

GRAVITY FROM BELOW

The ten-passenger landing craft's hatchway admitted a swirl of foul, frigid air. Wrinkling her nose, Graysha Brady-Phillips gripped her seat's armrests and stared out a tiny viewport. Yellowish-tan crater walls curved upward close by, like the monstrous rib cavity of some prehistoric beast that had swallowed the lander whole.

So this was Goddard, humanity's newest habitable world.

Habitable being a relative term, of course.

A tall figure stepped on board—a woman, Graysha decided after comparing shoulder and hip widths. Swathed in a belted brown coat that hung almost to her knees, the woman dangled a second hooded coat by its shoulders.

In that instant, everything Graysha had heard about planetary surfaces became real. There was no climate control out there. The very thought made her head pound . . . or was that just due to hunger?

Under the stranger's quilted parka hood, brown eyes gleamed over a proud, firm nose. "I assume you're Dr. Brady-Phillips." She had a throaty feminine voice. "I'm Ari Maijidda, with a capital J. Colonial vice-chair." Raising her arm, she let the extra coat slide onto Graysha's lap.

Startled by the woman's abruptness and chilled by the blast of outdoor air, Graysha stood up and eased into the parka. She took special care to settle it gently on her shoulders. Her legs trembled, which she attributed partly to the mandatory three-day landing fast—meant to prevent acceleration/deceleration sickness. That made it especially hazardous

to someone in her medical condition. But even more than the fasting, she attributed her trembling to sheer dread. Panic gripped her when she thought about standing on an unenclosed planet.

This was 2134. Born in a comfortable, enclosed space-city habitat, Graysha had never visited open air.

No wonder Gaea Terraforming Consortium offered triple frontier-duty pay to scientists and technical experts. Orbital hubs provided greater opportunities and better air than any of the three established planets—dying Earth, sulfurous Venera, or not-quite-terraformed Mars.

And now Goddard.

“Are you feeling all right?” MaiJidda broke into her thoughts. “We heard you’re terminally ill.”

Annoyed, Graysha looked up from fastening her parka. All travelers arrived hungry! “All I need is to break my landing fast, Vice-Chair MaiJidda. Spending three days without solids leaves everyone looking a little peaked. And my complexion is fair, even under normal conditions.” She had tied back her blond hair. Rare among the increasingly interracial settlers of space, it usually attracted compliments.

MaiJidda pushed back her parka hood, exposing a firm mouth and chin, and black hair cut close in a smooth dark cap. The effect was elegantly Near Eastern. “This isn’t a habitat,” she said. “A world that’s being terraformed is only for the hardy. Unstable conditions are normal here. It is dangerous work.”

“Why else would Gaea offer triple pay?” Graysha retorted. “I’m aware of the dangers. How could I not be? I’m replacing a man who was killed by the weather.” She had been informed, when she applied for the position, that Goddard’s previous soils-microbiology specialist had died in a sandstorm.

Still, most of Graysha’s doctors assured her she could adjust to life on Goddard if she could handle the repeated fasts of space travel. Elderly Dr. Bell differed, of course. Over and over, he warned her not to even try it.

She belted her parka. “I signed a contract,” she said. “I intend to fulfill it.”

MaiJidda glanced toward the hatchway. “On your head be it, then. We have made arrangements for you to see the lay of the land. I assume you’ve never been on a planet?”

Graysha gathered personal items from her seat's fingertip compartments. "Never."

"Ah. Then you'll enjoy this. You'll have to hurry, though. In a few hours, surface winds will make air travel hazardous. I'll have your things taken to your apartment. Here's your—" Vice-Chair Maijidda reached deep into a pocket. "Hmm. Where is it?" As she searched pockets, her poise slipped. "I brought you a can of protein-fiber meal. You'd better not go far without it."

Graysha's flapping-empty stomach protested with an odd little noise. "You arranged an overflight?" she asked, torn between physical need and scientific curiosity. "If I'm going to be sitting down, I'll probably be all right." How *did* Ari Maijidda know so much about Flaherty's syndrome?

