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Cruise

I

“I remember looking up at the sun, closing my eyes, just letting the heat soak in.” Hadley Nobile kept her eyes closed, a smile breaking across her face. “And of course I loved our autumns. The changing of the world. The warming of its colors as that orange and yellow blush painted all the trees. But you could feel it in the wind, you know? You remember how it was: the tentativeness. The warning. October showed up and the snows began to fly, and by November the skies turned that iron gray.” The smile was gone. “By the time February came around, I was hanging on by my fingernails, gritting my teeth, cursing the weather gods every time I had to shovel my driveway or fight rush hour traffic on the slick roads. It’s different when you’re a kid, but once we grew up, spring could never come soon enough.”

Gibson van Clive shifted uneasily, brushing a hand over his prematurely balding scalp. “You sure picked an odd place to do research.”

Hadley looked out the porthole, smiling again. There was no bitterness in her expression, but a flame of excitement glowed in her eyes. “Make no mistake, Gibs, Europa chose me.”

“I think Europa chose all of us,” boomed the voice of a large man as he entered the galley. The room was not spacious, and seemed less so with his formidable presence. “Only a fool would spend months traveling out to an ice ball, and look at us: nine idiots gladly going, voluntarily racing out to the cold darkness.”

“Ah, the ice man cometh,” Hadley chided.

Gibson joined in. "Did you say cold? Could it be that our good Dr. Sigurðsson, who spends six months a year in the Icelandic winter gloom, is being a temperature wimp?"

Orri Sigurðsson's blonde eyebrows looked as though they had met at a shrubbery convention and had never quite gone their separate ways. They bobbed up his forehead conspicuously. "I got acclimated to this balmy ship." The man gestured grandly with palms up and joined the others at the single large table in the center of the room. Three small tables huddled against the wall, but the nine explorers usually left those for the handful of tourists on board. The giant smiled at Hadley. "Hey."

"Hey Orri." She jutted her chin toward Gibson. "Ignore him. I always do."

"You'll have to teach me that trick."

"You're just a science nerd," Gibson said dismissively.

Hadley glanced toward the doorway. "And speaking of which—"

Sterling Ewing-Rhys approached the table on cue. Short, muscular, quick, he was a fireplug of a man with graying temples beneath an impressive head of slicked-back hair. Someone you wanted on your side, not on the other. His name conjured up English accents and Earl Grey tea, but in fact he came from just south of the Mason-Dixon Line.

"Good evening all," he said, taking a seat next to the Iclander. "Guilty as charged. I wear the label of science nerd proudly. The Sun is shining. The birds are singing. Lovely day, isn't it?"

"If you like black skies," Hadley said. "And digital birdsong."

Dakota Barnes sauntered in, trailing Joel Snelling and Ted Taaroserro behind her. It seemed only natural that the stunning Dr. Barnes would have men trailing her in her wake; it came naturally to her. But Gibson thought she didn't notice, or at least she didn't flaunt it.

Ted had to duck to get through the door. The poor guy was always ducking, always banging his head on something. Gibson tried to imagine the man in a black frock, perhaps tending an orphanage, but it was no good. He knew too much about the pastor's research to envision him anywhere but in a high-tech lab.

"Did you save some for us?" Dakota said, looking down at the table. She stuck out her lower lip. "Oh, has there even been any yet?"

"No sign of vittles to this point," Gibson said, "but we have high hopes."

Dakota sat. "This bucket could probably use more than one steward to take care of us."

"That's all the research grants allowed for," Hadley said. "Just have to be patient. I'll bet the kitchen would let you pitch in."

Dakota shook her head. "You wouldn't volunteer my services if you knew what kind of cook I am. Any sign of the lovebirds?"

“Amanda said she and Aaron were giving dinner a miss and they’d see us at breakfast,” Orri said.

As the three sat, Hadley glanced around the room. This was her rodeo, and it was time to get things organized. “Okay, gang: everybody who is going to be here is here. So I’m sure you’re wondering why I called you all together like this.” Courteous laughter scattered around the table. “I do have something I wanted to say when we were all in one spot, which doesn’t seem to happen much, what with everybody’s different shifts. Now is as good a time as any.”

“We won’t lose our appetites, will we?” Gibson asked. One of the tourist couples entered, saw the boisterous group, and quietly disappeared back into the hallway.

Hadley smiled wanly. “Nothing so serious. I think we’ve made a lot of progress as a team, and we’ve still got weeks to our destination. Thanks for all your hard work on that count. We’ve gotten to know each other, people have stopped calling me Dr. Nobile or boss—except for Ted, who calls everybody boss.”

“That’s right, chief,” Orri put in.

“Or chief, and we’ve gotten to know who is best at ping pong and 3D chess—I’m never challenging Ted to a ping pong match again—and I was just thinking we should share any concerns or action items now, so we have some cruise time to get ahead of any problems.”

Good, Gibson thought. She’s showing her leadership qualities. He knew she was up to the task. He just wondered if she knew. He had known that crystalline brilliance of hers, from the time they were in school together to the remarkable rise of her career. She had certainly proven herself as a virtuoso in geology, but not so much in the nuances of human nature.

Ted Taaroserro cleared his throat, interrupting Gibson’s thoughts. The man’s voice matched his build, thin and reedy. He spoke precisely, like an Oxford scholar or a person trying to mask the fact that English was his second language. There was something earnest in his manner, something transparent, endearing. “I just got the update from those engineers up on Taliesin. Our submarine is on the crane and ready to transport to the south base as soon as my team says it’s good to go.”

Hadley pursed her lips in thought. “You’re not selling ice cubes to this Eskimo, are you?”

“No, really boss. All is ready, far as I know. I’ve checked magnetosphere patterns—”

“For Jupiter or Europa?” Gibson asked.

“Both, since they are different. Jupiter’s come from its core, while Europa’s are induced by its oceans as the moon moves through Jupiter’s fields. And

both are looking quite benign for our purposes at this point—certainly manageable on the leading hemisphere. They are, of course, in flux. The south dome is secured and pressurized at Sidon Flexus, just waiting for us to arrive. And that distance from Taliesin to our Sidon Flexus dome—all 850 klicks of it?—they're saying it only took their ground party eight hours to get there. Pretty flat terrain if we follow their markers.”

