

# GOLDIE

Sean Monaghan

**Sean Monaghan <https://seanmonaghan.com/> grew up exploring the forests and mountains, and enjoying the wildlife, of his native New Zealand, eventually pursuing university studies in geography and geology. While more of an indoors type now, he relishes the opportunity to travel above the treeline, into deserts, jungles, and lakes, around the world, and with travel restrictions, is missing the opportunity for international explorations. Sean's love of these landscapes is vividly apparent in . . .**

## GOLDIE

### One

Up here, at the edge of the biggest of the table mountains, had to be the best running track ever. Up here, Charlotte could really breathe.

And sharpen her wits at the same time.

Her apron shoes pounded in along the rocky track. She'd brought them from Earth and just as well, since the camp really didn't have much in the way of decent manufacturing.

Charlotte ran at an easy pace, watching her footing. On her left, the forest started, scraggly at first and growing quickly into the substantial trees that occupied this part of Malale. Little birds darted out, mollusks chirruped, and puffs of petaled pollen made swelling yellowish clouds.

On her right was a cliff. Almost a sheer drop twelve hundred meters to the lush thick rain forest that filled the valley. A very different kind of forest, that one. Filled with creepers and bogs and things that could make you dead real quick.

Charlotte kept a good ten meters from the edge. Back where the last of the twisting roots and thin humus grasped at the bare rock. It was old, hardened sandstone that had become quartzite from eons buried deep. Or quartz arenite? Niall knew that stuff, but it was hard to keep track of.

Karella was still tectonically active. Other parts of the planet had volcanoes that blasted ash clouds kilometers high. Some places suffered earthquakes that would level even a modern city.

It was good hanging with Niall. His knowledge was bottomless.

Millions of years back this whole shield had been lifted up—continental crust floating over magma, in response to oceanic crust elsewhere sinking deeper. It was a stunning piece of geography. An area the size of a small country—sixty-eight thousand

square kilometers—almost all on two levels; the table mountains, hundreds of them, and the dense, green valleys and plains, filled with nutrient rich sediments, supporting rainforest ecosystems that would take more decades to catalogue and understand.

Overhead a big bird screeched, gliding on thermals out above the valley. Charlotte slowed and watched. It was like a condor, with wide wings and a pointed head looking this way and that. Deep maroon feathers glistened in the sunlight.

Serge would tell her that it wasn't a bird, strictly speaking. Convergent evolution, or standard solutions—feathers and light bones and so on—to the problem of flight. As far as she was concerned, birds were birds. The things that looked like monkeys were monkeys, the peccaries were peccaries, the snakes were snakes.

Insects were a whole other matter, of course. And the teppu.

The bird screeched again. It turned, hard, bringing in its left wing and dropping.

Its sharp eyes had spotted something. Some movement in the deep forest below.

Charlotte stopped, but couldn't see anything moving down there. Maybe just the afternoon mist hanging over the canopy. Anyway, her eyes had nothing like the acuity of the bird's.

It pulled out of its descent and rode through into level flight again.

Charlotte started running once more. It really was good to get away, to get her blood pumping. Another four kilometers back around to her starting point. So luscious to get out and smell the succulent scent of the forest, carried up on the same updrafts the bird was exploiting.

She stopped again. This time she did see movement.

Out on the vines. There was something big. Hanging below. Moving closer.

Charlotte grinned. Becs was going to be so happy. So happy.

Charlotte started racing back. The teppu was returning. The teppu. After so long.

Crawling along the vast, crowded vines that hung out across the valleys, linking mountain to mountain. Another whole area of study.

Becs would be thrilled. She'd been waiting. Hoping. About ready to give up.

Charlotte missed her footing. Stumbled on a root. Fell hard. Fell the wrong way.

She felt the sudden sharp pain of bones breaking in her right ankle. She tumbled on the rocks. He leg sparked at her. Felt as if she'd been lanced. Agony.

She came to rest maybe halfway to the edge, staring up into the wide, bright sky. Asaphaa, the big blue moon, hung there, gibbous and staring back at her.

Staring as if to say, *Well, honey, you know you need to concentrate on where you put your feet when you're out exercising.*

"Very funny," she whispered. Stars fluttered in her vision. She lay, breathing hard, letting the pain ebb. They were going to have to get her to the doc.

"Belt," she said. "Could you call Becs and tell her that a teppu is coming?"

"*You are hurt,*" her belt said.

"Yes." Charlotte sucked in breath. She tried some of the fade exercises from the meditation spa Indra had dragged her along to a few years back. The ankle still hurt, still took practically all her focus.

"*I will tell them you are hurt.*"

"Make sure you tell them about the teppu."

"*I will tell them that, too.*"

"Did you see it?" Her belt was a simple thing. Low grade observer AI with a bunch of sensors feeding back into the data collection systems.

"*I saw the teppu. I will tell them about the teppu.*"

"Tell them that first. Then tell them about me." Charlotte closed her eyes and tried to fade the pain.

"*I have told them. I did not tell them in that order.*"

At least they knew. At least they would come and get her. She wasn't walking a

single meter, let alone a whole kilometer

*"I can administer pain relief,"* the belt said.

"Would you?"

*"I would."*

Through the pain, Charlotte smiled. The belt was very literal.

"Please do," she said. "Please administer pain relief."

Something tiny pricked her, right at the belt's buckle. A warm feeling spread from the spot.

*"Pain relief administered."*

"Thank you."

Charlotte rolled onto her belly. She looked out across the valley. The next mountain over, Ikenni, was smaller than Malale, maybe fifty square kilometers. Almost two kilometers away, its sheer cliffs stood bronze and gray in the afternoon light. Some of the valley vegetation crept up the side. As with all the others, the talus slope was covered in forest. Fragmented in places, where more recent falls had torn through the growth.

Eventually, the mountains would all crumble to the ground. It would take millions of years, but they would go, part of the endless cycling of the topography.

Ikenni's forest fringe looked thin against the height of the cliffs. There were no people over there. Everyone on the planet resided on Malale.

The gray-white vines stretched out, long catenaries, swooping down, then back up, connecting the edge of Ikenni with the edge of Malale. As the teppu crawled along, its hands would be refreshing and strengthening the vines.

Charlotte crawled closer to the edge for a better view. The pain from her ankle was ebbing, drifting away courtesy of the belt's injection.

The vines were as thick as the deck of one of those eight lane bridges that connected headlands across harbors.

The teppu was a big one. The size of a whale. She was beautiful. Her downy, furry hide was a greenish shade of beige. Her long, convex body hung beneath the vines, thick strong arms clinging on above. Tentacles and fingers gripping, spinnerets releasing thin filaments.

"Belt," Charlotte said. "You can't see this, can you?"

*"I am underneath you. It is dark here."*

"Funny."

*"No. Dark."*

Charlotte smiled. The ankle was a far away thing now. Distant. Maybe sore, but it would be all right.

And it meant she could lie and watch the teppu. She felt a bit fuzzy. Perhaps the painkiller fogging her head. Should it do that?

The teppu was only just beyond the edge of the precipice on Ikenni. Wouldn't it have been remarkable to have seen it clamber over? Getting from the forest floor and rocky edge around and down below the vines must have been quite the operation.

They migrated, according to Becs. Traveled from north to south and back with the seasons. Or something.

There were about thirty or so vines in this bundle, with a whole, gentle ecosystem of their own. Mosses and lichens, grasses and shrubs growing all along the top. Most of the mountains were connected.

Niall was still trying to figure out how the geology worked. He'd shown her maps of them, the whole area of the shield laid out like the patterning on a giraffe's hide, or like cracked mud in a dried out lake's bottom, with black lines penciled in where the orbital surveys had shown the vine connections.

There were similar mountains on Earth. In South America. Tepuis, and they made

a good analogue for here on Karella. Except that there were no connections between the mountains on Earth. And their separation was much greater, and so the ecosystems on the top of each were essentially islanded from each other.

Here, with the vines as pathways, there were two ecosystems, really. The mountain tops, and the valleys.

The teppu was moving ever so slowly. Like a slowed-down sloth from Earth. No hurry about anything.

"*They are coming,*" the belt said. "*They are bringing a vehicle. They will be here soon. They will help you.*"

"Great news."

"*They are also sending fliers to observe the environment.*"

Meaning the teppu.

"That's good," she said. "Thank you."

The teppu was so far off, but still so magnificent. She could lie and watch it for hours.

\* \* \*

## Two

Becs stared at the imagery on the table. They'd gathered around in the main shed, right in the middle of the camp. It had been hard to find a spot atop the mountain where they wouldn't cause too much damage setting up camp.

"Nice, huh?" Charlotte said, leaning on the table. It was a cubic meter and showed depth footage taken by fliers.

"Why are you even here?" Niall said. "You should be lying in the infirmary getting checked."

Niall sipped from his coffee cup. It was gray and had text on the side that read *Metamorphism!* that was only visible when the cup was hot. Some kind of geology joke or something.

The room in the shed was big and airy. One of the landing ship AIs had folded and printed the complex in the space of sixteen hours. They'd all gone to sleep in inflatable tents and woken up to find the camp practically finished. Ten cabins, one each, arrayed around the central two-story shed in the middle, with their research rooms, rec room, mess and galley, garage, and an extendible observation tower.

Charlotte loved the place. Within a day she'd gone from lonely and bored on the leap ship to excited and happy. It was as if she'd come home.

She understood now why Becs had come back. Her fifth trip. The woman was in her seventies, but she'd probably spent half her life here on the mountains of Karella.

"He's got a point," Serge said. "You need to look after that ankle." As well as a biology tech, Serge was the crew's medic. His solution to anything was basically aspirin and rest. *Go lie down for a while*, he would say. Preferable, really, to the AI system, which was far too clinical and analytical.

"I'm here because look," Charlotte said, tapping the images on the table. It had a solid glass top, but the imagery inside was three dimensional.

"I'm looking," Niall said. "An animal."

"Big animal," Jody said. "Real big."

"It's a teppu," Charlotte said. "It's coming here. Crawling across the vines."

"Teppu?" Jody said. She adjusted her glasses and peered closer. "That's its name?" She had her long blonde hair tied back in a high ponytail. She had the kind of pretty smile and cute eyes that distracted Serge and Niall too often. Not only that, but she could outthink either of them on anything. Not a muser; a quick thinker.

"It comes from the tepui," Becs said, still staring into the display. The view kept shifting as the recording played. The remote had been quick. A clever little flier with about thirty times the smarts of her belt.

The feeds showed great views over the temperate mountaintop forest.

"I get it," Jody said. "We talked about it before."

"We just haven't seen one yet," Niall said. "Most of us."

There were eight of them now. Birget and Geoffrey had gone home on a passing leap ship. No one had relieved them. That just made Charlotte's job tougher, without someone else to help wrangle the datasets. The outpost was bringing in petabytes a day. Most of it got parsed by the AIs, but there was still a lot for her to do.

Becs, though, clearly had liked the way their absence effectively extended the funding. She would spend the rest of her life here if allowed. An extra few months was welcome, that was obvious to the rest of them.

"Sienna has," Jody said.

Sienna, Cain, and Therassa were a hundred kilometers away on one of the other mountains. Sienna was on her third trip here. There was the vague possibility she and Jody were lovers, but it was hard to be sure. Charlotte did try to stay out of other people's business if they weren't being obvious and annoying.

"This is Goldie," Becs said, still staring into the display. Were her eyes glistening?

"Goldie?" Niall said.

Becs coughed. She wiped her mouth with the back of her hand.

"Are you okay?" Charlotte said.

"I'm fine," Becs said. "Goldie was born on my first trip here." Becs looked up and around at the others. "She was one of two from the litter, that survived. The other one died a few years later. She didn't even live long enough to raise a brood. But Goldie still comes back every year, following the pattern."