Maijidda raised an elegant eyebrow. "Are you certain?"

"I'll be all right." Five minutes into life on Goddard, already she had to prove she wasn't an invalid. Though every cell in her body clamored for nutrients—it felt like a dull general ache—she was determined not to show her weakness. Pushing up a sleeve of her brown parka and lavender pullover, she checked her forearm. Camouflaged at the center of a tiny floral tattoo, a liquid crystal tissue-oxygen button's pale green color showed all was well—enough—with her vasculature.

You can do this, she told herself. *Just don't look up*. She glanced over her seatback. The other passengers looked busy back there, so she stepped out into the aisle. A uniformed shuttle attendant pulled down her large carry-on bag and strode toward the companionway. Maijidda followed, and Graysha came behind, carrying her small duffel and trying to ignore the suffocating chemical odor drifting in from outdoors.

Beyond railed metal steps, a hovercopter stood waiting. Its white vanes, trimmed with weather-eroded red paint, hung limp. Vice-Chair Maijidda stood down on the rock-strewn ground, arms crossed as if her time were being wasted.

Graysha wobbled down the steps, staring forward. The yellow-tan crater walls seemed taller from this angle, surrounding—as she'd been told—a roughly twenty-kilometer circle. During terraforming's first phase, icy comet remnants had been splattered onto Goddard's surface to expand its oceans, add volatile resources, and create city sites, including this crater.

A cold wind tore through her clothes, blowing in from some unimaginable distance. It was too *big* out here. And it stank: the wind, the pocket of still air she made when she turned sideways at the foot of the steps, everything.

She glanced upward—and was caught. That gray-blue dusty overhead arc consisted of pungent air and nothing more, nothing to hold the planet's air but unseen gravity, nothing to keep her inside. By daylight that firmament appeared comfortingly solid, but she'd flown down through it. One sight lingered in her memory: an unmistakable fold belt of ancient mountains, little weathered since Goddard's original atmosphere vanished into vacuum and ice. On the range's near and far sides, shadow gray craters splotched the hazy distance where the horizon curved perilously downward . . . and vanished.

She shuddered away the memory and shifted her stare. Cloud wisps trailed the sky over one edge of this crater wall, upswept like the tails of enormous ghostly horses. She might fly upward at any second. She wanted to scream. She opened her mouth.

No! I won't! After one wistful glance back at the lander, she broke into a run, determined to catch up with the tall hooded woman. It felt good to stretch her legs. Maijidda stopped to look back at her, smiling at last, nodding as if to encourage her on.

Elated, Graysha picked up her pace. Her duffel bounced against her hip. *You see, Mother? See, Dr. Bell? I can do this!*

Five meters into her dash, a tearing muscle cramp wrenched up her left thigh. With a cry she dropped her bags and fell onto glittering gravel. Rock shards ground into both hands.

No, no, not this, not now! As she moaned, her lips brushed the gravel.

Rapid footsteps crunched toward her. "Dr. Brady-Phillips?" A man skidded into view. "What happened? Are you all right?"

The cramps spread down her right leg and up her belly. Biting her lip, Graysha pressed open the torn left cuff of her lavender pullover. The tissue-oxygen implant on her forearm had gone baleful yellow. "Please," she whispered, "get me to an infirmary, if you have one. I think I know what's wrong, but—"

Before she could finish, the stranger dashed off. Graysha's legs throbbed.

Ari MaiJidda strode back into sight, shaking her head as she bent down. “Oh, Dr. Brady-Phillips, this is just what I feared. We’ll have a stretcher for you right away and get you on your way to . . . to a good facility.” She hurried off. Moments later, Graysha heard muffled muttering, like that of a subdued argument.