She looked at him skeptically. “I'm familiar with your unbridled optimism.”

His grin was his only response, bright teeth showing from his rich mahogany face.

Hadley nodded, apparently convinced. “Good, good. And what is it going to take once we're on site?”

Ted shrugged. His shoulder bones protruded against the fabric of his long-sleeve T-shirt. “If everything's working—which it usually isn't on any complex machine—it should only take us a day to actually prep the thing. But we'll of course need to have Orri and Gibson study the latest charts from the robotics before we go down. See how the ice floes have morphed, where the subsurface channels go, and so forth. These chaos regions can be tricky. Orri and Gibs get final say.”

“I know you're anxious to get in the driver's seat of that thing,” Hadley said. “No need to rush into anything.”

“Especially after the last one,” Sterling said.

An uneasy quiet settled over the group.

“No worries,” Ted said, sounding a note of encouragement. “That's ancient history. Pre-war technology. We will have no reruns of past shortcomings. We've had a decade of improvements since our regrettable world conflicts. Peace now. And a prosperous science program.”

“Yes, my friend,” Sterling said, drilling Ted with his eyes, “but nobody knows what happened to them ... still.”

Ted seemed undaunted. “Look, our redundant systems have so much redundancy that it's not even worth saying again, as it would be redundant. Lots of backups. And we know the area well from ground-penetrating radar. We're good to go, boss.”

Hadley nodded. “Joel?”

Joel jerked as if he had been caught doing something illegal. “Yep, should only take a good long day. As soon as we're on site, I'll power up various systems and check out the claw, things like that.”

“Sounds scary,” Dakota said. “The claw?”

Joel smiled self-consciously. “That's what we call the sensing arm. All those instruments are just what you're going to need.”

Dakota sparkled. “Claw discovers cetaceans on Europa. I like the sound of that.”

“Spoken like a true marine biologist,” Ted said. “But Amanda won’t let you forget the little guys. Microbes may be the spice of life on Europa.”

“Hey, if I get big critters, she gets her little ones, too. Let’s not be selfish.”

Joel continued in a humorless monologue. “The report I just received from Taliesin said the shaft has been dug all the way down to the level of several Schmidt chambers, so we can use those underground lakes to make our way to the main ocean, as long as the ice hasn’t shifted substantially at that level. I’ll check out the structural integrity of the borehole at south base, and then we’re good to go from my end.”

“And get this,” Ted said. “Someone was actually listening to us: the shaft has been drilled at an angle—my suggested angle—of thirty degrees slope. We’ll be able to slide that sub down slicker than lightning without putting too much stress on the winch.”

“I concur with Joel’s timeline,” Sterling’s southern gentleman’s lilt bleeding through. “I can have human/robotic interfaces up and running in no time. Before, during and after. No matter what kind of biology there is or isn’t.” He directed the remark at Dakota, a glint in his eye.

Hadley took in a breath and let it out, sounding satisfied. “Good. Other concerns? Now’s the time, people.”

“I’m concerned about starving to death,” Sterling said. The food arrived just then.

Gibson took mental inventory of the group: he found Ted the most intriguing. Here was a living contradiction, a man of faith who had made a name among the most critical-thinking scientific minds. Ted’s credentials were legendary, his expertise renowned in both submersible research and magnetospheric studies.

The big Iclander, Orri, seemed at times more like a teddy bear than a world expert on glacial flows, both terrestrial and on ice worlds. Orri’s work on the ice flows at Pluto’s Sputnik Planum had nearly earned him a Nobel for robotic research in an existing field, but his fame never outpaced his humility. He seemed happy to be among colleagues exploring nature’s wonders.

Dakota may have been the most enigmatic to him, although he never had been good at understanding women, according to Hadley. She was probably right. He found Dakota’s youth and energy physically attractive, but there was so much more to her. Like Ted, she fought against stereotype. In her case, her physical beauty detracted from her passion and brilliance in microbial biology. Like the rest of the world, Gibson and Hadley had first noticed her

through her work on Martian microorganisms. She was the perfect fit for an expedition to the seas of Europa.

Which left Sterling Ewing-Rhys. When Gibson had first seen his bio, the term “human/robotic interfaces” seemed a bit pretentious. But then Gibson got a chance to read about the guy’s work. His invention of cranial implants enabled operators to directly interact with remote devices on a level never dreamed of before. Sterling was the real deal.

They were uniquely suited, each in his or her own way, for a voyage of discovery. Every one of them saw the physical world as a shell, a mask of a greater truth beneath. Under that mundane surface, a place of tedious interplanetary travel, of taxes and electronic filing and three meals a day and the relentlessness of sunrise followed by sunset, other things waited. Exciting things to be discovered. Verities and beauties and excitement to be revealed. That’s what made a good scientist. That’s what drove everyone here. Everyone, perhaps, except for Aaron, but as long as he was a good physician, Gibson didn’t care about his outlook.

II

Gibson sat at his desk, massaging a tablet and struggling to see its corrupted data. It was difficult, frustrating work, but Hadley had entrusted him with the old journal, and he would make her proud. So much had been lost from the first expedition, the “lost expedition.” Skeletal details were all that survived of the official records. Some had been lost during “the War,” as had so many things, but for the most part the lack of data was simply due to poor communications links in those days.

The War. Gibson mused at the term. Nobody called it the *Third World War* or *the last war*. The global conflagration had been so much more than what had come before that it didn’t bear comparison. Instead, people simply referred to the conflict as The War.

The lost expedition had taken place nearly a decade before Europa’s communication satellite constellation had become operational, back when pre-war Taliesin was just a handful of habitats and Ganymede was mission control. The tablet was, even in text and with all visual or audio enhancements missing, a real fossil.

Gibson’s studies of the icy satellites made him a sort of historian, a keeper of the records of the Solar System’s formation. Studying a primordial crater field or cryogenic outflow channel was akin to studying an ancient manuscript. Geologists even referred to the ghost craters on the icy moons as palimpsests,

in a nod to old parchments that had been scraped off for reuse, retaining the ghostly image of what had been written before. Here was deep history. It made him feel connected, as if he was part of something bigger, a great river of time. That river flowed one way, unless you had a little dinghy to paddle upstream. That's what the oldest surfaces of the ice worlds provided—transportation back in time.