"Your first trip?" Serge said. "That would make her . . . what? Three hundred?"

"You're funny," Becs said with a smile. "More like forty-eight years. And our data suggests that the tepu have a natural life span of thirty-five to forty."

"So she's old too, huh?"

"Not funny, Serge," Niall said.

"I . . ." Serge trailed off.

Becs was looking into the display again. "I didn't think I'd see her again," she whispered. "Look at her. So beautiful."

"Yes," Charlotte said, looking into the display as the recording cycled back to the start, the first, distant view. "She's amazing."

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### Three

Charlotte's cabin was decorated in a faux-Scandinavian style. Cross-hatched windows, exposed beams, polished wooden floor with rugs. Tapestries on the walls and a hearth with a flickering fire. Some nights the mountaintop could get real cold. Having a fire was cozy.

Serge had ordered her back to bed, but she'd gotten as far as the lumpy sofa in front of the fire. The kitchenette had offered her fried chicken with biscuit, or makhani dahl with a roti. She'd told it to wait.

With plump cushions behind her back and her busted ankle raised on the sofa's arm—the ankle had a bright blue webwork of bracing Serge's FAB had spun to keep the joint cast—she read off her slate about the tepu.

Most of the work had been authored or coauthored by Becs. Dr Rebecca A. Wrightson.

The world authority on the ecosystems here, and the most knowledgeable about the tep-pu.

And most everything in the papers was so stripped back to definitions and observations it was almost a catalogue. Charlotte had read her share of scientific papers over the years, but these had to be among the most difficult to read. That was saying something.

"A visitor," the front door said. "*It is Doctor Niall Buderckon.*"

"You can just say 'Niall,' you know?"

"Yes. *I believe that Doctor Niall Buderckon has an infatuation with you.*"

"Right. I believe you are so wrong. Still, would you let him in please?"

The door said nothing more, but it did open.

A whippet of cool air swept in with Niall, flickering around the room.

"A fire," Niall said. "I wish I'd thought of that!"

They'd all dialed in their own choice of decor for the cabins long ago, back in flight before arrival. She hadn't seen Niall's, but it was easy to imagine a bachelor pad with a focus on beer and entertainment displays.

"You can change, you know," Charlotte said. It took patience while the cabin reconfigured over a few days, but it was possible.

"Yeah, I don't know where I'd put it. Maybe I'll just come visit you."

The door made a sound, almost like someone clearing their throat.

Niall glanced around at it and back at Charlotte. He was wearing dark green shorts, a white T-shirt, and a blue jacket.

"If you'd wear long trousers," Charlotte said, "you wouldn't need a fire."

Niall came around and stood close to the flames. They were fake, but warmth still radiated from them.

"What did you make of today?" he said. "Wait. I mean, how's your ankle?"

Charlotte smiled back at his half-embarrassed grin. "My ankle feels much better," she said. "Thank you for asking."

"Good. Up and about in no time, huh." Funny, he was kind of nervous and goofy with it.

"Well, not no time. Couple of days laid up at least. Which is kind of disappointing. I wanted to watch Goldie traverse the vines."

Niall looked at her slate. "Reading up on them? Becs's papers?"

"They are so dry I've actually had to take sips of water while I read."

Niall laughed.

He rubbed his hands together and held them closer to the fire.

"Did you eat already?" he said. "I could whip something up. You know, so you don't have to get off the couch."

"The thing offered me chicken or Indian."

"Indian sounds good. Mine made me a Masala Dosa a few days back. Great big pancake."

"Nice. You do realize that I don't have to get up? It will make it and bring it to me."

The kitchenette's little table could wheel itself around to her when the meal was done.

Niall sighed. "I figured you might like the company. Anyway, Becs says that the teppu will—"

"Goldie."

"What? Oh, right. She says it'll take Goldie six or seven days to cross the vines. You'll be able to go see. Easy."

"I want to watch it all."

Niall said nothing. He stared into the fire.

"All right," Charlotte said. "Go whip me something up."

Soon they were eating, Niall sitting cross-legged on the rug near her. The curry was delicious, and Charlotte surprised herself by consuming the whole thing.

"You're hungry because you're hurt," Niall said, taking her empty plate to the cycler. "Your body needs the calories."

"Are you saying I eat too much?"

"No! I just . . ." Niall trailed off, then, "Ha. Ha."

After he'd gone and Charlotte was drifting off to sleep on the sofa, and the fire was dying down, the door murmured, "*Infatuated.*"

"You," Charlotte told it, "can shut right up."

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## Four

Heavy bursts and sheets of rain swept across the mountaintop, hiding the dawn. Charlotte's cabin wound open the shades and widened the main window so she could watch. The sound of the drops on the glass was a brilliant pattering symphony.

It was amazing that any topsoil formed at all on the rocky plateaus. It felt as if the weather was doing everything it could to strip the mountain back to the sea.

It would be amazing to see from her chosen running route. Charlotte kind of smiled, with the irony. Running in rain like this was a bad idea, but with a busted ankle she wasn't going to be running anytime soon.

"*Visitor,*" the door said. It could be kind of cranky in the mornings.

"Thank you." Charlotte scooped another mouthful of breakfast cereal into her mouth. Oaty and sweet. She might have to have this more often.

"You can open up," she said, and swallowed. The door offered security as well as protection from the weather, but there simply weren't strangers to keep locked out.

The door swung open, and Niall stepped in, soaking wet and grinning.

"Come on," he said. "Becs is getting the landing ship and setting it to take us on a flight to see the teppu."

"Shouldn't we leave it alone?"

"Becs knows what she's doing. Come on. Ship's warming up."

The ship didn't need to warm up, but Charlotte did, suffering the indignity of having Niall piggyback her through the muddy compound to the vessel.

The landing ship was shaped like a porcupine that had grown horns and wings. A clever thing that could reconfigure itself in a number of different ways. Right now it was extending its wings slowly, and slimming down its chubby porcupine body fuselage. Niall struggled up the stairway into the cabin.

"Idiot," Jody said as he stepped through, shucking Charlotte to the cabin floor. She hopped.

"What are you talking about?" Niall said.

The others were all there, arrayed along the sides of the cabin. They sat in plush comfy chairs that doubled as acceleration couches for when they made the return to orbit.

"Umbrella," Jody said. "Stasis field. Raincoat. Getting one of us to help."

"It's all right," Charlotte said. "I'm here. The rain's refreshing."

"It's cold," Niall said.

Serge came running up behind them, wearing a coat. He stopped at the doorway, took off the coat and shook it. The moisture misted off, and the coat balled itself up.

"Look at the two of you," he said. "You're drenched."

Jody had retrieved some towels from somewhere, and she gave them to Niall and Charlotte. Becs told them all to take their seats.

The ship closed up, with a puff of sweet lavender scent, as if it was trying to soothe

them in the face of the storm, and soon they were in the air.

The vistas were extraordinary, even with the driving rain. The subtly rolling forest of the mountaintop, the sudden drop off to the valleys. The ship cruised effortlessly through the buffeting weather.

The ship banked and brought them into the valley. They traveled at an economical hover. Waterfalls splashed down through notches and grooves, glowing white even in the gloom.

Soon the ship was approaching the vines. The sides of the vessel shifted and grew transparent, turning into long picture windows. Some of the porcupine-quill appendages were visible, hanging from above. The seats turned to face out. The vines stretched above them like hanging gardens. More waterfalls dropped from parts of the vines, cohesive for a short way, before shredding in the wind and simply joining the rain in its fall toward the valley forest.

"How could these things grow?" Niall said. "It doesn't make sense."

"The teppu cubs are tiny," Charlotte said. "They spin thready web."

"Like baby spiders ballooning," Jody said.

"Yeah, but over that distance?" Niall said. "Hundreds of meters!"

Becs just smiled, listening.

"Just because you didn't watch an oak tree grow from an acorn," Serge said, "doesn't mean that an acorn wasn't the start."

"This is not a tree," Niall said. "It's a kilometers-long strand. It's hard to imagine it being natural."

"There are hundreds of them," Jody said. "Are you suggesting ancient aliens? You know, they flew in and built protein-based vine strands while the locals erected pyramids in their honor?"

"Pyramids?" Niall said. "There are no pyramids."

"Don't take it all so literally," Charlotte said. "She's baiting you."

Karella had no indigenous sentients. There were some pretty smart primates in the deep rain forests that were starting to build shelters, and lots of tool use among the birds and rodent-like critters.

Niall smiled. "I know. I'm baiting back."

"Sure you are," Jody said.

"After this," Becs said, "we'll swing north to Tarantara and we'll take a look at something. I think it's important."

The ship flew slow and low over the trees. From this angle, the catenary sweep of the vines was even more obvious. The middle was probably just five hundred meters above the treetops.

The vines made a twisted tangle, wound one over the others. Parts were joined by sheets and tendrils. There were clumps of vegetation growing in places. The whole cluster of vines had to be over thirty meters wide. Twisted and braided inside.

Next to them—well, below—the teppu looked small. It was almost hard to imagine that it was as big as ten elephants.

The ship drew in closer. Becs sat by the window, working on a slate to control their flight.

The teppu was like an inverted table, but with a garden. Maybe like one of those basket planters that Charlotte's mother so loved. Strong thick legs clung to the vine, the fat head was almost buried in the shoulders, a thin tail flicked around at the back—thin was relative; it probably had more girth than Charlotte.

On the teppu's back, leafy green shrubs grew, with flowers and grasses. It was remarkable to see this close up.

"Is that symbiotic?" Jody said. "I mean, do the plants root themselves into the tepu's body, or is there just soil stored there?"



“Soil,” Becs said. “Goldie gathers it when she’s worming her way along the mountaintop. Uses her own waste as fertilizer.”

“Why?” Niall said. “Is it like, you know, a window box or something?”

“Habitat for her young. Nutrient exchange. Cooling.”

“Oh.”

“She’s coming back to nest, isn’t she?” Charlotte said.

“I didn’t think she would,” Becs said. “As you can see, she’s old and tired. I’d imagined we’d seen the last of her.”

The ship continued to draw closer, and the rain cleared for a moment.

Some birds fluttered around the teppu’s legs, black things with bright yellow crowns. They darted back into the shrubbery.

Becs stared. She whispered something Charlotte didn’t catch.

“She’s bigger than the others,” Charlotte said. “Isn’t she?”

“They don’t seem to stop growing. And at some point they’re just too big to sustain themselves. Let me watch for a few minutes, then we’ll go look at some of the other sites.”

“We have work to do,” Niall said.

“Urgent *geological* work?” Jody said. “Really? Can’t you just enjoy this?”

“I am, of course. I just don’t . . .” He trailed off and stared out the window. “Never was good with animals,” he muttered. “Animals and people. Rocks, I understand. You can tell what they’re going to do.”

Charlotte reached over and gave him a playful punch on the upper arm.

“Like that!” he said, but he was smiling.

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## Five

After watching Goldie and her slow progression across the vines for a while longer, Becs had the lander fly above the rain and the clouds. The vessel sped north.

The day was bright and clear and Jody coaxed the little food dispenser into delivering them coffees and chocolatey mini-croissants.

Becs didn’t speak. She sat watching imagery on her slate from the flyover of Goldie.

“Everything all right?” Charlotte said, sipping on her coffee. She’d dried out in the warmth of the cabin.

Becs kept watching the images for a moment. She looked up and out at the clouds, and around at Charlotte as if just noticing her.

“Becs?” Charlotte said.

Becs shook her head. “It’s all right. We’ll be there soon. You’ll be interested.”

“I know. Everything is interesting here.”

Becs managed a smile, but her eyes were far away.

The skies cleared and below, the mountaintop temperate forests became visible. On over a valley, where steaming mist rolled from the rain forest canopy.

