Robots come to life and begin sealing the pressure leaks. They finish the job and shut down. Suddenly, the hull is slammed. Another shockwave delivers a teeth-shattering blow to the hull. The ship rocks like it is about to fly apart.

“Jesuz, what the hell?”

“That’s the second of what we counted – three wasn’t it? We’re going to encounter more debris, too, as we make our swing around Jupiter.”

The monitors show debris from the comet landing on the clouds. The first plume ejected gas into space. Jupiter rages behind a veil that grows larger before their eyes. There is another impact and Jupiter’s edge glows again.

“I don’t know if I can take this. Sure you won’t change your mind about turning around?”

“Those shocks helped reduce our speed. There will be debris in those clouds. That’s it, keep ‘em coming. Listen to me. We’re going to make it.”

The lieutenant has reason to doubt his declaration. More warning lights flash on her panel. The ship groans again. A new pressure leak sends a robot scurrying to the bay door.

“The computer is running a systems check. Hydraulics took a pounding. There are some leaks. Electrical shorts on deck seven ... and a fire. Safety systems responding. Halon gas release ... it’s out. There will be a lot of smoke. Should I pay a visit to our passengers?”

“Delay that, lieutenant. Those men are adults. They will handle it.”

“You knew about this from the start. If it goes south, our families will read about us and wonder how something so

tragic could happen. The company suits must know. How do they live with themselves? The public has to find out." She growls.

"Finished?"

"Records can be erased. They can make it all look like we were reckless. And ... they always send a person to break bad news. I'm sorry about your mother. She is a nice gal. You're friend on Mars? Julie, right? She's a good one. I never got used to seeing the widows get the bad news. Damn it! So, we had better not fail. But just to be sure ... get the probe prepped."

"Ready."

He waves off further talk. "Okay. We've got work to do. I hope you're sending love and hugs to everyone for me."

Another display from him, she says to herself. "If that doesn't beat all."

"Come again?"

"Just adding a text message."

Danvers would have added to his reputation if anyone were to learn of this feat about to unfold. His colleagues ask him if has a special deal with God that keeps his aircraft from disintegrating. In the weeks before arriving in the Jovian system, he sat at the controls and formed an unusual plan. It involves using the mining vessel's massive size to advantage.

Lt. Jamison has no clue what Danvers is planning once inside Jupiter's atmosphere. But she suspects he has something planned because he is a picture of calm. The hulking Hesperus has a broad belly, and it is perfect for

what the pilot is contemplating. A new course is input. The ship will make its orbital insertion farther away from the raging storm in the northern hemisphere where the force from two explosions is churning up hurricanes. The Hesperus is bound for an unexplored region in the southern hemisphere.

"Jupiter is angry about that pummeling it took. The radiation is utterly fantastic. The measurements hit deep red a while ago and are off the scale. Tell me this crazy maneuver of yours is going to work."

"You knew?"

"I guessed."

"They don't spend enough time on aerodynamics back at training, do they? This ship has enough surface area. Back in Texas, the pilots feather the props for reverse pressure when they need to lose speed. We don't have props. So, we make do. We can make that fat belly we're dragging act like a chute."

"What are the chances?"

"I would say very good."

He looks over to her and remembers she has been out of the tube little more than an hour. She has not eaten. She is fatigued and shows signs of severe stress. Her BP has gone down, but only a little.

"You won't believe the incredible fireworks your probe will record. But the hull will hold. We'll be safe."

"You do like to make a grand entrance."

Her hand trembles and she moves it under the instrument panel. Her eyes close.

Minutes later, the hull slams into the atmosphere carving out a white-hot cone at hypersonic speed. The flight deck is rocked as the ship slows. Danvers sees nothing but white on the big monitor as the hull begins to glow.

“How much of this can she take?”

“We hit the atmosphere with reduced speed. But we need to throw off more.”

“You should fire a burst.”

“Dammit, the flaps are still out there. Retract the flaps. Now please.”

She complies. And then she sees the warning light. “We’ve got a problem. The number three flap is jammed. That cuts it. We’ve got to fire the retros!”

“Delay that. She’ll hold.”