The decrepit digital diary was a ticket upstream as well. It was an old piece of hardware, pre-war technology, but Gibson felt sure the text entries within would be worth the effort.

—*Day twelve on site*

Ice core is now 450 meters down. Peter thinks... will be able to break... ough within the week, but the radar guys, esp Donnie, aren't so sure. If... and we just... miracles do happen...

Construction progresses on our little project to the north as well. Apparently the biology contingent doesn't have enough to do (yet). Donnie and Genevieve are the ones behind it; they were first on site to set up our Science Station B. Looks to me like it's all beneath Mendelson. He seemed really angr... J... not just for fun. Claims it's good science. Will have to see to believe... it IS therapeutic, no doubt, and at this point there is a lot of value in that. Leave it to Donnie to figure something like that out. The guy is creative, I'll give him that. As for...

The data degraded into confused characters on the monitor. Day twelve on site. The spotty records indicated that the expedition had left Taliesin on February 6. With a five- or six-day travel route, that would have made the date of the text February 12, some two weeks before the end. As the entry faded into corrupted gibberish, Gibson stared at the names. They represented real people, scientists not unlike himself. Genevieve Dupre, glaciologist. Donnie Ramirez, radar/subsurface studies engineer. Peter Kaminsky, biologist/deep core expert. Dave Culpepper, fields and particles aficionado and writer of the diary. And the three others, all world-class experts in their fields. All lost. The list reminded him of his own inventory of Hadley's expedition. He shuddered.

The door chime derailed Gibson's train of thought. He glanced at his monitor. The I.D. read "Barnes, Dakota."

"Come on in," he called, putting the antiquated tablet into sleep mode and sliding it under his pillow.

Dakota sprang through the door in that energetic way that seemed to mark everything she did. Gibson studied her, a ping pong ball bouncing into the room, crowned by a golden tiara of hair. She provided a stark contrast to Hadley, who he had spent long, intense hours with over the past week. Dakota was more than carefree; she was uncomplicated.

"Hiya Gibson, you 'cool guy.' What's the latest on the ice moon front?"

"No mucho. You?"

She tapped the wall next to the doorway. "Just living the dream on this luxury liner. I was trying to work out, do one of my katas, but my little quarters felt too cramped."

"I didn't know you practiced martial arts," Gibson marveled. He surreptitiously turned his attention to her muscle shirt and sweat pants. People tended to dress less and less formally during these long trips, but now her ensemble made more sense. Even beneath her soft leggings, he could see the outlines of chiseled muscle.

"Never came up. I like to do it in private. Ever been on one of the Princess Cruisers, Earth-to-Mars?" She shook her head with a faint smile. "Those things, I tell you. Amazing. Fully equipped gyms and buffets to die for. But we do get our own quarters here, which is more than I can say for the last barge I was on. Earth to Mars and back. Cheaper than Princess, but brutal."

"Are you a First-Class traveler?"

"Coach is fine as long as you have room to turn around in your bedroom without flushing the toilet. Those barges are cramped for a flea."

Seeing no other place to sit, she plopped down onto the bed. Ping pong. She brushed the bedspread with an outstretched hand, scooting back to lean against the wall "They were stingy with your furniture, weren't they?"

"I stuck my other chair over by the porthole."

"Oh, yeah. By the way, I like your bald head. It's honest."

He hid his surprise—and amusement—behind conversation. "You know what I like? I like the fact that when it comes to Dakota Barnes, everybody gets what they see. You don't pull any punches."

She shrugged. "Life is short. Don't change the subject. I'm just curious why you didn't go the genetic supplant route."

"My two uncles did. Bald as bowling balls, both of them. But my sister told me the procedure made them look like actors. I wasn't sure exactly what she meant, but her tone told me it wasn't something I wanted."

"Good decision. Hey, what is it with Joel? The guy is wound up tighter than an ion drive. He grumps about everything."

Her bounce to another subject would have been startling, had it been anyone else. Gibson weighed the moment. How much history did Dakota know? She was young, and certainly was an inexperienced explorer. "Joel has been through a lot."

She seemed to not hear him. "When it comes to worrying, he's an Olympian. It's like he trains for it, practices long hours, honing his skills until they become second nature. He's remarkable."

“He does seem to fixate on things a bit.”

She held up her hand. “That sounded petty of me. Sorry. My father was a worrier, and I saw how it distracted him from the good things. I guess I don’t want Joel to miss out, you know what I mean?”

Gibson held her gaze for a little too long. He glanced away. “I do. Yes.”

“You don’t think he’s getting the shakes, do you?”

“Doubtful. He knows the symptoms of deep space narcosis, and we’re all watching each other. But he’s been out here before. DSN probably would have shown up in his earlier travels, and he was stable.”

“Physically? Emotionally?”

“Both.”

Dakota nodded, keeping silent for a moment. “So I had a vision.”

He frowned at her skeptically. “A vision? Like Joan of Arc?”

“Nothing so religious,” she replied demurely. “That would be Ted’s department. I should say I *have* a vision, for this expedition. It has to do with in situ life on Europa.”

“Imagine that, coming from a marine biologist.”

She looked up at the ceiling. “Please! I am really excited about this stuff, this place, the prospects.”

Gibson surmised that her youthful enthusiasm was taking her too far ahead of things. It was clearly early in the game, with lots to learn. He leaned toward her, hands on his knees. “Dakota, it is an exciting prospect, exobiology and all. But right here, in this room, just you and me, can you tell me you really expect to find some sort of advanced life forms out there?”

“Science does not deal in—”

“Expectations,” he finished for her. “I know, I know. But what are the chances? You’re here for the duration, got your spot on the team, so be honest. Fifty-fifty? Fat chance? Nil?” His tone teased.

“Doesn’t matter, really. We’ll do our best to find out, won’t we? In my humble opinion, if we don’t find it on Europa, we ain’t finding it anywhere in the outer system. The stakes are high.”