The vessel crossed another mountain, a smaller one, with large areas of bare rock, and slowed along the edge, dipping down.

“Here we are,” Becs said. “Tarantara. It’s a pity about the name, actually.”

The landing ship slowed, gliding low over the valley forest. Bushy, buoyant green foliage stretched up, uneven and lush. A flock of brilliant teal and orange birds swirled around like a miniature tornado, spreading out at the top.

“Look at that,” Serge said, pointing ahead.

There was a gouge through the forest. A deep black strip, like a canyon of its own. It stretched for hundreds of meters, with a break near the far mountain, where it

picked up again. As if whatever had made the gash had bounced and landed once more.

Or where the separate tips of the broken vine complex had ended in their fall.

"This happened about fifteen years ago," Becs said. "We didn't have any local sensors, but the orbital cubes picked it up and mapped and extrapolated and created a good picture of what happened."

"What happened?" Serge said.

"A vine complex broke," Jody said. "Isn't that obvious?"

"Oh. Right. Of course."

The vessel continued its flyover. Charlotte peered down into the tear in the forest. It was dark down there, but the forest was regenerating. Like any rain forest, it was vigorous in the warmth and the wet. Maybe another fifteen or thirty years, and there would be no sign that there had been any incident here at all.

"Over this way," Becs said, "you can see the remains of the vines where they fell."

The vessel was turning, slowly coming back to face the mountain they'd flown over. The cliffs were the same as back at Malale; sheer quartzite bluffs, with a few patches of hardy plants, the rugged, vegetated talus slope, and the crown of temperate forest, patchy as it was.

And something gray-green streaked down the side. As the vessel drew closer, it was clear that this was the drape of the vine where it had fallen.

Some of its little gardens still grew, shrubs with twisted trunks, clinging on, ragged and hardy. The vessel flew in low and close.

"Bones," Jody said. "There."

Charlotte followed the line of Jody's pointing finger and saw fat white shafts and curves poking out from one side of the collapsed vine. Crushed in against the rock.

"I thought they would be gone by now," Becs said, and drew a deep breath.

"No you didn't," Niall said. "You knew. You're showing us."

"Hush," Serge said.

"It's a teppu, isn't it?" Charlotte said. They looked like dinosaur bones. There was one that was knobby at the end, like a femur.

What a terrible death. Walking along your own highway and getting crushed when it fell.

"A teppu, yes," Becs said. "Manaka. She was younger. Maybe ten years old. And yes, I wanted you to see, but also to see this."

Becs worked on the slate and the vessel banked away, circling higher. It came around again, closer to the mountain's edge, almost level with the plateau, perhaps a kilometer or more from where the fallen vine lay with poor Manaka.

"Here it is," Becs said. "We have to be real careful with the landing ship."

The ship brought itself into a hover. The maneuver was expensive on fuel, so Becs must have thought it worthwhile.

"What are we looking at?" Serge said. "The cliff edge?"

The rocks stood out sharply. Some facets shone in the sunlight, now that the rain had been left far behind. The ship was close enough that the fractures and irregularities were visible.

"There," Jody said. "See that?"

Again Charlotte followed the imaginary line from Jody's pointing fingertip.

Rolling clouds far off toward the horizon, and another of the big condor-like birds gliding around. The cliff there with something catching some sunlight. Something wafting.

"A line," Charlotte said. "A web."

"Weblike," Becs said. "There are teppu cubs there. Still very tiny. Spinning out the strands. The strands bunch and twine. They have their own feathery vanes. Even a

nervous system.”

“No,” Niall said.

“You would know,” Jody said.

“Easy,” Serge said. “He was just expressing incredulity.”

“The threads float and waft and bind. They float like kite strings across the valley. When they make it there, they bind on. Cling to the rocks. Weave their way on inland across the mountaintop plateau. They grow stronger. The young, they work their way back and forth, adding thread and strengthening it all.”

“I’m trying to find the evolutionary process that forms this,” Serge said. “As with Niall, I’m feeling some incredulity.”

“That’s what we’re here for, right?” Charlotte said. “Understanding the ecosystems.”

“I’ve been studying the ecosystems for decades,” Becs said, barely audible, “and still they mystify me. But this is what you see.”

“How did you know?” Charlotte said, watching the threads waft. “How did you know that we would see this?”

“Exactly,” Jody said. “Surely this is not happening all the time.”

“It happens a lot.” Becs held up her slate. “But I did have the AI look for possible sites. You young ones need to see some of this. You get so focused on data and publishing and papers and getting your names around that you forget to look at the world.”

No one spoke for a moment.

Charlotte took a sip from her coffee. Found it cold and set it back down.

“It does happen a lot,” Niall said. “It happens all the time.”

“All the time?” Jody said. “Again, how would you know?”

“She’s ribbing you,” Serge said. “You know, on account of you being a geologist rather than—”

“I know that it happens,” Niall said, “because that makes sense. There’s no extant vine here. Ipso facto, they need one. Otherwise their migration routes are interrupted. It’s like a mature oak tree must make hundreds of thousands of acorns through its lifetime. How many make it to maturity?”

“And it’s more than just that,” Charlotte said. “More than just producing hundreds so that a few will survive. We can’t apply the tropes of Earth ecosystems to those here. There will be distinct differences.”

“Right,” Niall said. “It’s not as if there’s a set pattern for survival. No set way, just that whatever works is what keeps working.”

The threads kept wafting. Becs had directed the vessel away from the rock wall, following the line of the threads, but keeping some distance.

“I’d like to see them,” Niall said. “The young. I take it they’re much smaller than the adults.”

“Standard with young,” Serge said.

“No, I mean, proportionally. A whale has live young that are bigger at birth than I am now.”

“Tiny,” Becs said. “Less than one ten millionth of the teppu’s adult size.”

“No,” Serge said. “I mean. Okay, but I can’t wrap my head around a number like that.”

“The teppu are big,” Charlotte said. “Goldie must be around a hundred seventy-five metric tons. A ten millionth of that would be seventeen and a half grams.”

“Say the size of a mouse,” Niall said, smiling at her. “If that.”

“See,” Jody said. “Charlotte’s good with numbers.”

Niall was still smiling at Charlotte. She smiled back.

“Another time,” Becs said. “Let’s head back. We’re here for a while. There will be other moments to watch these things.”

\* \* \*

Six

The rain had cleared and the ground glistened around the camp buildings when they returned. The landing ship settled to the ground, whirring and hissing. Warm, moist air swept in when the external door opened.

Niall helped Charlotte back to her cabin, one arm over her shoulder, his arm around her back as she hobbled along.

"A crutch," he said. "Or a walking stick. The system can make you one."

"Okay."

The door greeted her and swung open. There was the smell of tea and sweet cookies inside. The kitchenette had prepared for her arrival.

"I guess you'll spend the afternoon data processing," Niall said.

"Yes. The advantage of my role, I suppose, that I don't have to be out in the field like the rest of you."

"I don't have to be out in the field. Once I've got samples, there's plenty to do in the lab. I mean. I. There's work that I can . . . I mean, if you want company, I can hang around."

Charlotte smiled. It was cute seeing him tongue-tied.

"Those vines are something, huh?" she said. "Stretched across that distance, but still able to support a creature that weighs close to two hundred tons."

"Yes. But not always. You saw Manaka's bones there. Crushed in the fall. Her body trapped there."

"Let's not talk about that."

"Yeah." Niall stood for a moment. "Well, work to do. I'll . . . drop by later, see how you're doing."

"I'd like that."

He grinned like a kid and stepped back out the door, just as the rain started up again.

Charlotte sipped on the tea and nibbled on the sweet cookies—chocolate chip, as if the cabin knew her inside out—and worked on datasets. She used the whole tabletop and set the AIs on routines ordering and extrapolating and making connections.

The AIs were smart, but there were so many systems out there gathering data, there were always bottlenecks and choke points in getting useful information from them. Despite their intelligence, the AIs still needed some corralling from outside.

The uncanny valley, where robots that looked close to human crept people out, was rooted deep in the brain. There was something similar with AI; a valley they'd never crossed to intuition and hunches and guesswork. Maybe someday.

Charlotte had always liked the old trope of how wisdom came from knowledge, knowledge came from information and information came from data. Levels of interpretation at each step up from data. Some day, she might even have a little wisdom. Say, with men for example, so she didn't end up with the head-shaking from her mother and the eye rolls from her sister. Gillian, with another baby coming, and the father still sticking around. Gillian was good with men.

Later in the afternoon, the front door said, "*A visitor. It is Doctor Niall Buderckon.*"

"Just 'Niall.'"

"*You indicated as such earlier. I will try to remember. I believe that Doctor Niall Buderckon has an infatuation with you.*"

Seated at the table, Charlotte laughed. "You might even be right. And would you let him in, please?"

"As you command." Sometimes the door could have a sense of humor.

Niall stepped through as the door swung wide. "You gotta come," he said, without any to-do. "Come now. Let's go."

"Go where?" Charlotte stood, favoring her busted ankle.

"Jody found a nest in the data. We want to go see the babies."

Niall was holding up a crutch. It had some kind of fat, clawed foot on the end, and a curved slot for her arm.

"Oh," she said. "You're serious."

\* \* \*

## Seven

The landing ship surged high across the terrain. The vessel followed almost a parabolic flight path, up, then down. West, leaving the sun behind. The ship's flight systems—the combination of aerodynamics and gravity resistance—allowed for quick trips this way.

Charlotte watched the ground below as they descended.

"We've come a long way," she said. "Clear across the whole shield?"

"Not quite," Jody said. She was directing the craft, on the slate. There were just the three of them, Jody, Niall, and Charlotte herself. Serge had stayed back and no one had mentioned it to Becs. Apparently they were afraid she would veto it and tell them just to get on with their jobs; the funding was tight enough as it was.

But there was a buffer. There always was.

"It's mountain A397cy," Jody said. "No actual name. Just here toward the edge."

She showed Charlotte the slate, with the map displayed on the face. The shield area was highlighted and broken up with all the valleys, more of them, and wider to the south. The giraffe patterning.

"It makes you wonder," she said. "Why do they come so far? The living vines must get very stressed stretching over such distances."

"I know."

"They migrate," Niall said. "Summer in the north, winter in the south. Hatchlings come at the start of spring. The adult teppu depart as things warm up. Big bodies like that must generate a whole lot of heat, they need to get to cooler climes."

"Really?"

He frowned at her. "What?" he said.

"I thought you were just a geologist."

He shrugged. "Well since they're your thing, I did some reading." He gave her a cute, sheepish smile.

How about that. A genuine interest.

"Well," Charlotte said. "You still have some surprises." She chewed on a piece of dried fruit the landing ship's dispenser had supplied. The trip had taken a couple of hours, and it was good to have tasty snacks.

They'd flown across almost the same latitude, but mountain A397cy was toward the edges of the shield area. Beyond, there were a couple of smaller mountains—almost spikes, really, towers. They were quite a distance off, and farther south from them was just deep rain forest, then a wide flat savannah for hundreds of kilometers, and then one of the oceans.

The mountaintop plateau was perhaps ten square kilometers. Small compared to a lot of them, but still enough to have quite a stand of forest across it. It was a deeper

green than back at Malale, with some tall trees that had speckles of bright white blossoms, or fruit.

There was just one old vine between A397cy and the next mountain over, A281mm. Some of the vegetation on the vine was dead and brown.

The exposed rock area between the edge of the forest and the edge of the cliffs was much wider than elsewhere, and Jody set the landing ship down in the space.

They exited and trooped along for about a half a kilometer, to near where the vine connected. Charlotte's crutch was almost like an extra leg. It had its own AI, and the foot stood well and the curve on her arm gripped and adjusted with each step. It was surprisingly easy to get along.