“We open the collectors and we get some drag.”

“Have some faith.”

He looks over his shoulder, but says nothing.

Lt. Jamison takes another Dramamine. The tunnel behind the Hesperus stretches behind them as the ship separates deeper layers of Jupiter’s atmosphere. The flap becomes dislodged and slams the hull before disappearing behind them. On the shadow side of Jupiter, satellite cameras capture the advancing bright glow 10 degrees below the equator. The captain is true to his word. He deploys the probe that hits the atmosphere and flies away. Moments later they are greeted by the remnants of the comets. Debris slams the ship. The noise is muted but they can see in their instruments the havoc caused by all of the assaults on the

hull. The ship flies through a shower of sparks and sways when it hits a large piece from the comets. They are jarred again and again.

Behind the craft, the shower of sparks follows in a trail that forms a widening vortex. As the ship channels through the hydrogen, the pilot prepares to maneuver the craft so the large belly is fully exposed.

“Getting warning light on the rising temperature for that hole on flap three.”

“Hydraulic fluid has to be boiling. Ignore it for now. Prepare for another big jolt. You up for this?”

She wears a weak smile as she nods.

“On my mark, fire the starboard-side, forward rockets – only the forward rockets.”

The lieutenant closes her eyes with her hand poised over the control. She is praying: “Please Jesus, please make this work.”

“Now!”

Her hand lands on the trigger. The boosters sputter and then finally fire. The hydrogen wind howls outside. Slowly, the ship spins into position.

“We’ll stop in just a second.” He looks up to see a graphic display of the ship slowly stopping. But the craft stops too soon.

“Steady, she is just about there. We’re going again. Give me five more seconds of burn ... now!”

There is no burn.

“What happened? Why didn’t the boosters fire?”

“We’re out of fuel.”

“We can still capture ...”

He is shaking his head.

“Not this time.”

“You knew. If we’re knocked off course, there is nothing we can do. Danvers, you incredible ass, you knew we burned all of it getting here. How do we make course corrections?”

“That’s the easy part. We open one of the bays. The outgassing air will right the ship and it will even boost this big hunk of strange science if we need it.”

Lightning jumps across thousands of miles of Jupiter’s face. The glow of the ship grows larger amid the crackling display. The maneuver works. The battle-scarred ship slows. Still carrying a lot of speed, the great vessel bursts from the murky planet tugging along with it a trail of hydrogen vapor and the smoke from the well for flap three. The Hesperus opens a bay door, and – as predicted - the great ship slowly returns to a position with the bow pointed forward. They arrive in smooth sailing before the shining crescents of the moons Callisto and Europa. A radio message greets them as they take in the sweeping spectacle that is Jovian space.

“Hello, mighty Hesperus!” The operations center took in the entire display. “Sorry, we couldn’t help out back there. And by the way: Masterful flying. Absolutely masterful! Our satellites got it all. You guys took a real beating and came through like champs.” The voice belongs to a control supervisor on Europa. A group assembled around his desk is cheering. He plays a video of the satellite observations

that were recorded in various spectrums of light. He can see the Hesperus perform the maneuver that tugs on the ship until it slows to 152,000 mph.

The captain nods at his lieutenant.

“Hello, Europa!”

“Enjoy your stay in Jovian space, Hesperus. We look forward to seeing you.”

The ship follows a course for the tiny moon Europa where a habitat was set up for operations in recent weeks.

The pair looks at one another. Lt. Jamison wipes the sweat from her forehead and smiles. She pushes away from the rows of instruments. A heavy sigh leaves her lips. She levels her eyes at the pilot.

“The truth: How many times have you done this?”

“That was the first.”

The words rock her in her seat. “Amazing! I think I’m going to be sick.”

Capt. James Danvers comes to her. He touches her shoulder. “It has been a while since you said I was amazing.” She looks back at him and removes his hand. There is a pause as he looks into her eyes. Micro-meteors bang the portholes that have been exposed.

“Why do you do it?”

He starts to move off but stops.

“It’s not the money. Nothing is worth dying for out here. They count on us, the people we transport. These men deserve the best.”