“Steaks sound good right about now. A little garlic, a few diced onions . . .”

“Wrong kind of fare.” An intensity charged her posture, an excited tension. “See, everything we know about agriculture, everything we know about ocean floors and organic sedimentation, about carbon cycles and about medicine, it’s all based on one biome, one family of living forms, one set of biological rules. It’s as if we’ve had vanilla ice cream all along without even knowing we could compare it to chocolate or strawberry or Rocky Road.”

“Hey, I like vanilla ice cream.”

“You and I have so much in common.” Her eyes sparkled as she said it.

"Besides, what about those tiny Martian beasts you've been studying?"

Dakota frowned. "My money's on those having a terrestrial origin. RNA structure similar to ancient Haloarchaea. Living in a salty biome. No organized nucleus, similar enzymes involved in translation and transcription—sorry, does this mean anything to you?"

"I'm keeping up," Gibson said, "just barely."

Her expression lapsed back into thoughtfulness. "So if all that is true, we have one book of life. But what if there's a whole library out there?"

"And Europa might be our first new book, just waiting to be read?"

"It would crack the entire field open. Life independent of solar energy, purely chemosynthetic. In a place besides Earth's ocean floors. Imagine how the prospects for life in the universe would change. We would go from thinking about habitable zones around stars to thinking about vast arrays of icy worlds well outside of those zones. Sun-like stars? No need! As long as there's an energy source, like radiation or volcanism or certain chemistries, maybe life thrives. The possibility of biology in the universe would skyrocket!"

"And if not?"

She shrugged. "If not, it doesn't prove anything. There still might be active biomes inside Enceladus or some of the Uranian satellites. Maybe Triton out at Neptune. Who knows? But the affirmation of just one more example would blow the lid off."

Gibson felt himself grinning. Her verve was contagious. "Yes, pretty exciting stuff."

Dakota pulled herself to the edge of the bed. "More exciting than those great ice cores?" She poked his nose impishly. He tried not to look down the front of her sweater, but she did have very nice curves. "More exciting than those beautiful glacial flows?" She inclined her head toward Gibson's, her eyes staring into his. He could feel her breath, smell cinnamon and something else. Jasmine. "I mean, it doesn't get much better than watching a river of ice advance for a few millennia, now does it?"

She was beautiful, athletic, youthful. He wondered if her skin tasted like jasmine.

His wife had always loved jasmine.

And then the darkness returned.

Gibson blinked. He sat up, tilting away from her. "Can I tell you a story?"

She sat up, too, surprised. She brushed her hair back and assumed a patient lotus pose on the bed. "Tell away."

"Did you know that I was married?"

"Married?" she barked. "They've got your file as single."

“Now, yes. I was married before, I mean. To a wonderful woman. My soul mate, really. She died in a suborbital last year. Flying the route from Syrtis Major to Lowell City.”

“I heard about that crash. I’m so sorry.”

“No need. I’m dealing. If you have to check out, I guess Mars is a beautiful place to do it. She certainly loved it. Geologist. Like me.” He took in a deep breath. “But I just haven’t been the same since. It’s all pretty raw, and I guess I’m not really ready for, you know, anything Shakespearian.” He couldn’t look at her.

“Are we talking tragedy or comedy?” She said it gently.

He looked up. “I was talking romance, but I suppose either of the others fit.”

A blush made its way across Dakota’s chest. “I’m really sorry, Gibson. I didn’t know. Here I am, pushing myself on—this is not my *modus operandi*.”

“Now look, there’s no need to explain. These long trips get quite lonely, and we’ve got to be sharp in the field so nothing goes wrong. Stay frosty. Maybe after it’s all over . . .”

“Sure, yes.” She said it in a calculated manner. As she stood, she patted him on the knee. “I’ll just head back to my room. You know where it is.”

Gibson stood up in front of her, blocking her way. He kissed her, gently, on the forehead. “Believe it or not, you made my day,” he said.

“Well, that’s something, at least,” she cooed.

She passed through the door, her muscles as taut as a ballerina’s. “See you at breakfast,” she said as it closed.

“End of a perfectly lovely evening,” he muttered.

III

“It won’t do, you know.”

Hadley sat at her desk in her darkened quarters, and knew who it was without looking behind her. He always came to her in the darkest hour, the lonely time in that blackness between midnight and the hopeful dawn.

“You don’t know that,” she said into the darkness. From the shadows, he emerged. He wore what the early adventurers used to call an Eskimo parka: Inuit design, fur-lined, with collars and sleeves of fluff spewing from wolfskin leather.

“My dear, my dear. Your presence won’t make any difference. History has its own inertia, a relentless march. There is blood in these things. Blood and loss and heartache.”

He pulled his hood back to reveal a military crush cap, a general’s eagle enwreathed within golden laurel upon the front.

His oversized mittens held the pattern of leopard skin, the spots a deep crimson. It was not the color of blood, but something else, a thing she couldn't quite remember. If her artist brother were here, he could tell her. He knew all those reds: alizarin crimson, naphthol, cadmium red, quinacridone. All she knew was that his hands looked as if he had shoved them into a Thanksgiving cranberry sauce.

"You can't blame a girl for trying."

"Nobody is blaming you for anything. Are you blaming yourself, my belladonna? Ahead of time, for something that may not happen? Or for something past?"

She shook her head.

The phantom crossed the room to the window. "It would simplify things, of course, if you let it go. Many have had to. There is freedom in that."

"I can't. You know that. I have to know."

"At what expense? At the expense of your friendship with Gibson? At the expense of your life?"

He began to fade, holding a hand up. Was he bidding her goodbye, or warning her? She shook her head again. Something brushed against her lashes. Her pillow.

She sat up in her bed, rubbed her face, and stepped to the bathroom. It was a short journey on this ship, in these quarters, but she wasn't complaining. This was a luxury liner compared to some of the tubs she had traveled on, especially out this far.

Was it possible for disaster to run in families? Could it be that bad luck, or fate, or evil influences were passed down, generation to generation, to attract catastrophe like a lightning rod? Perhaps some of Scott's descendants perished in icy graves. Maybe the *Titanic's* captain passed the sinking-ship-gene down to his grandchildren's children.