From all around came the twitter of birds. A whole cacophony of sounds, from deep-throated almost croaks, to long, complex high-pitched melodies. Birds fluttered in and out of the trees. Some glided higher, just like back at Malale.

The smells were rich too, humus and pollen and other things she couldn't identify. It was such a dynamic forest.

Charlotte hadn't seen a point where a vine complex joined to the rock before. Not close up. She was simply stunned by the extent of it. The complex was thinner than the one where they'd observed Goldie, but up close it still seemed huge. The ashy gray vines stood around two meters high at the point where they crossed the edge.

Like a mound, on this side, but stringy and complex. Mosses and other plants grew across it. Things that might have been fungus, too. There was still a lot of identification to do on the way the living systems here worked.

The mound shape of the vine complex quickly shallowed on the inland side, but it spread out at the same time.

"It's like an alluvial fan," Niall said. "It expands out with braids and getting thinner. Same amount of material, but a greater area to cover."

"Geologist!" Jody said, as if the word was an insult.

"Well, technically, an alluvial fan is physical geography," Niall said. "It's made of rock debris, but it's a macro-structure rather than . . ."

Jody was grinning. Charlotte had to grin too.

"Hey," Niall said, half-offended, half-amused at himself. "We're all scientists here, right?"

"Guess so." Jody pointed beyond the spread of the vines. "It's that way."

Charlotte found herself looking at her feet as they traversed the edges of the vine. There were hundreds of tendrils—roots, really—spreading out in all directions. Clinging to the rocks, burying themselves into the cracks and crevices.

"Kelp," Jody said. "And other seaweeds, they kind of do this. They have strong feet that grip at the rock."

"On this scale?"

Jody laughed. "Nothing like it."

They picked their way across, trying to avoid standing on the roots. Mosses grew in the niches around the edges, and insects scurried along. Some of the roots stretched right across the rocky area and into the margins of the forest.

Charlotte was going to have to follow one sometime. Figure out how deep it went. It was impossible to avoid imagining it all as interconnected. Not like a Gaia thing, but with interdependencies. Nutrient sharing and so on. Vesicles from one connecting with the systems of another.

Becs had probably already done all that work years ago anyway, but it was still interesting to explore.

"Come on," Niall said. "Don't dawdle."

Soon they'd left the vine behind. Jody used the slate to help guide them on toward the nest. It was less than a hundred meters beyond the last fringes of the vine's grip.

The vegetation at the forest margin was thicker and stronger than back on Malale, though it hadn't grown closer to the mountain's edge.

Of course, they were hundreds of kilometers away. Even at the same latitude, there were variations in the way the flora worked. And certainly there would be differences in the geology. Niall would know about that.

"There," Jody said. "You can see where she's crawled in."

Where Jody was pointing, there was an area of crushed and shoved-aside plants. Like a pathway into the forest. As if someone had dragged a giant carcass through using cables and pulleys.

"I don't think they go in very far," Jody said. She was carrying the slate and looked at it again. She started into the forest, following the damage.

The height of the canopy increased quickly, and soon they were in trees that stood well above their heads. It was darker and there was sparse undergrowth.

The trail was more obvious, if anything. Squeezing between trunks in places, crushing saplings in others.

"Do they use the same nest?" Niall said. "Returning every year?"

"That's what the journals say," Jody said. "I mean, you know, the articles and papers Becs has written."

A shiny gold bug buzzed at Charlotte, circling her head for a moment. It was the size of her thumb and had huge compound eyes, with few lenses. It darted away into the trees.

Ahead, there was something gray-white on the forest floor. Maybe thirty meters off.

"There," Charlotte said, pointing with her free hand. Her other arm was growing sore from operating the crutch.

"That's her," Jody said, moving ahead, picking up the pace.

"*You have an incoming communication,*" Charlotte's belt said. "*It is Doctor Rebecca A. Wrightson.*"

"Oh," Charlotte said. "Becs, go ahead."

"Jody," Niall called. "Wait up."

"*Charlotte,*" Becs said from the belt. "*Where are you?*"

"Ah. A397cy. Out west."

"*Jody is with you?*"

"And Niall." Becs would know all that anyway. Where they were, who had come. It would all be on the manifests in the data systems.

"*I think you should come back now,*" Becs said.

"It's right here," Jody said. "I can see them! Come look."

There was movement through the trees. The teppu. Its arms were splayed out. It was smaller than Goldie. Maybe the equivalent of three elephants. No wonder it had caused so much damage through the forest.

Jody moved closer with her slate.

The teppu made a growl. Deep and resonant. Like something from far below the ground.

As Charlotte looked through the trees, it was obvious now that this was the path that the teppu took with each migration cycle. The forest floor had regenerated in the year it had been gone—Karella's year was closer to twenty Earth months—but then was damaged with her new passage. Beyond the trail, the trees were stronger, thicker, denser. There would be trails like this all over the mountains.

Jody stepped closer. Nearer the head.

The teppu's big eyes stared at her. Blinked.

"*Please tell Jody to move back,*" Becs said. "*You all need to return to the vessel and return at once to our camp.*"

"Jody," Niall called. "Let's go."

"Give me a minute. I want to get some imagery." Jody waved the slate around to encourage it to gather photos and other information.

Another growl from the teppu.

"We're in trouble, aren't we?" Charlotte said.

"We'll talk when you return. Please stop Jody now. Get her back aboard the vessel."

"By force?" Niall said.

"If that's what it takes."

It didn't take force. The teppu's left arm swatted Jody. She tumbled away into the brush.

The teppu made a soft lowing sound and lowered its arm.

Charlotte and Niall had to carry Jody back to the landing craft. Charlotte's healing ankle screamed at her all the way.

\* \* \*

## Eight

The sun was high by the time they got back. Lunchtime. As well as a longer year than Earth's, Karella had a longer day, by about forty minutes. Still within that duration of daytime heating versus night-time cooling that allowed for flourishing ecologies.

Charlotte and Jody and Niall sat in the main shed's rec room, sharing one of the dumpy sofas. Charlotte was thirsty, but she waited. Her ankle throbbed.

Charlotte had never seen Becs angry before. And had never seen *anyone* be so incredibly angry.

It was quite an education, really.

Becs was like a matriarch. Endlessly patient with them. But they were still adults. Right now it didn't feel like it.

Charlotte felt about three, having broken an heirloom vase, or sixteen and having shorted the family aircar's AI, gone ahead and crashed it into a field outside of Woodville.

Those had been harrowing moments, facing her parents. In very different ways.

"I didn't mean any harm," Jody said. She'd regained consciousness halfway back. Sore and kind of apologetic.

Actually, Jody should just shut up. Anything she said only raised Becs's ire.

At least Serge and the others weren't here. It would be embarrassing to have them sitting in on this.

"You're a *scientist*," Becs said. "Everything we do here causes harm. Look at our camp. Look at our ship. We *mitigate* that harm. We take care. We do it on the balance of how much we can learn."

Jody swallowed. "I get that. But there's got to be heart to it too. There has to be some connection with the world. Otherwise we're all just like Charlotte. Sitting around processing numbers."

Charlotte held her tongue. Anything she said would just make it worse. Would her cabin's kitchenette make fire chili coffee? Maybe she could invite Jody over later and offer her some. That might come close to evening out the insult.

"Or me," Niall said. "Right? Looking at the rocks. Where's the heart in rocks, right?"

"Exactly," Jody said.

"Which only makes my point stronger," Becs said. "There's so much to learn and understand here. As a biologist, Jody, you understand that biology is fragile."



“Unlike, say, rocks,” Niall said.

“You clam it!” Becs said, knobby finger pointed his way. “You are as culpable in this as she is. You’re like children, the three of you. Crashing your way around the planet like it’s your personal playground.”

None of them spoke.

“Jody. You’re going home. Next leap ship that passes by you’ll be—”

“What!” Jody yelled. “You can’t do that. I’m the lead biol—”

“You’re done. This isn’t your first transgression. And you’re merrily setting back the work here by years. You’re done. Until there’s passage offworld, you’re confined to your cabin. You can assist Charlotte with data processing.”

Well, that would be fun. Charlotte sighed.

“Not to diminish the work Charlotte does,” Niall said. “Treating it as a punishment.”

“Shh,” Charlotte whispered.

Becs’s finger shifted to drill straight at Niall. “Yes, and if it was Charlotte who’d instigated this little excursion, she would get a different kind of punishment. Probably gathering biological samples from mud bogs.”

Charlotte held back her smile, barely. Jody would love mud bogs.

“And get that smile off your face,” Becs said, her finger’s muzzle aimed right between Charlotte’s eyes. “You’ve already gotten yourself hurt, which sets things back too. To go out there with your busted foot ties you up in this too.”

“I’m fired?” Jody said.

“Keep up,” Charlotte said. “That happened. I’ll miss you.”

Becs looked over the three of them with the stern eye teachers reserved for the most frustrating of their class members.

She took a deep breath. Holding up her right index finger and thumb with about a half-millimeter gap, she said, “This close. The two of you.”

Charlotte nodded, a stone settling in her gut.

“Go home,” Becs said. “All of you. Back to your cabins now. I can’t stand the sight of you.”

She turned and left the rec room. She stopped at the door and looked back for a moment.

“You two.” She jabbed her finger at Charlotte and Niall. “Don’t think this is over. I just haven’t thought of an appropriate reprimand for you yet.”

She slipped out and the door closed.

Jody uttered a filthy epithet. She cursed Becs and her parentage, yelled at Charlotte for even having her belt active on the trip.

“You’re looking for someone to blame,” Charlotte said. “I understand. I’m sorry. It’s—”

“You’re not the one getting sent home!” Jody hurled herself up from the sofa and charged out. The sofa creaked and shook.

The room seemed suddenly quiet. From outside came the chirrups of birds.

“Well,” Niall said. “That went well.”

Charlotte stood. “What? How can you . . . oh. You’re joking.” She followed after Jody.

“Yeah. I make jokes when I’m nervous.” Niall stayed on the sofa.

“Stupid. Get out of here, I can’t stand the sight of you.” But she was smiling.

“Oh, really,” he said. “Can’t stand the sight of me?”

He was trying to be funny. It didn’t work.

“You’re a bad influence. You dragged me along. You even made me a crutch so I could get around easily.”

“I thought the crutch was pretty good.”

“It is.”

“So I . . .” Niall trailed off as Charlotte reached the door.

"See you in the morning, maybe," she said. "I'm guessing that Becs is going to hold a meeting with us all."

\* \* \*

## Nine

The night was cool, and Charlotte let the fire blaze through. It was the only light in her cabin. The table and kitchenette had folded away, leaving her with just the comfy bed platform. The whole cabin reconfigured so easily that it felt like a privilege to be able to live in it.

With the rug pulled up over her, head cradled in the soft pillow, she stared at the ceiling. Her injured ankle throbbed.

Of course it was irresponsible to just take off like that. Of course.

Like children, Becs had said, and she was right. Childish.

And now Jody was getting sent away. On account of *enthusiasm*, really.

And there would be consequences for Niall and Charlotte herself.

None of which was good for being here. None of which was good for future trips.

What did they say? *That won't look good on a resumé.*

She found herself drifting in and out of sleep. She jerked awake when the door made an announcement.

"A visitor," it said. "*It is Doctor Rebecca A. Wrightson.*"

Charlotte blinked. "What time is it?" The stone came back, heavy and hard in her belly.

"*The time is two forty two A.M. It will be—*"

"Thank you. Let her in, please."

The door creaked and opened.

Becs stepped in, dripping wet from the rain, looking all golden in the flickery firelight.

Charlotte sat up. The door closed. "*Towel,*" it said, as a towel unwound from the dispenser slot beside it. Set up like this, plenty of times you would step in dripping from inclement weather.

"Becs," Charlotte said. "It's very late."