The excruciating pain made it hard to concentrate on anything but her cramping legs and thighs, and now her torso. The cramping was moving steadily toward her neck. Still, it seemed to Graysha that she’d been maneuvered into this attack. No food, sudden exercise—

Surely not. Why would MaiJidda deliberately do such a thing?

Please. No, she begged silently, reverting to the childhood ritual of prayer. Pungent air made a bitter taste in her mouth.

Half a minute later, two men in gray ExPress Shuttle uniforms rolled her onto a fabric litter and loaded her into a track-truck’s rear compartment. Graysha clutched the stretcher’s edge while the truck lumbered along. It felt good to tug one leg straight with her free hand.

The truck lurched and stopped. Then came a stretcher ride down concrete stairs and a concrete corridor. A pigtailed woman in a drab shirt and floppy pants stopped hurrying to stare. Graysha concentrated on inhaling and exhaling.

Just past three hundred breaths, her bearers turned left and took her through a broad door. A woman’s curt voice directed her transfer onto a metal gurney, and the men hurried away.

“Can you talk?” The woman rolled Graysha to slip her out of parka and pullover.

“Wait,” Graysha croaked. “Emmer—my gribien . . .”

“Where?” asked the woman.

“Shirt collar.”

The pigtailed stranger uncoiled the elderly pet, who had ridden this far curled tensely around Graysha’s neck like half a blown tire. Emmer’s limbs, clenched beneath downy black fur, almost vanished. “You keep a lab animal for a pet?” The woman laid Emmer on Graysha’s exposed stomach, removed Graysha’s black stretch tights, and prodded her legs.

Stiffing a protest, Graysha cupped one hand over Emmer. “Muscle cramps. It’s . . . Flaherty’s syndrome.” Flaherty’s was supposed to kill her slowly and painlessly over the next twenty terrannums.

But without adequate medical care, she could go into shock and never recover.

The woman draped a white cloth over Graysha's torso, gribien and all. Peering past her, Graysha spotted a diploma that identified her as Yael GurEshel, M.D. At least Axis Plantation's medical facility included one fully trained physician.

Dr. GurEshel sat down on a stool, swiveled it away, and raised both arms to a countertop. Her long pigtail swayed down her broad back. "We have a complete med-op database, including your personal records from the shuttle's memory bank. They beat you by ten minutes."

Graysha shut her eyes, wondering if Yael GurEshel worked for Gaea Consortium or was a Lwuite colonist. "I need sugars, and an antispasmodic would help. But please hurry. I—"

"I said we have your records."

Gripping the metal railing that edged her gurney, Graysha pushed both legs away as hard as she could. They wouldn't straighten.

Something clattered beside the doctor's station. Startled, Graysha curled into a tight ball. Emmer dug in, too, pinching her stomach with strong claws. Graysha uncurled to give Emmer breathing room.

Dr. GurEshel pulled something from the cubicle, then moved toward Graysha's left arm with an alcoholic-smelling swab. "This is a muscle relaxant and a mild short-term sedative." She threaded a needle into a vein, injected fluid, then lifted one of Graysha's hands.

Slowly the cramps let go, reversing from her torso down to her toes, though her palms and forearms stung as if scalded. With a trembling breath, Graysha gathered enough control to look around.

She lay at one end of a tiny room, under glowing overhead panels. At the gurney's head, GurEshel's computer sat on a countertop made of—could it be? Yes, it was—concrete! But the computer looked as modern as any at the high-school micro department she had left behind.

GurEshel looked about forty, and her pigtail dangled over well-padded shoulders. Flinging the pigtail aside, she slid her hand up Graysha's arm and fingered the tissue-oxygen implant. "We'll start a drip-pak as soon as we're sure you're not reacting to the first injection. Breathe normally, please."

The sharp medical scents of ethanol and phenol permeated the room.

Graysha's legs continued to release while Dr. GurEshel passed a handheld diagnostic imager back and forth across her forearm and hand. The physician's brown smock fit a little too snugly, and it was wrinkled across one side as if she just leaned against something.

"Might I have something to eat?" Graysha asked.