Hadley splashed cold water on her face, decided it was a mistake, and turned the faucet to warm. That was better, but the chill wouldn't go away.

IV

At first, it looked as though the Grants would be no-shows for breakfast, but the married couple of the team finally made their appearance. Amanda and Aaron Grant entered the galley, with Aaron perennially looking like a sullen child, not particularly happy to be there or anywhere else. Amanda wore the same smile that she plastered on her face for any group occasion. When they weren't around, Hadley referred to them as the "odd couple." Gibson liked

that. Physician and microbiologist. Frick and Frack. He knew Hadley didn't share the thought with anyone but him, her confidante. Speaking of Frick and Frack. He smiled to himself.

The couple sat at the table, in adjacent chairs, but it seemed as if Aaron carved out as much personal space between himself and everyone else as was possible in the confined galley. "Morning," Aaron said quietly, his voice an insecure tenor. His tentative tone seemed to match his pale skin, which couldn't make up its mind between being a bleached Caucasian or simply translucent. His sable hair, undoubtedly dyed or genetically supplanted, merely emphasized his waxen complexion.

Of all the researchers on the team, Aaron and Amanda puzzled Gibson most. Despite the group activities and the science strategy meetings and the team building sessions, he just couldn't get a bead on them. What made them tick? Why was Aaron so odd? It was only natural that Amanda would shelter him if she felt protective as a spouse, but Gibson felt the need to be closer to them, the way he felt with his other colleagues. He would have to do something about that. Perhaps tomorrow.

"Hello, team!" Amanda said energetically, her full head of salt-and-pepper hair bobbing in the 1/4 g of the ship's acceleration. That rich silver mane seemed to rest uncomfortably atop the careworn face. Amanda had clearly had some work done on various wrinkles and sags, but her age was showing anyway. Gibson thought she would probably be more beautiful if she had left her face to age naturally. Like cheese. He never understood that side of some women, the desire to stay forever young. Then again, guys played out that desire in their own way, doing stupid things beyond their age bracket. What women did to their own aesthetics, he supposed men did to their own athletics. Either way, it was usually ill advised. Gibson came from a long line of prematurely bald men (and women, if you counted his great grandmother Edna). He was definitely headed that direction. Bring it on. Besides, people like Dakota didn't seem to care.

"But it's the surface we need to worry about first," Orri was saying in his basso profundo. "And I guess if we're voicing concerns, that one's mine. Chaos regions are notorious for shifting surfaces, breakthrough, crevasses opening up, slip faulting and the like. And as we're headed down to the site during the most unstable part of the orbit..."

"By design, obviously," Aaron cut in. He seldom contributed to the meal-time conversation, withdrawing into monosyllabic responses to the surrounding chatter. It was a shock to hear his voice. But he was right. Europa's geysers could only be observed at one spot in its orbit, and even then the phenomenon was not a given. Both Io and Ganymede had to be in certain spots in

their own orbits to tug on Europa's crust in just the right way, and they needed just the right help from Callisto on the outside. Further, the triple arrangement had to occur at a precise spot in Europa's own orbit, which was only slightly out of round and inclined to Jupiter's equator. That spot coincided with Europa's greatest distance from the planet. All of the factors had to come together in a rare perfect storm. The expedition would only get one shot at this, or the researchers would have to wait for years. By then, the scientists would be long gone.

"Leave it to our physician to put a finger on the celestial mechanics issues," Hadley said with admiration. Aaron offered a weak twitch at the corner of his mouth in return.

"That's the tension, isn't it?" Gibson put in. "We need a place thin enough to drill through, but stable enough to set up operations. We did some work on Enceladus a couple years ago, and had no trouble at all with surface stability."

Orri tapped his finger on the table. "Yeah, but as you know, Enceladus ain't Europa. Whole different ball game. We're talking mostly southern sea versus Europa's deep ocean. And thick crust vs. thin, ongoing geysers versus occasional and rare."

"But ice is ice," Gibson insisted. "Even with the temperature differences between Jupiter and Saturn, the ice behaves essentially the same way. And the ice at Enceladus's south pole is every bit as unstable, at certain times in the orbit, as that of any chaos region."

"I wish I shared your optimism," Orri grumbled. "On Enceladus the fractures can penetrate much more deeply than on Europa, as gravity tends to hold fractures closed at shallower depth on Europa."

"True," Gibson said. He began to comment, but Orri continued. "And Europa is more like a glacier than Enceladus is, generally speaking. It's a surface of ice rivers and subducting blocks; drill into that stuff and you've got issues. You know the problems we've had in the past." He looked down at the table. Gibson noticed that everyone was avoiding eye contact with Joel. Joel was studying the table, too, and Gibson spotted a sheen of sweat on the man's forehead, a red blush running up the sides of his neck.

Hadley chimed in, "All right, I suppose the take-away is to go easy until our glaciologist-ice-moon-guys determine that things are stable enough to proceed. We get into the hot zone, observe the geyser activity, establish our remote science stations, and get back to the dome to get into the ocean quick, yes?" She looked at Orri.

"Tough call," he said. "Might be best to do a dive or two before we do the geyser leg of the expedition. Just to make sure we get everything. But I'd rather not decide that on my own."

"You'll have help from other experts," Gibson said.

"Yes," Ted added, "They say there is wisdom in many counselors."

Dakota leaned over and put a hand on Orri's arm. "We're in this together."

"Yes," Amanda said. "Together for strength."

"Together for power," Aaron added reflexively. He shot a glance at his wife. Amanda seemed to pause. What did Gibson see there? It had been subtle, just the slightest hint of acknowledgement, the twitch of the mouth, a forced blink. Was that panic in her eyes? He certainly saw confusion on several faces. But before he could ask about the reference, Dakota interjected, "I really didn't expect the dining experience to be this tasty. I expected something a bit more ..."

"Military?" Ted asked. "I was hoping to never again have anything of the sort."

"Were you in The War?" Dakota asked.

"We all were, essentially." Everyone at table muttered agreement.

"If I was on the front lines, I'd be happier fighting next to a priest." Dakota quipped.