Becs took the towel and dried off her head. "Can't sleep," she said. She continued with the towel, patting down her shoulders. Water still pooled on the floor.

"Lights," Charlotte said. "Sofa, please."

She got off the platform, and it folded away. Parts of the floor shifted, and the sofa inflated up, foamy and cushioned.

"I like what you've done with the place," Becs said.

"It's very late. Is this part of my . . ." She trailed off, about to say "punishment," but the look on Becs's face said something different.

"Tea please," Charlotte said. A panel opened, revealing the bench, and the kitchenette, began whirring.

Becs stood holding the towel, looking bewildered and old and lost. Charlotte went and took her elbow.

Becs gave her a sharp look. "I'm not doddering, you know. Tired, yes. Soaked through, yes, but just because I'm old doesn't mean . . ."

"I'm sorry."

Becs sighed. "I should be sorry. Snapping at you."

"No, please. Let's talk."

They sat, the sofa adjusting to their shapes. The firelight glinted at them.

"I was twenty-two when I first came here," Becs said. "I was starting in on my masters. Field work, with a view to perhaps extending or converting it to a doctorate."

“Which you did.” The sweet smell of the brewing tea swam through the room.

“Which I did.” Becs drew a deep breath. “I think that I’m more at home here than back on Earth.”

“I’d noticed.”

Becs smiled. “I’m that obvious?”

“You changed. Back when we were prepping for the trip you were focused and driven. On the flight you were distant. But when we landed it was as if all your tension melted away.”

The kitchenette pinged. The tea was ready.

Charlotte got up and served. The cabin folded out a small table in front of the sofa, and she set the cups down. They clinked.

Becs picked up one of the delicate cups and sipped. “Mmm,” she said. “Thank you. It’s getting cooler outside.”

“We’re here because of Goldie, aren’t we?” Charlotte said.

“Because of the whole ecosystem. There are what, two hundred worlds now, with living ecosystems.”

“More like three hundred. Anything we do feels like a drop in an ocean.”

The leap ships kept getting better. Able to leap farther and faster. Accuracy was a big deal, apparently. Some of the new ones were able to reach, in reasonable times, worlds that had simply been specks when Charlotte had been a kid. Nothing more than images from the remote probes or Earth-based telescopes.

“Three hundred,” Becs said. “I can’t even keep up.”

Charlotte sipped from her tea too. Chamomile. Sweet and floral. Good for being able to get back to sleep after.

She waited. Becs had come for more than just an apology. From outside came the pattering sound of the rain.

Becs sat in silence for a long time. Minutes.

Eventually, Charlotte said, “I didn’t expect so much rain. I mean, I guess I read the rainfall figures. I did. I worked on compiling them. But it’s still different looking at a jagged chart on a screen and feeling it pound down on the cabin.”

Becs smiled. She nodded. She took another sip from her cup and set it back on the table.

“Thank you,” she said, standing. “It’s been elucidating.”

“It has?”

Becs said nothing more. She went back to the cabin’s door and stepped out into the rain.

The door closed and the fire continued to flicker. It took Charlotte a long time to get back to sleep.

\* \* \*

## Ten

The day after Jody departed dawned bright and clear. The sky shone with the odd off-blue that Charlotte still wasn’t used to. She sat on the step of her cabin and fixed her boots on. The right boot had expanded itself to accommodate the cast. She still needed Niall’s crutch.

The ground was damp and smelled of mud and humus. Another thing that was taking some getting used to.

Niall had already left, hustling away before sunrise, across the camp to his own cabin. With everything in a circle, there was a fair chance that someone had seen him. And if Jody had figured it out, then everyone else would. Hard to keep that kind

of thing secret in a community of eight people.

Seven people.

Jody had gone.

Charlotte had heard the sound of the landing ship taking to the air, heading for orbit, not long after she and Niall had gone to bed.

Mixed feelings now. Something warm and glowing—Niall had stayed over—but cold shards left from Jody's departure.

"Charls!" Therassa called, heading across from her own cabin. Therassa's skin was a couple of shades darker than Charlotte's own, but her hair was as blonde as a cockatoo's feathers, and her eyes were a wonderful green-blue, unlike Charlotte's dull brown.

Therassa, Cain, and Sienna had returned from their jaunt the previous afternoon. There had been a quiet dinner with all of them to say farewell to Jody. A nice attempt at formality and celebration, but of course tinged with the situation.

Becs had not attended.

"Hi, Therassa," Charlotte said.

Therassa wore a tan overall, with wide panels of yellow trim down the sleeves and legs and waist. She was carrying a slate, shrunk down to a ball.

"Details," Therassa said.

"Um. We're going to see Goldie. She's almost reached the mountainside. We'll see her crawl up onto the—"

"Not that! Niall! Tell me everything." Therassa smiled, bright and welcoming. "You can't keep me out of that."

"Oh, that. And, yes, my ankle is feeling much better, thanks for asking."

Therassa laughed, a loud deep booming sound. It was impossible to feel less than joyous around the woman. She was a good decade older than Charlotte, but exuded so much energy she could probably power the whole camp on her own. Maybe even recharge the landing ship.

"You, my friend," Therassa said. "Could never stay down long. What's a few broken bones? You go off gallivanting and get into trouble. You know that's on your permanent record? And you get yourself a lover into the bargain. This is amazing. So, details, please."

Charlotte sighed. Irrepressible energy could sometimes be exhausting.

Therassa put out her hand. Charlotte took it and let Therassa pull her upright.

"Come on," Therassa said. "I'll buy breakfast. I'm thinking hash browns, omelet, and some of that guava juice I just found out about. Have you had it? It's great."

"Mm-hm. The shed's kitchen does a great job. I guess your trip was worthwhile?"

They walked together across to the shed. Serge waved from nearby, working on one of the wheeled trolleys, loading up gear ready for whatever next assignment of research he was off to.

"Worthwhile?" Therassa put her arm through the crook of Charlotte's. "I missed all the action. Goldie arriving on the vine, you lot going off on your excursion. Romance!"

"I wish you'd leave all that alone," Charlotte said. "One, who knows what'll happen with me and Niall?"

"Oh. My. Gosh! Don't worry. Maybe you'll have children. Maybe he'll turn out to be a rat like every other man and you can shoot him in the chest. I can get you a gun."

"Hey!" Serge said, at the same time as Charlotte said, "Sheesh, Therassa, take it easy."

"Sorry," Therassa said. She gave Serge a wave. "Sorry, sorry."

"Right," he said. "Right." He looked away and carried on with loading.

"Also," Charlotte said. "With the excursion, less said the better."

"Yes, yes." Therassa gave her a glum smile.

They reached the shed's entry, and the door wound open for them. Charlotte wiped

her boots off on the bristly mat, getting a twinge from her ankle as she pushed the wrong way.

"Listen," Therassa said, wiping her feet, too. "I guess I've just been burned so many times. So *many* times. I'm happy for you."

"It's new," Charlotte said. "So leave it alone. Who knows? I enjoy him. He's a bit of a klutz, but he's sweet. We have fun, but the pool is small, right?"

"Right. Cain? Serge? I don't think so. And Sienna's gotta be the most asexual person I've ever come across. And that's saying something."

"Sure." Intriguing, that wasn't obvious at all. Sienna was quite feminine, though she had a slight, boyish figure and she did work out. Perhaps Therassa thought a woman needed hips and boobs—like her own—to be sexual.

They found Becs with Cain in one of the lab rooms. The smell of reagents drifted around. There were racks of glassware on the walls, and benches with centrifuges and AI scopes.

"Look who's up and about!" Therassa said, grabbing Charlotte's arm. "Talk about a speedy recovery. Who'd have thought? Are we all going to watch this teppu do her thing?"

Becs took a deep breath, without looking over. She found Therassa exhausting. Becs and Cain were working with some glass slides. Prepping samples for the scopes.

Becs handed Cain something and looked over. She tapped at the bench, and a display showed on the wall.

An AI extrapolated view from around the cliff wall, showing where the vine complex arrived. Goldie hanging there, not far away. One slow arm creeping along, the tendrils and tentacles rippling as the hand part made progress.

"Two more hours," Becs said. "You did good work out there, Therassa. Cain's going to be able to make some useful conclusions from the data."

Becs took a handkerchief from her pocket and wiped at her nose. Dabbed. She crushed the kerchief in her hand and stuffed it back into a pocket.

"Another paper?" Therassa said.

"Maybe two," Cain said. "But it's all building on years of work, of course."

This was Cain's second trip to Karella. He'd already established a lot of lines and experiments that had operated in his absence.

"He writes," Therassa said. "Writes and writes and writes. We love him for it." Therassa slung her arm around Cain's shoulders.

"Hey," he said.

"He makes us all look good. Those of us who are left, anyway."

Becs's mouth formed a thin line.

"Should we fly?" Charlotte said. "To watch Goldie? Or take one of the vehicles?"

They had four ground vehicles available, from the small motorcycle, up to the six-wheeler that could just about drive down the cliff into the valley.

"The ship won't be back from orbit," Becs said. "I did think that we could walk. It's only a kilometer or so. Assuming, Charlotte, that your ankle would be up to that?"

"It will," she said. She could down a couple of painkillers and force herself. There was no way she was going to miss the event, and at the same time, no way she was going to risk irritating Becs.

It felt like a fine line, some days. Perhaps Jody was better off, heading away across the light-years.

"Twenty minutes," Becs said. She glanced at her slate. "We'll get underway then."

\* \* \*

Eleven

They ended up taking the six-wheeler. It had a long, spidery undercarriage, so the wheels could pick their way through the foliage without causing too much damage. At one point they did disturb a hive of some kind, and tiny blue insects swarmed around, buzzing at the vehicle's canopy.

"Look at the stingers!" Therassa said. "That'd do some damage."

"They're lexicingries," Cain said. "They don't sting. Maybe you're seeing mouth parts."

"Maybe I just don't want to get stung."

The six-wheeler guided them along to the cliff edge and on around to where the vines came up over. They were different from the one on A397cy. Far thicker and more developed. Insects crept along the exterior, and plants grew. Different than the plants on the mountaintop forest, and different than the rain forest below.

It would be a lifetime's work to study all this.

The sky was bright and clear, with rain clouds building across to the east, dark and brooding. There would be another cloudburst in the afternoon.

The six-wheeler came to a stop a good hundred meters away, and the group got out. Charlotte's crutch grabbed at the rock as she lost her balance momentarily.

"All right?" Niall said.

"Yes."

Serge had them rope up—simple harnesses that grabbed them like a spider around the back and shoulders and crotch, all looped on thin filament back to the vehicle. Charlotte's harness was snug but comfortable. She adjusted the shoulder strap.

"Just in case," Becs said. "We wouldn't want anyone going too close to the edge and losing their balance now."

She stared at Charlotte, who did her best to hold the stare, but still had to look away after a moment.

The group trooped back and along near the edge. They went around the vine and looked.

Goldie was there. Hanging below. Maybe fifteen meters away. She looked huge this close. Well, she was huge, but still. One of the condor-like birds glided closer to the forest tops, looking tiny compared, and in the distance.

Becs sighed.

"What's up?" Serge said.

"She's made it, but . . ." Becs trailed off.

"We should be farther away, shouldn't we?" Niall said. "After all, isn't this sight-seeing?"

"Sightseeing is fine when it's putting you more in touch with things," Becs said. "I feel it's important."

"Do you?"

Charlotte thumped Niall's arm as Becs threw him a sharp look.

"Becs has sanctioned this," Charlotte whispered to him.

"Yeah," he whispered back. "I suppose that's a key difference."

"It is," Becs said. "You only had to ask, you know that. 'Can we head over to A397cy to look at the nest?' you could have said. Simple."

Charlotte and Niall said nothing.