The physician turned her head, showing a generously rounded nose. "There will be sugars in the drip-pak," she said. "You've just broken a landing fast, and that's work enough for your stomach right now."

"I haven't broken my fast." Words slurred over Graysha's thickening tongue.

"Vice-Chair MaiJidda brought you a can of protein-fiber meal."

Graysha shut her eyes and exhaled. "She forgot it, or so she said."

Yael GurEshel tightened her lips. "Oh? All right, I'll start the drip-pak now." Another needle bit. GurEshel taped the fluid-filled pressure bag to Graysha's arm, and then the cubicle clattered again. GurEshel extracted a tray and took a grip on Graysha's left forearm. More pain followed, but Graysha was turning too wobble-jointed to react. After a minute, the pig-tailed woman displayed forceps that held a five-centimeter stone shard. "Impact glass—or plain, sharp lava. I'd guess that hurt."

"There's more in my hands." Graysha tried to smile, tried to lift her other palm.

The physician seized it. "Just relax."

Graysha tipped back her head and stared at a pale brown concrete wall. There would be time to worry about Ari MaiJidda once this sweet, sleepy dizziness wore off. "No problem."

"It *is* rather disconcerting about your predecessor, isn't it?" GurEshel murmured, digging for an elusive shard.

"Dr. Mahera?" Graysha asked dreamily. "Sandstorm. Yes."

Yael GurEshel set down her probe and leaned close. "Dr. Brady-Phillips, try to concentrate. MaiJidda told you nothing more?"

"Sandstorm," Graysha insisted, fighting the sedative in an attempt to focus. The unblinking stare of Yael GurEshel's dark brown eyes probably would have unnerved her another time. "Frontier pay?" she asked.

"It will wait." The physician's face blurred as her voice faded out. "But before you check out of the Health Maintenance Facility, someone needs to speak with you."

“This is Vice-Chair MaiJidda,” said the deep voice on Dr. Yael GurEshel’s audi line. “We can only hold that shuttle lander twenty minutes longer or we’ll miss the launch window. Dr. Brady-Phillips is sick enough to warrant sending her away, isn’t she?”

Yael GurEshel frowned at her bare yellow-tan office wall. “Too sick,” she answered. “She won’t be able to travel for at least a month. You had no business holding back food—”

“A month?” The vice-chair’s voice rose. “Cancel that, doctor. Do you realize whose daughter she is?”

Yael GurEshel rocked her chair away from the desktop console. “I might not realize?”

“Listen,” MaiJidda said softly. “I had only two hours to find out what would bring on that attack. The idiot lander captain insisted on sending her to you instead of putting her back on board. Scared of his legal liability. If there’s no food in her stomach, we could still put her back on that shuttle. Or . . . Yes—we’ll put her back on board, regardless. Acceleration sickness is messy, but it isn’t dangerous.”

Irritated, Yael drummed her fingers. “You aren’t listening, Ari. In her condition, the stress of takeoff and acceleration could be fatal. The Hippocratic oath does not permit me to deliberately endanger her life, to say nothing of what we would stir up if Novia Brady-Phillips’s daughter died through our malpractice. She must remain here for at least a month.”

After several seconds, MaiJidda sighed heavily onto her own pickup, making Yael’s desk speaker roar. “All right. I’ll release the lander.”

The line went dead. Yael GurEshel gripped her desk’s edge with both hands, wishing this long Goddarday had never dawned. She would not knowingly endanger her newly arrived patient, but neither would she become emotionally involved.

Ari MaiJidda was absolutely correct: Novia Brady-Phillips’s daughter must not remain on Goddard.

SHIVERING WORLD

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ABOUT THE AUTHOR

Kathy Tyers published her first science fiction novel in 1987 and has been writing ever since. She's published ten novels, including two authorized novels for the Star Wars expanded universe—*The Truce at Bakura* and *Balance Point*—and her original science fiction series *Firebird*.

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