"Pastor," Ted corrected. "To me, it was a war unlike any other. The blurred borders of The War obliterated nationalism, wiped away conventional patriotism. I suppose wars of ideas, of worldviews, tend to do that. But yes, I fought in the Antarctic Arena."

"Whose side?" Aaron asked.

Ted blanched.

"That was tacky," Gibson scolded lightly. "It doesn't matter. Those days are over. We've all come out of it and there are no sides anymore."

"Here, here," Dakota called out. Amanda and Aaron exchanged glances again. Ted noticed.

"No harm done, Aaron. Okay?" Ted asked, looking at Amanda.

Amanda paused. "It's just that we both lost family in The War." Aaron shot her a warning look. She winced.

"In the camps?" Orri asked. "I did. A brother and two cousins. My brother died at the hands of the Seven Sisters. I tell you, Hitler's prisons had nothing on them."

"A whole factor larger, I suppose," Hadley said, swirling the cream in her coffee cup.

"Or the Third Islamic State," Ted said. "But Hitler had it over all of them for organization. The Eastern Alliance just took it to another level, with the help of the sisters."

"Septuplets?" Dakota asked.

"Hardly," Ted said. "They came from all over the place. Only two were related by blood."

"The twins," Hadley mumbled.

Gibson huffed. "Yeah, but they were like sisters in their *vision*. All played it out in their laboratories, in the camps. Birds of a feather."

"A dark vision it was," Ted said.

Orri seemed deep in thought. "Still, sometimes I feel I got off easy."

"Ah, yes, the camps," Aaron said as if just now realizing it. A strange look played across his face. It was not an expression of distaste, exactly, or horror. It was an inscrutable look Gibson couldn't quite interpret.

"The camps," Joel said quietly. "Unforgiveable."

Ted shrugged. "Oh, many people did nightmarish things during The War. But there is enough forgiveness in God even for them." He was looking directly at Amanda. "Forgiveness for anyone, no matter what."

Gibson watched Amanda. Only Hadley seemed to notice what he saw. The spindly woman had a deadly energy about her, like a coiled spring. Amanda stared at Ted. A fire kindled in her eyes that he had never seen before, a burning malevolence. If she had been a snake, he guessed she would be hissing.

"Believe it or not, I was a medic in The War," Sterling Ewing-Rhys said, breaking the awkward pause. "On account of my experience with cranial implants, I suppose they thought I was qualified." He tacked an extra, drawn out syllable onto the last word. "I have seen enough and thought about too much. I'd rather leave all that behind."

"And I'm sure we are all moving on from those dark days," Dakota said, lifting her juice glass. "Here's to the end of war and the rebirth of research, to new horizons and exciting discoveries, no matter where we're from!"

The orange juice glasses and teacups clinked, the coffee warmed and soothed. But most of the diners didn't stay for a second cup.

In the corridor, alone after the group had dispersed, Gibson asked Hadley, "Why didn't you tell them? Why did you leave that little tidbit out?"

"They'd had enough of my family history."

"Ancient history, yes. But you left out the more recent stuff."

"Just wasn't the right time. If it comes up again, I'll say something."

Gibson shook his head and headed for his room.

V

The dinner's conversation loomed from the walls of Hadley's empty room, urging her to remember. The camps. The battlefronts. Memories of The War plagued everyone differently. Each person had a story to tell, a tale of loss or pain or triumph or heroism. Hers was a story of loss. She had always reveled

in the relationship her mother and father had. They fought like any other couple, but they fought fair and they always made up. The parents she knew in the very private family times were the same ones the public saw. Her parents were well-loved, and they loved each other. They loved Hadley and her brother. And when The War came, her mother and father became the solid ground in the maelstrom, despite the fact that Hadley was already on her own, making her way through the scientific community.

Hadley stared at the screen, at the old photo of the polar explorers. Umberto Nobile—another link in the Nobile chain—held his dog, Taita, as he posed before the gondola of a huge dirigible. In the sienna-tinted black and white image, it was hard to tell if the sky was clear or overcast, but Nobile's companions looked cold. She wondered about them, wondered if they felt any differently about their expedition at the outset than she and her companions now felt. Were they excited? Did they hold high hopes of discovery and even adventure? Were they passionate, like Orri, who couldn't wait to get out on an alien glacier? Or like Dakota, who was dying to get her hands on some real European water? Did they have reservations about safety? Fear of failure, scientific or otherwise?

She shook her head. It wasn't Nobile's expedition that haunted her. It was a much more recent one. What was she to do with the memory of Donnie Ramirez? Of David and Genevive...

The door chimed. She tapped a key and the screen identified her visitor: Ted Taaroserro. "Yeah?"

The outside entry opened and Ted stuck his head through. "May I?"

"Entrée, Dr. Taaroserro," she said, misusing the word playfully. She gestured to the chair by her desk. "Make yourself comfy. So what brings you all the way to this side of the ship?"

"I wanted, first, to ask your forgiveness for my actions at breakfast. I have already spoken to the affected parties."

For the first time on the trip, Ted Taaroserro sounded like a man of the cloth. When he had first signed on, Hadley had been nervous about including a religious person on the team, but Gibson and others knew of Ted's track record, his expertise in energy fields and particles, and his fine history of sea-ice submarine research. His addition to the group turned out to be a feather in Hadley's cap. She turned her attention to him. "Affected parties? What are you talking about, Ted?"

"I was unkind to Amanda and Aaron, I think."

"I suppose you snapped a bit, but I didn't notice any unkindness."

"Perhaps it's that I know what was in my heart at the time. This kind of long-term travel sets me on edge. But at any rate, I also wanted to tell you how

much I appreciated dinner last night. Just the way you aired things out. Gave us all a chance to sort of put all the cards on the table, since we're all playing the same game."

There was something he wasn't saying. She looked at him long and hard. When only silence came, she said, "Yeah, but are we playing Go Fish?"

Ted paused, furrowing his brow. "More like Poker, I think. And I was bluffing a bit."

"You always were a good salesman." She gave him time, waited.