One of Goldie's arms released from the vine. Or almost-released. There were still fine fibers connecting the fingerish tendrils at her hand, back to the vine's surface.

It was all symbiotic. The vine was effectively alive. The web fibers the teppus spun

integrated into the system, connecting through to the roots and into the plants both on the mountaintop and those in pockets on the vine itself.

“Smell that?” Serge said. “What is that? Methane?”

“It is!” Therassa said. “Oh my, this thing *farts!*”

Becs sighed once more.

Goldie’s head sat up between her shoulders. Almost no neck, but huge dinner plate eyes. She had a mouth above and another below the eyes. She grazed on both the growth on the vine’s base, when creeping across, and on the ground vegetation when on land.

Inside of fifteen minutes, Goldie had the first of her legs within reach of the edge. It was so slow to watch. There was no hurry.

“She’s old,” Becs said. “I mean . . . well, none of them are *athletic*, but she’s definitely slowing down.”

Soon Goldie reached and took hold of the rock edge. Her gnarled, furry fingers seemed to blur as tentacles flickered out from them, seeking purchase on the rock. She pulled on forward.

Her head moved. She stared at Charlotte and the others. Double membranes of lids closed and opened slowly. She stared for a moment, still and watching.

Her eyes were so huge. It was like looking into some fortune teller’s crystal ball. Even with the gloom of the rain, there was so much light and depth in there between the lens and the retina.

Perhaps that’s where Goldie’s name had come from. The eyes were like amber, deep and rich.

“We should set up deck chairs,” Therassa said. “This is going to take all day.”

“All day and all night,” Becs said. “We’ll come back in the morning.”

She stood, staring at Goldie. The teppu’s languorous motion continued. She began to pull around the vine, pulling up the side. Pieces of the vegetation on the teppu’s belly—or was it her back?—were knocked away by the motion. Tumbling and falling down the cliff.

“We have all the monitoring set up,” Cain said. “We’ll get good imagery and data on the whole process.”

“We can speed it up and watch it on a table tomorrow?” Therassa said. “Ten times speed? Or twenty?”

Becs said nothing.

“It’s data,” Cain said. “Why would you want to do that?”

Therassa looked over at Charlotte, who lifted her hand in a small wave and mouthed *I get it*. Therassa grinned. Charlotte was the data specialist here, but she did get it. This amazing animal did not move in step with human time frames.

Cain and Serge set up some tripods and other pieces with recording equipment. They sent up some little remote fliers to circle and gather more data. Becs had everyone load back into the six-wheeler, and they made for camp.

“Want to take a trip?” Niall said to Charlotte, quietly, as Therassa waxed on about how clever the teppus were and how much she wished she’d spent more time here.

“A trip?” Charlotte said.

“Becs has authorized it. Maybe in the next few days, but it’s overnight. We’ll be back in time to see Goldie nesting.”

“Of course,” Charlotte said. “Sure.”

Therassa caught her eye and winked, as if in all her spouting, she was still listening and knew everything that was going on.

\* \* \*

## Twelve

Getting away, if briefly, was good. Charlotte and Niall slept in the landing craft. They gathered samples and let the fliers zip around collecting imagery and other data.

They had their first fight—over clothes, of all things—and returned in silence, though Niall managed a muttered apology as they swung in over Malale. Could be a bit of a dick, but he was sweet and mostly knew when to keep his distance and when to get close.

Actually, it was good to see other aspects of each other. Probably.

Becs wasn't at camp when Charlotte and Niall landed.

No one was.

The place was left to the birds and the butterflies. They flittered and danced, colorful and bright. It was as if nature took over the moment people left.

The mountaintop forest was covered in mist, hanging low and sending fingers into the canopy trees. It made for an odd light, dark in the understory, but letting the silvers and crimsons of the flying creatures shine.

"Belt," Charlotte said, standing at the edge of camp. Behind her the landing ship pinked, cooling from their hurried flight.

"*How can I help?*" the belt said.

"Please call Therassa."

"*Connected.*"

"Therassa. Where are you?"

"*You're back. That's good. We're all out with Goldie. I . . . I think you should talk with Becs. She's not in a good way.*"

"Why? What's happening? Is Goldie hurt? Or dying? Or is Becs?"

A pause.

"Niall," Charlotte said. "Get the monocyte."

"On it," he said.

"*She's not hurt. Just . . . you'll see.*"

The monocyte was a two-meter diameter wheel, with a central power plant, two seats in front and a counterweight in back. It seemed strangely impractical for a location like this, but there you go. It moved surprisingly quickly through the foliage, the counterweight shifting instantly to manage bumps and turns, and soon they arrived at the small half-clearing where the six-wheeler was parked.

There was a swath through the forest, leading back toward the vine complex. Cut—or rather pushed aside—by Goldie as she'd slid and crawled through.

Charlotte and Niall had watched the footage Therassa had sped up, of Goldie making her way off the vine and into the forest. It had been a kind of creepy experience, as Goldie's joints and body moved in odd and impossible-seeming ways. Sometimes the human brain didn't deal well with watching dislocations and shifting lumps under furry skin. Like those films of big octopuses squeezing their way through pipes that were remarkably narrow.

Cain came over to meet them. He seemed tired. The cuffs of his pants were muddy, likewise his boots.

"This way," he said. "How do you like the monocyte? Bit of a ride, huh?"

"It's fine," Charlotte said.

Cain led them through. The ground was rockier than back at the camp. Lots of grey stacks exposed in places. The old sedimentary layers showing from uneven weathering. Serge and Therassa were standing watching something. Beyond them, the white-green mass of Goldie lay in a mess of mud and branches and leaves.

She was breathing slowly, her huge bulk slowly rising and falling. There was



vegetation still on her back—which looked like her back now. Her enormous legs lay by her side. Her head was stretched out on the ground—the lack of a neck clearly had been an illusion.

Becs sat by Goldie's head.

There was mucus around Goldie's eyes, globs of it. Charlotte felt a little bile rise in her throat and had to swallow.

Goldie was old. Was that kind of thing normal? Was she dying?

"What are we doing here?" Charlotte said. She stepped around the others. They formed a loose half circle maybe ten meters back from Becs and the teppu.

It was strange looking at the teppu—at Goldie—from here. There was still a lot of vegetation on her back. All of that work that Becs and others had done over the years showed how the symbiosis worked there, but it was very different looking at this damaged but tended garden, to how it had been examining the data.

This was a truly remarkable creature.

Charlotte stepped forward.

"Charlotte," Cain said.

And Therassa grabbed her arm. When Charlotte looked around, Therassa just shook her head. So unusual for her to have nothing to say.

"Let me," Charlotte said. She caught Niall's eye and he gave her a nod.

From somewhere off in the trees something screeched. Some monkey thing, or a bird of some kind. The place never let you forget where you were.

Charlotte stepped over roots and leaf litter and crouched near Becs.

Becs blinked at her, almost as if not registering that Charlotte was there.

Goldie had an odd smell to her. Sweet and floral, mixed with decay and fetid breath. That was the thing with a lot of animals; fabulously attractive until you got hit with their odor.

"Becs?" Charlotte said. It seemed somewhat at odds with Becs's reaction to the jaunt over to A397cy. Jody had been sent home for getting too close to a nesting teppu.

"She's struggling," Becs said. "I don't know if she'll manage to have a litter this year."

Goldie made a deep, long, lowing sound. Almost like a minor chord. Something played on a cello or double bass. Lingering and resonant. When you had lungs the size of a cabin, those were the kind of sounds you could make.

"We should let her get on, then," Charlotte said. "Leave her to it."

"We may have to help."

Charlotte glanced back at Therassa and the others. No one spoke, but it was clear they'd all heard her.

"You're tired," Charlotte said.

Becs managed a half-smile. "I'm old is what I am. People my age shouldn't be leaping around in those fancy ships, from planet to planet."

"Is there something else you'd rather do?"

Now a real smile.

"No," Becs said. "Of course not."

"Come on then," Charlotte said. "Let's get back to camp. Cain and Sienna can set up all the equipment to monitor her. We don't need to be here."

"We do." Becs drew a deep breath. "I do."

"Late," Charlotte said. "Let's leave it for now. Come back in the morning. We should get the doc to look at you."

"Which one?" Becs looked over the row of them standing there. All PhDs.

"Was that a joke?" Charlotte said. "Did you just make a joke?"

"I can joke with the best of them."

"Sure you can." Charlotte stood. She held her hand out and helped Becs up. Becs was light. She seemed fragile.

Becs stood. "I knew it was a mistake giving you a job here."

"No you didn't. You gave me a job here because you need someone like me around. You need someone to tell you when to take a moment off."

Becs nodded. She stared at Goldie.

Goldie shifted then. One of her huge arms came slowly around, like a moving tree. Dragging across the ground. The fur shished against the ground and dozens of tiny insects took wing, darting ahead. The wrist came near Goldie's face. Near where Becs and Charlotte were standing.

The others stepped back. Therassa muttered something. Charlotte forced herself to stand her ground.

Goldie's hand was bigger than Charlotte and Becs combined. A good two meters from the wrist joint to the tip of the fingers. They were all like furry tentacles, with more tentacles at the tips. Almost as if the hand was the alien. It was hard to compute Goldie's sheer size.

One tentacle tip reached in toward Becs's head. Goldie's eyes stared right at the pair of them. The tentacle on a tentacle was a more reasonable size. Like an octopus's arm. As fat, in the middle, as Charlotte's own arm.

It was these tentacles that Goldie used to cling to the vines as she'd crossed. Charlotte watched, trying to see the spinnerets that added to the vine fibers as the teppu had crossed. It was hard to tell. Goldie would have to lie still for a closer examination of that.

The end of one of the tentacles touched Becs's cheek. Stroking gently. The tentacle moved down to her neck and draped around onto her other shoulder. Pulled Becs closer.

More of the tentacles touched. Cheeks and forehead. Her arms, her chest, her hips. Becs stood, breathing slowly.

Goldie grunted. The tentacles withdrew, shortening and growing fatter. She pulled her arm away. All her eyelids closed slowly. She wheezed. Her arm dropped to the ground, startling more insects.

Goldie lay still.

"Is she dead?" Therassa said.

Becs reached out and put her hand on Goldie's head, between her closed eyes and her upper mouth. The pair stayed like that for a long moment. Still no one else moved.

"Not yet," Becs said, and drew a deep breath.

Goldie's eyelids flickered, but didn't open.

"We should go back now," Becs said. "All of us."

She turned and strode through them, heading toward camp, assuming they would all follow.

They all did.

\* \* \*

### Thirteen

They congregated in the main shed. Sienna seemed to take over, which was unusual. She was always very quiet and focused. Perhaps that was her way of coping. Cain helped.

The pair of them reconfigured the kitchen and mess into something more convivial. The kitchen folded out into a wide bench, and the food dispenser delivered the best it could do at fresh vegetables, rather than prepared meals. Sienna and Cain set to chopping and mixing. The smell was heavenly, full of spices and herbs.

Mostly they ate in their own cabins. It was obvious and unspoken that tonight they would eat together.

On the far side of the room, Niall adjusted the shed's fireplace to be larger and more dynamic. It crackled and blazed with fake flames.

It was easy to imagine they were back on Earth somewhere, in some rustic mountain lodge, making do with what they had on hand, rather than waited on by AIs and clever forging machinery.

Charlotte and Therassa sat with Becs. On a wide, dumpy sofa in front of the fire. Becs was pale, but declined going to the medical bay for an examination by the doc AI. Serge had been insistent, but Becs simply continued to decline.

"I'll be fine. I've just been worried about her."

Charlotte said nothing. Considering. Before she thought of what to say, Therassa said, "You've become attached."

Becs stared at the floor.

"Oh, I get it," Therassa said. "She's beautiful. Look at her, those eyes, that amazing garden on her back. You've known her since she was born."