Ted laced his long fingers, placing his elbows on the table. He looked down, as if embarrassed. "While I have every confidence in our submersible technology, it's the landscape that I have my doubts about. It is a rare thing that I find myself agreeing with Aaron." He locked eyes with her. "Look, these geysers at Sidon Linea turn on for a few days, sometimes a couple weeks, right? That's it. You guys do your 'Old Faithful' watch and then we leap into action because the ice is at its most pliable, theoretically."

"Theoretically," Hadley encouraged him.

"And the ice is also at its most unstable, yes?"

"Right, as Aaron said. But you've read the research, seen the reports by Orri and Gibs, right? After those geysers shut off, things settle down quickly."

He was holding his hand up defensively. "Sure, sure. I'm sure everything's going to be just hunky dory." He shook his head. "It's just a little scary, isn't it? Being six or seven hundred kilometers from the aid of Taliesin base and all."

"Closer to nine."

"Thanks a lot. Those few hundred extra clicks could make a lot of difference if we were walking."

"What, you think you're going to need to set off across the frozen tracts like Amundsen and his dogsleds? If anything goes glaringly wrong, they can fly us out on a long-range jumper. The base has a small flotilla of them."

"That's encouraging." The flat tone in his voice betrayed his true lack of conviction.

"I find it so."

"Right. But aren't the majority of the jumpers one-person affairs? That would be a difficult ride back. And we add another one-fifty on the road to get to the geyser observation site. A thousand kilometers of icy vacuum is enough to give one pause."

"Getting cold feet?"

"It's going to be a lot more than our feet that get cold if..." He let the thought die in the air.

Hadley leaned forward, a sly smile gracing her lips. "And if it wasn't a long way, if there were no risk, it probably wouldn't be worth doing. That's what we

do. We explore.” She felt her pulse race as her first love came to the fore, the joy of pure knowledge so strong that it lay in her mouth like a taste. “We fight against those boundaries; we cross the lines, run off past those places where our maps say ‘Thar be dragons’, right?”

Ted looked troubled. He fidgeted like a cornered mouse. “All we can do is give ourselves as many Plan B’s as we can, and trust that the Creator will carry us through.” He wrapped one hand in the other. “You would think I could get used to this, exploring around dangerous places. I’ve been on a lot of expeditions. I did some polar exploring on Mars, you know.”

“I thought you were an Earth guy, top to bottom.”

“Good Masai stock. That’s me, boss. It was after The War. I went to Mars to get away from things. You know how it was.”

They both sat in silence for a moment, sharing the loss, the ache, the sadness.

Hadley said, “Don’t worry about the jitters. It happens to everyone on deep space missions. There’s some powerful thing that happens inside you when you’re this far from home, something that comes from deep down.”

“From that reptilian part of our brains, I suppose. The built-in nature that we have to combat daily.”

“Or at least come to terms with,” Hadley added.

“I am being irrational, I know. But it just sneaks up on you. Fear of the unknown and all that. Still, God is in it. That makes it all worthwhile.”

“In what way is God in this? I’m just curious.” Hadley’s tone lacked any antagonism.

Ted stood and stepped to the little portal. The brutal light of an icy day shimmered upon his ebony face. “We’re going out into the great unknown, into His creation. That’s a beautiful thing. Whatever we find out there will have His fingerprints all over it. To know a creation is to know its creator, don’t you think?”

“I suppose so.” She furrowed her brow. “You find beauty in that creation?”

“In all of it. In you, too. People, far more than the inanimate. You see, you were created with intention. You were thought about, born in God’s thought and then created. His children are the grandest and most precious of his creations. And that, Hadley, is who you are. I am glad we have redundant systems and grand plans, but those plans are not where I find my comfort.”

After a moment, she said, “So, is God on our side in this?”

Ted turned back to her, smiling softly. “God ‘does not wish anyone to perish.’ Of course, that quotation was speaking spiritually. Everybody likes to think that God is on his or her side. I’m sure that was the opinion of all parties in the last war.”

"Sure. But how could He be?"

"Are we speaking of world politics now, or exploration?"

"Either. Both. I don't know."

"All I know is that the Creator has a plan, and it is good. Sometimes we can't see it with all of life's mess, but I am convinced it is true."

"You get paid to say stuff like that."

A faint smile played across his face. "I speak from life experience."

Hadley locked eyes with him. "Ted, just what was that all about? That little speech about forgiveness? I thought you were being generous, but some of our group reacted rather strongly to it."

Ted blinked, but didn't look away. "Some things are better left unsaid. It is..." he searched for the right phrasing, "safer for everyone."

Hadley frowned, taking in a breath. "Well, I've had my share of wondering about this mission myself."

"And what's bothering our fearless leader, hm?"

"All the normal little things, logistics and timetables and all that."

"And something a little deeper?" Ted's gaze was clear, alert.

"You see right through me. We've got multiple assignments, don't we? Geyser activity, then oceanic exploration. But it's a bit like visiting a graveyard. Don't you think?"

"Yes, I suppose it is. I imagine you will be keeping your eyes open for whatever might be left, something the recovery teams might have missed." Ted's tone became more urgent. "But our mission is about life, not death. We'll be making our own history, not focusing on someone else's. You've put together an able team."

"And as you pointed out at dinner, with a lot better technology than they had before The War."

"Indeed." Ted's eyes shined. "And we'll have each other's backs. You're an amazing woman, Hadley Nobile. Thanks for the chat."

She stopped him with a penetrating look. "Ted, I've read your professional goals, your expedition milestones, obviously. But just what do you want to get out of this? Personally?"

He fell silent. Hadley read a host of expressions settling on his face: confusion, doubt, skepticism, even wonder. "Sometimes, to see the signature of the Creator is enough. It is open for everyone to read. You simply have to learn to recognize His handwriting."

He stood, bumped his head on the ceiling, and then bumped it again as he ducked through the door.

"We need to get you a football helmet," Hadley said. She couldn't be sure who was trying to encourage whom. As soon as the door sealed, she wilted

against the wall. She buried her face in her hands. Her entire body shook. She was sweating. She had put voice to the real issue, to the subject she had been dwelling upon in her own dark corner. The lost expedition, just before The War, had plenty of Plan B's. The team members were, from all reports, seasoned explorers and careful researchers. Just like so many who had come before. Just like those on Umberto Nobile's voyage, or Dave Culpepper's. But Europa was an unforgiving place. With the distances and complexities involved, this new expedition was not going to be "just a little scary." It was going to be terrifying. Maybe with Ted around, the mysterious Almighty would be on their side after all. But the scientist in her preferred to bank on Plan B's and orchestrated alternatives than on forces she couldn't see.

VI

Amanda ushered Hadley into a surprisingly stark room. Unlike the others she had visited, this double was barren of personal items. No photos hung from the walls or graced little digital albums on desks. She saw no evidence of past voyages or homey touches in the corners. On extended voyages like this one, even the most distinguished of researchers usually brought small pieces of home, but not the Grants. Amanda and Aaron were all business. It looked as if they had no past.

The double room had a sitting area with a table, the benefits of a couple's accommodation. She would have to remember that the next time she went on a long cruise. The extra legroom almost made the lack of privacy worth it.

"Have a seat, Dr. Nobile. Aaron will be right out." Amanda sounded like a receptionist in a medical office. Neither of the Grants had gotten comfortable with referring to Hadley on a first-name basis. Amanda gestured to the chairs at the table.

Hadley sat.

Amanda disarmed Hadley with a conspiratorial smirk. "All right, girl. Spill it. How are you doing?"

"Me?" Hadley was surprised by Amanda's informal tone, but she didn't mind it.

Amanda looked around the room theatrically. "You seem to be the only one here that's leading an exotic expedition to the south pole of Europa in search of volcanoes and sea serpents. Brave girl."

"Not so sure about the sea serpents," Hadley said. "But yeah, it's a bit daunting. And exciting to have the opportunity."

"You're doing just fine. There's a whole lot to keep track of. I never was gifted at the administrative side of things."

Amanda Grant was more relaxed than Hadley had ever seen her. Her little mission to break down some barriers seemed to be going well. Amanda sparkled with energy, as if she was sharing an inside joke with Hadley. In fact, she reminded Hadley of the women in her own family, especially her grandmother. Gramma Nobile always had a way of cheering people, of making you feel like you were special and that you shared a special secret. Life was good with Gramma, and she made it so with everyone around her.

"I'm afraid I've had to be administrative before. I was in charge of comms back on Earth for a deep space expedition or two, and I even did a round on Ganymede."

"You strike me as a woman who knows her mind," Amanda said.

"That I am."

Amanda glanced from side to side, then faced her again. "We've been comparing notes with the crew, Aaron and I have. Everybody else had to endure a painful application process. It seems that we're the only members that you came after."

"You're both good at what you do, and you come as a package deal." Amanda seemed unsatisfied, but she let it go.

Aaron came in and settled next to the two women. "Afternoon, Dr. No—" He stopped himself. "I did it again, didn't I? I am used to the decorum of rank on missions. It's important to always know who is in charge, don't you think?"

Hadley felt as though she was in a Petri dish, with the good doctor studying her, just waiting for her to morph into some mutation. "Yes, to a point. But we're in such close quarters that some familiarity is called for, I think. It helps reduce the tension."

"Tea?" Amanda offered. She played mother, serving up Lady Gray to everyone.

Hadley took a sip, put the cup down, and said, "We went through all that formal background stuff when I selected you for my team, but I thought we could have a chat about life in general. It's not so easy in a large group."

The two were silent, Aaron looking owl-like. Amanda broke the tautness.

"Yes, we thought that was a nice gesture. Didn't we, Aaron?"

"Oh, yes absolutely, dear." He scrutinized the cream dispenser.

"So how did you two meet?"

"Funny story," Amanda said, straightening in her chair. "We met at a symposium in Dubai. Microbiology and effects on large populations. I heard Aaron's presentation. I went up afterwards, and he told me he had seen mine as well. I was smitten." Her tone was practiced, as if she had told the story a hundred times. Or as if she had been rehearsing it in front of the mirror.

“Smitten?” Aaron scoffed. “Is that what that was? I thought you were just coming down with a rhinovirus.” They both smiled.

“Love at first site?” Hadley asked.

“Something like.” Aaron ran his tongue across his upper lip.

“Was medicine always your passion?”

He glanced up at Hadley. Their eyes met, and his narrowed. “I have always been fascinated by the human body’s response to external influences. Its immunological defenses, its reaction to disease and negative physical stimulus—” An energy invaded his little speech, a fervor that Hadley had never seen before in the man. He was practically salivating all over the table.

“And I’ve always loved microbes,” Amanda interjected, “so we were a match made in heaven. Of course, I came late to the academic game. Started out in a small lab doing grunt work.”

“Where was that?” Hadley asked over the edge of her cup.

Amanda paused.

“Philadelphia,” Aaron said. “But I rescued her from the City of Brotherly Love.”

“Yes, scooped me up and whisked me off to Europe. We made our home in Bruges then.”

“I hear it’s beautiful,” Hadley said.

“It is.” Amanda looked out the window, her voice taking on a wistful tone. “I miss the slow pace.”

“Me, too.” Aaron said mechanically. He seemed to stir. “Actually, I miss having my own lab. Freedom to experiment.”

Amanda broke in abruptly. “What about you, Dr. Nobile?”

“What can I say? I’m a sucker for exploding mountains and rivers of molten rock.”

“But surely there is more. What is it you want from this trip? This experience?”

She stared into her cup. After a long moment, she looked up. “Freedom.”

Hadley shared about her education, her dizzying rise to fame as a volcanologist and cryovolcanologist, and her recent research on Venusian canyon structures. Her lectures had always been popular, but she was surprised to learn that the Grants had watched several.

Twenty minutes later, Hadley excused herself, tiring of Aaron’s stilted, monosyllabic conversation. It offered all the fun of a tooth extraction. And she realized that at the end of the day, the couple had shared little, and had gained a fairly intimate history of her. They were definitely a couple, working as a team. She thought she should feel guilty about monopolizing the conversation, but she had tried. The only emotion she felt was a sense of unease.

Freedom, she had told Amanda Grant. It was funny how people could build their own prisons, brick by brick, out of ephemeral things like family history, ghostly pasts, failure or even the abstract fear of failure. Gossamer bricks, remarkably robust.



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