Becs closed her eyes and drew in a breath, nostrils flaring.

"And today, the way she touched you. She let you lie by her."

"It's a big deal," Becs said. "Giving birth."

"Well, that's common, isn't it? Everywhere. Every species. Birth is a tough thing."

"Do you think she's sick?" Charlotte said.

"Perhaps. Despite all these years, we still don't have a body of knowledge that covers all aspects. Perhaps they have parts of their life cycle that we don't even understand."

"But you can run some tests? There's a baseline, isn't there? I can look that up. All your work's in the data."

Becs gave her a sad smile. "I suppose it is."

"Food now," Sienna said from the kitchen. Her accent was lovely. Some deep European inflection. She kept it more mysterious by speaking rarely.

Niall had set the table. Becs sat at one end, Serge at the other, with Charlotte, Niall, and Therassa on one side, Cain and Sienna on the other, closest to the kitchen.

There were sweet potatoes and greens, a bright leafy salad, something that was probably a chicken, though might well have been snared somewhere out on the mountaintop. Gravy boats and both red and white wine, and water.

Somehow Sienna and Cain had created a celebratory feast, and it was delicious.

"You two have to do this more often," Therassa said. "I'm thinking every night."

"You eat in your own cabin every night," Sienna said. Not an observation; more like an instruction. "Sometimes we eat here. Maybe two more times before end of posting."

"Five more times," Therassa said.

"Is not negotiation. Is simple fact. Two more times, or one. You can choose."

"Two then. And maybe I'll try myself. How hard can it be?"

Cain laughed and Sienna frowned at Therassa. Becs smiled at them all. Like a matriarch with unruly children whom she not only tolerated, but loved.

Charlotte found her throat constricting. She had to look away.

"All right?" Niall said.

"Yes. Just, this is nice. It's good that we all get together."

"It's important for the team," Becs said.

"I know," Sienna said. "I tease. I will do more often. Cain too."

"Me?" Cain said.

"Yes. You good help." Sienna actually gave him a wink. Good grief, was there something going on there?

Charlotte sighed and ate some of the spinach and carrot. It was remarkably fresh and tasty.

"We need a good sensor array on Goldie," Charlotte said. "So we—"

"Please," Becs said. "No shop talk now. Let's enjoy each other. I hear your sister is having another baby?"

Charlotte smiled. Clever.

"Yes," she said. "Gillian. It will be her second. The first one is nearly three."

"Oh!" Therassa said. "Three! What an age! Talk about having your hands full."

And the meal went on without any more talk of sensors or data or results, just about family and how amazing the pavlova dessert was and whether Sienna would give up any of her secrets with the kitchen.

Charlotte felt things ebbing from her. As if she was having a massage, or a soak in a hot tub.

And that was good.

It was late when they packed up the meal and tidied the table and reconfigured the shed for more everyday things. Charlotte and Niall went back to his cabin.

It was a mess. Strewn with bags and clothing and equipment.

"Such a small space," Charlotte said, "and still you live like you're sixteen."

"Actually, when I was sixteen, I was a neat freak."

But he had chocolate and a new fireplace and it was nice to wind down the evening on his sofa. Then, on his bed.

Come morning, Becs was missing.

\* \* \*

## Fourteen

The rain pelted the camp, leaving muddy rivulets and puddles all over. With the wheezing wind, some of the rain became almost horizontal. Charlotte had seen imagery of ephemeral waterfalls, lacy and racing from the edges of the mountains after the storms had passed. So beautiful and dynamic. A wonder that any kind of soil had managed to cling to the tops at all.

She gathered them all in the main shed, and they clustered around the table. Serge already had the table up and was running lines of data, trying to locate Becs. Sienna got the coffee machine cranked up and the aroma of beans and milk and chili swelled through the space.

"She's sick," Therassa said. "Why would she wander off on her own?"

"She knows the place better than any of us," Cain said. He was still wearing his slicker, the weight of water tugging it down on his shoulders. The little smart reservoirs in the hem looked full.

"Doesn't mean she goes off half—"

"Leave it," Charlotte said. "We can talk recriminations later. Point is to find her now and go from there."

"I don't see her at all," Serge said. He kept working on the table. "Look, here's us."

He pointed to the middle, where the display showed a vague and grainy overhead image of the camp. Hard to tell if it was photographic or AI generated.

There was a bright yellow spot where the main shed was.

"Zoom in," Niall said.

Serge obliged and the spot split into six separate spots.

"Our belts," Therassa said.

"Exactly," Niall said. "So where is Becs's belt?"

"I don't see it," Serge said.

He zoomed the image right out, so that the whole of the mountaintop showed. The bright spot reformed, but no others were in view.

“Did she go over the edge?” Therassa said, putting her hand to her mouth. “Dropped into the forest? That might have wrecked the belt’s transmitters.”

“Perhaps,” Sienna said, bringing over a tray of steaming coffee mugs, “she turn belt off.”

Of course. If Becs was off-program—interacting with Goldie in an emotional rather than scientific way—she’d keep that secret.

The sound of the rain on the shed’s roof should have been calming. It wasn’t. The wind made something rattle. Some window frame somewhere. As if the thing was about to be torn apart.

“She’s a hypocrite,” Cain said.

“What?” Therassa said.

“You know what I mean. She’s *attached* to that animal.”

Charlotte took her coffee and sipped. Perfect. The tiny dash of chili Sienna had added just set it off.

“Later,” Charlotte said. “Focus now on finding her. Where are the feeds from Goldie? Bring them up. Send a flier over.”

“Storm’s making that kind of hard,” Serge said.

“Don’t give us that!” Therassa said. “Send them all out now. Bring in everything. Get the satellite feeds in.”

“I’ll go out,” Niall said. “I’ll go look for her myself.”

“You will fall off edge,” Sienna said. “Better you stay here and let feeds do the work.”

The shed rattled again.

“Yes,” Charlotte said. “Until we have more information, we stay here.”

\* \* \*

## Fifteen

The storm chose to continue. To not let up. To pound the mountain, right when they could have used an hour or two of sunshine and calm.

Serge got some of the fliers in the air. The signals got jumbled and fractured. Data from the sensors at Goldie’s site showed that she’d moved. Back toward the edge. She’d knocked over a bunch of tripods as she turned.

“She’s leaving?” Therassa said, looking bereft. “She hasn’t birthed any viable young yet.”

“She is old teppu,” Sienna said. “Is not good idea to cross vines in storm.”

Niall and Cain made a stack of burritos and kept them coming. Therassa paced. Sienna helped Serge with controlling the fliers.

Charlotte got Therassa—as much to keep her occupied as anything—and they put together gear ready to leave the moment they had information.

“Thanks for stepping in,” Therassa said. “Without you directing, we’d just be unruly kids.”

“Yeah. I know what Becs meant.”

“Hey. I was trying to say something nice.”

“I know. And I said something nice back.”

“Oh. Okay.”

It took hours, but Serge managed to find Becs.

Tucked away in the forest garden on Goldie’s back.

“Doesn’t that just beat all?” Cain said.

The image was glitchy and rough. The flier was barely able to hold position. Serge did what he could with processing to keep it clear in the table’s display.

Becs was lying on her side, curled and holding something in her hand.

Like a little mouse.

"There," Sienna said, pointing into the image. "Birth canal. There, teat. Is baby tep-pu. Becs is incubating. Keeping baby safe from cold of downpour."

"How did she even get up there?" Cain said.

"Later," Charlotte said.

Becs wasn't moving. She wouldn't survive long out in the storm.

Charlotte met Niall's eyes.

"We'll go get her," Niall said. "Get the doc ready."

"The flier is picking up the signal from her belt," Serge said. "She'd suppressed it, but this close, I'm getting solid data."

"So?"

"There are no life signs. Becs has passed away." He looked over the group. "Probably right where she needed to be, right?"

No one spoke.

The next day, storm just as intense, Goldie left. As she made her way onto the vine complex, the storm broke and brilliant shafts of sun through the cloud lit her way.

They'd never had a chance to retrieve Becs's body.

\* \* \*

## Sixteen

A month later, a data package arrived from Earth. The institute censured them and instructed that they were to continue work in the meantime, but to prepare for departure.

The sun baked the ground, cracking the mud where the storm-driven puddles had formed. Niall took core samples, and Therassa found excuses to fly to other mountains to gather biological samples.

Serge and Sienna shackled up. Cain's mother passed away, and he was able to get passage on a leap ship back home.

Spring came and the mountaintop bloomed with a dazzling array of flowers and buds and fabulous wafting tufts that would shame the most elegant of peacocks. The forest buzzed with insect pollinators.

"I'd enjoy it more," Therassa told Charlotte over a cask of moderate wine, "if our departure wasn't hanging over us. I wish they'd just drag us home already. Jody was lucky."

"You could have gone with Cain."

"And miss all this?"

Then, six months. Charlotte continued to process the data. She cowrote a paper with Niall, and it was taken by *Exo-Geological II*, which was a pretty cool credit. They put Becs's name on it.

Serge tracked Goldie, using Becs's belt and a keyed-in flier. Strange animals, like a mix between mites and tiny rodents, dug around Bec's body, lowering it into the captured soil. Eventually they covered her.

"A kind of burial," Niall said. "We should say something."

Becs's belt stopped transmitting, and the flier got snapped up by a passing flying apex predator and tossed into the rocks. It seemed like a sign.

And then, almost a year.

Charlotte had considered enlarging her cabin to accommodate Niall, but he would only haul in his teenage clutter and mess. It didn't matter, really. After all, he was just across the compound.

He did stay over plenty, though. Which was fun and risky and had the benefit of increasing her understanding of geology, if not the way that a man's mind works.

One morning, while she lay in bed, him asleep and snuffling beside her, her belt, on the bedside table, said, “*You have an incoming communication. It is Doctor Therassa de Galle.*”

“Thank you. Therassa?”

“*Goldie’s back,*” Therassa said from the belt. “*She’s coming across from Ikenni. Across the vine complex.*”

Already Charlotte was out the door and running for the edge of the mountain.

\* \* \*

## Seventeen

The sun poured across the valley. The sky was clear save for a few puffy clouds to the west. It wasn’t going to rain, they would just sit out there for the morning.

When Charlotte arrived at the cliff’s edge, Serge had already joined Therassa. They were just a hundred meters from where the vine complex latched onto the mountaintop.

Over the year, they’d watched the vines repairing themselves. New strands growing and thickening along the base, the forest that grew along most of the top continuing to flourish. Sienna had run tests, showing that the web from the teppu formed a strong basis for the plants, and that nutrients were drawn up from deep within the rock cavities where the vine rooted.

There was no single plant, and the interaction between the cellulose and cells of the plants and the proteins of the teppu’s web was still far from being understood.

Goldie was far off. Not long since she’d maneuvered herself from Ikenni, two kilometers away, onto the vine. She was coming slowly.

“Are you sure it’s her?” Charlotte said.

Therassa handed her a scope and Charlotte looked through it.

It was Goldie all right. Her eyes were tired, and her movements were slow, but it was her, to be sure.

Sienna came up behind them. “I do not understand what is rush?” she said. Her English was gradually improving.

“It’s Goldie!” Therassa said.

“But will take her a week to get across. She moves very slow.”

“But it’s Goldie!”

“Ah, now I understand. Is Goldie. I cannot argue with such logic. Thank you.”

“You think you’re funny. But it’s Goldie. She’s come back. She’s still alive. Maybe she will raise a family.”

“I will see you in one week.” Sienna turned and left, heading back through the forest.

Therassa watched Sienna go. “What’s her problem?”

“We all have different responses to what happened,” Charlotte said. “Sadness, loss, confusion, ambivalence. I guess Sienna’s at the ambivalent end of the scale.”

“You’re telling me. And you?”

Charlotte stayed silent. How did she feel? Watching Goldie return. Ageing, but still hanging on somehow.

“Maybe she doesn’t want to watch because of the vines,” Serge said. “Maybe she would hate it if the vines gave way and Goldie plunged to . . .”

“Nah,” Therassa said. “I’m going with ambivalent.”

“Okay. You’re probably right.”

They stayed watching for an hour, Goldie’s hands taking one slow, short step after another. Niall arrived and watched with them.

"Are we going to keep a vigil?" he said.

"I like that idea," Therassa said. "We can get a picnic table set up and—no! a shelter. We can fab a little cabin, because it rains so much. And then any time we want we can just come and watch her cross."

Charlotte smiled. It wasn't just her who was enthused about the return.

It took a couple of days to get the hide set up near the cliff edge, with a wire railing running twenty meters each way in case anyone lost their bearings while watching Goldie cross.

On the day that Goldie climbed her way back onto the mountaintop, there was a collective change. Charlotte felt the relief herself, like the proverbial weight lifted from her shoulders.

Goldie scabbled her slow way inland, along the same route as last time, pushing down the new saplings and shrubs. Carrying Becs's body on her back.

What was the hold that the woman had over them, after her death? None of them had truly gelled with her. No one had formed any particular kind of bond. Especially after she'd sent Jody away.

One evening, Sienna came to visit, announced by the door. She stepped into the cabin and seemed almost surprised to see Niall there.

"We're toasting marshmallows," Charlotte said. "Want to join?"

"It is summer," Sienna said. "Why would you toast the marshmallows?"

It was definitely warmer, and the sun went down later each day, but the evening still picked up a quick chill. Marshmallows and hot chocolate were always a good solution to that.

"Try one," Charlotte said. "You might like it."

"Yes. All right." Sienna came and sat with them on the sofa. Niall stuck one of the fat, pink marshmallows on the end of a skewer.

"And now?" Sienna said.

"Like this." Charlotte demonstrated, skillfully holding her own marshmallow in the flames to get just the outside singed to a brown-black.

"Is easy." Sienna proceeded to set fire to hers.

Niall laughed. "Is easy, but takes practice."

"Is stupid. I have come to tell you that I believe that Goldie has settled into nesting spot and will give birth to some cubs soon. I hope it proceeds better than last time."

"Have mine," Charlotte held her skewer out to Sienna. "And thanks for that. Yes, let's hope that it goes better than last time."

Sienna accepted the marshmallow and popped it in her mouth.

"Oh my gosh!" she said, breathing over it. "Hot. Hot but good. Oh, yum!"

By the end of the evening, Sienna had gotten pretty good at making her marshmallows nicely crisp on the outside, and runny in the middle.

A couple of days later, deep in the afternoon with the sun playing low through the trees, Charlotte was able to get away to pay a visit to Goldie. The air was humid from overnight rain and the day's heat. Shafts of light struck through dust and vapor haze.

Goldie was lying in approximately the same place as she had last time. Serge had made some study that showed that it was quite possible that she made webs into the forest floor that acted like roots, tapping nutrients, not for herself, but for the garden on her back.

Her eyes were those remarkable crystal balls again. Her mouths huffed as Charlotte drew close.

"I'm glad you've made it here again," she said. "Becs would have been happy."

Nearby there were some tripod sensors, and overhead one of the fliers was gathering data. There were huge amounts now. But with a whole planet to study, it was



drops in the ocean.

Goldie moved. Just a turning of her head, but it made a kind of tearing sound, as if she was doing damage. Her lower mouth opened and she gave a long, low hoot.

“I guess you’re saying it’s nice to see me too?”

One of Goldie’s arms moved around, weaving its strange joints through the trees. The fingers waved, and the tentacles on the ends seemed to drift, with lives of their own.

Goldie’s hand moved closer and closer to Charlotte. Impossible to avoid picturing Jody, knocked flying by that other teppu.

Charlotte stood her ground. This was a wild animal. A wild *alien* animal.

And yet.

Her heartrate rose. Her skin felt clammy.

The tentacles reached her. Touching and feeling across her face and shoulders. Working down her body.

Becs would frown on this.

With a snap, the tentacles released. Goldie’s hand opened wider. The fingers grabbed Charlotte up. Lifted her from the ground.

Charlotte gasped.

From behind came a shout. Niall.

“It’s all right,” Charlotte said. “Let her. Let her do this.”

“No, it’s . . .” Niall trailed off. Long ago he’d given up arguments he knew he wouldn’t win. Anyway, this was out of Charlotte’s hands.

\* \* \*

## Eighteen

Goldie lifted Charlotte up almost into the canopy. Birds darted around, twittering. The sunlight splashed into Charlotte’s eyes.

Goldie continued her lowing sound. It seemed to come from deep within her.

Goldie’s fingers were strong, but gentle, holding Charlotte like gossamer.

Soon Charlotte was on a downward trajectory, moving toward the much smaller forest on Goldie’s back.

Goldie seemed to know her way around, because she set Charlotte down in a tiny clearing—no more than a meter across. Between a cluster of knee-high shrubs with thin, reedy leaves, almost like bird feathers.

The soil beneath Charlotte’s feet was dark and clumpy. Roots showed in places. These plants would have to be pretty resilient to deal with the teppu’s motion. As the team was learning, it was a mutual relationship.

Around the base of the shrubs there were blocks of bright moss, with tiny, sparkly flowers on stems barely a hair’s width.

A bone.

Charlotte swallowed.

Goldie hadn’t placed her here randomly at all. This was where Becs lay. Her grave.

Taking a deep breath, Charlotte crouched. The bone looked like a fingertip. Just there in the soil.

Becs’s soft tissue had been absorbed. The site churned during Goldie’s travels.

“Belt?” Charlotte said. “Can you locate Becs’s belt?”

“Please rephrase.”

“Dr Rebecca A. Wrightson. Is her belt nearby?”

“No.”

“Can you locate its signal at all?”

"No."

Simple and to the point. Charlotte puffed out her cheeks and reached toward the bone. She had to confirm this.

As she reached, from the corner of her eye, she saw a tiny movement to the left.

A little hamster-sized parcel of skin. But more than that. It was moving. Its tiny eyes peered at Charlotte even as its lower mouth grasped at the fingerlike teat.

Suckling.

There was an area clear of soil, but the young teppu lay in a bed of soft velvety fur.

"Hi there," Charlotte whispered.

The little thing's mouth moved. It had its thin arms stretched up, holding the teat in place. Massaging at it, like a kitten kneading its mother.

And its eyes kept watching Charlotte.

"*You have an incoming communication,*" Charlotte's belt said. "*It is Doctor Th—*"

Charlotte yanked the belt off. Bad timing.

It was tempting to just stay here and watch this. But it was best left alone.

She slipped her slate from a pocket and took some images, got it to look at other data in the area—temperature, humidity, air composition—and put it away.

She watched a moment longer and stood carefully, slowly.

The young teppu kept watching her. Kept suckling.

Becs's grave was right there.

Charlotte shivered. Was this perfect, or tragic? Becs would have appreciated this.

Goldie knew.

They really had shared a connection.

Then, Goldie's hand was there. Charlotte lifted her arms and let Goldie carry her away.

The sky was a brilliant red, on fire with the sunset, and Goldie set her back down in the dark of the mountaintop forest depths. Goldie made a soft purring sound.

"Thank you," Charlotte said, as Goldie's tentacles tickled and touched.

Niall was there, and Charlotte turned to him.

"We can go back now," she said.

"Okay."

As they walked to camp he took her hand. His grip was firm and warm and reassuring. Until he did that, she hadn't realized that she needed it.

"What happened?" he said.

"Tell you soon. I'll tell everyone."

"Was it important?" As if he knew.

"Yes," she said. "Very."

\* \* \*

## Nineteen

After a couple of months, Goldie was on the move again. Dragging her bulk across the mountaintop. The sun was out and warming.

Serge monitored the feeds and made sure that everyone knew when Goldie had reached the edge and was ready to climb onto the vine complex.

Charlotte had visited numerous times over that period, but never again had Goldie lifted her to Becs's grave. Perhaps that was for the best. One time was all Charlotte needed to understand.

The cub had continued to grow and strengthen. Others had been born, but the one near where Becs lay was the only survivor. That was remarkable in itself. Goldie was old. Potentially well beyond the normal age for bearing viable young.

Charlotte was in the data processing room, enjoying the sweet taste of one of Sienna's coffees—she was trying a new method—when the belt interrupted the work.

*"You have an incoming communication,"* it said. *"It is Doctor Therassa de Galle."*

*"Thank you. Therassa?"*

*"It's time,"* Therassa said from the belt. *"Serge says maybe another half an hour."*

*"All right. Is everyone coming?"*

*"Of course! Even Sienna!"*

Charlotte met the others at the edge of the mountain.

Goldie was there, almost at the lip. She had her leading hand on the vine. She looked so huge now, out of the forest.

No one spoke. Down in the valley, a thin mist hung over the rain forest. Three of the big condor-like birds glided nearby. They were dwarfed by the size of the vine complex.

Charlotte always felt a sense of awe here. The valley was so sheer, the forest below was so thick. Ikenni, the next mountain over, looked so stark, its cliffs bright with the angle of the sun.

Niall placed his hand in Charlotte's, and she squeezed.

No one spoke.

It took over two hours for Goldie to get onto the vine. It was a complex operation, recorded a dozen different ways by their equipment, but who cared? It was simply beautiful to watch.

This huge creature that crawled on its belly across the forest floor, was so dexterous and agile in moving out over the lip to hang from the thread of the vine.

Of course. This was how they lived. How they'd grown and developed. Of course she was agile. Even with her age.

The group watched for a while, slowly dispersing, walking back to camp.

Goldie made a slow progression away.

Eventually Charlotte was alone. Just watching. Even Niall had gone. Good sense there, too.

Goldie's head was facing away, looking off in the direction she was going. The taller plants on her back grazed the underside of the vine complex.

Charlotte lost track of time, but at some point, she took a last look at Goldie and headed away.

Over the next few days she was able to find time in the mornings to go and watch Goldie gradually recede across the vine.

Mostly Charlotte was alone, but sometimes, Niall came. Sometimes Therassa.

And then it was the last day. Goldie was going to reach Ikenni and climb up from the vine and vanish into the forest there. She wouldn't be back for almost another year.

The big birds soared and animals called from the forest. In the jungle below, brilliant blooms speckled parts of the forest.

Charlotte stood on the lip of Malale, a good two hundred meters from the vine complex, so she could get a better view. More side on. She stood on a rocky promontory, like a little peninsula, with little growth. There were some hardy plants clinging to cracks around the edge. They smelled sweetly of lilac.

Using a scope pressed to her eyes, Charlotte watched as Goldie reached up with her big arms and deftly pulled herself over. It was surprisingly fast for how ponderous Goldie could be.

On the open edge, by the vine, Goldie lay on the flat rock, not moving. Recovering from the effort of climbing across?

Charlotte zoomed the scope. It shook a little, but the stabilizer kicked in, giving

her a clear, wide view. Goldie was turning. Slowly. As if she'd forgotten something and needed to come back across.

Charlotte focused on Goldie's big head. Her eyes peered back at Charlotte. Could the teppu actually see her?

Charlotte waved, and dropped her hand. How silly was that?

Who cared? She was on her own.

So she waved again. Goldie blinked back at her and turned, pulling away.

Charlotte kept waving until Goldie had slipped away into the forest.

Cool wind blew up across the rock face, making Charlotte shiver. She stayed at the edge there, for a while, as the sun made for the horizon and the clouds grew streaky.

Perhaps, just perhaps, Goldie and her new cub would be back next year. But even if it was just the cub, that would be all right. After all, the cub was a little bit of all of them.