

mount olympus

BEN BOVA

As writer, editor, essayist, and anthologist, Ben Bova has been one of the most prominent and influential figures in the genre for more than forty years. Bova made his first professional fiction sale in 1959, and by 1971, already recognized as one of the best new hard-SF writers on the scene, he was chosen to succeed legendary editor John W. Campbell, Jr., as the new editor of Analog magazine, a position he'd hold until 1978; many credit Bova with revitalizing an Analog that had slipped into genteel senility, introducing the work of writers such as Joe Haldeman, Larry Niven, Roger Zelazny, Frederik Pohl, and George R. R. Martin to the magazine, and winning six Best Editor Hugos in the process. Bova then moved on to be the founding editor of Omni magazine, from 1978 to 1982, before turning his back on editing altogether to take up the life of a full-time freelance writer. Bova's many books include the novels The Starcrossed, The Kins-man Saga (omnibus of the two-volume "Kinsman" series), The Exiles Tril-ogy (omnibus of the "Exiles" trilogy), Colony, Privateers, Voyagers, Voyagers II: The Alien Within, Voyagers III: Star Brothers, The Multiple Man, Cyberbooks, and Mars, and the collections Forward in Time, Max-well's Demons, Escape Plus, Future Crime, and Sam Gunn, Unlimited. His many anthologies include The Science Fiction Hall of Fame, Vols. 2A and 2B, The Best of Analog, The Best of Omni Science Fiction, #2-4, and The Best of the Nebulas. Bova is also perhaps the most tireless pro-moter of the space program since the late Carl Sagan, and his nonfiction books include The Uses of Space, The New Astronomies, Starflight and Other Improbabilities, The High Road, and Welcome to Moon Base. His most recent book, of which "Mount Olympus" is a part, is the novel Return to Mars. A new novel, Venus, should be on the shelves by the time our book comes out. Bova has also recently become Publisher of Galaxy Online and he has his own web site at www.benbova.net.

This new Mars adventure is a gripping story of danger and exploration that is as timely as tomorrow's headlines and as scientifically accurate and up-to-date as anyone can make it (when it happens, the chances are good that this is the way it will happen!), and demonstrates that no matter how far away we travel, we still have to deal with ourselves when we get there.

The tallest mountain in the solar system is Olympus Mons, on Mars. It is a massive shield volcano that has been dormant for tens, perhaps hundreds of millions of years.

Once, though, its mighty outpourings of lava dwarfed everything else on the planet. Over time, they built a mountain three times taller than Everest, with a base the size of the state of Iowa.

The edges of that base are rugged cliffs of basalt more than a kilometer high. The summit of the mountain, where huge calderas mark the vents that once spewed molten rock, stands some twenty-seven kilometers above the supporting plain.

At that altitude, the carbon dioxide that forms the major constituent of Mars's atmosphere can freeze out, condense on the cold, bare rock, covering it with a thin, invisible layer of dry ice.

* * * *

T

òmas Rodriguez looked happy as a puppy with an old sock to chew on as he and Fuchida got into their hard suits.

“I’m gonna be in the Guinness Book of Records,” he proclaimed cheerfully to Jamie Waterman, who was helping him get suited up. Trudy Hall was assisting Fuchida while Stacy Dezhurova sat in the comm center, monitoring the dome’s systems and the equipment outside.

It was the forty-eighth day of the Second Expedition’s eighteen months on the surface of Mars, the day that Rodriguez and biologist Mitsuo Fuchida were sched-uled to fly to Olympus Mons.

“Highest aircraft landing and takeoff,” Rodriguez chattered cheerfully as he wormed his fingers into the suit’s gloves. “Longest flight of a manned solar-powered aircraft. Highest altitude for a manned solar-powered aircraft.”

“Crewed,” Trudy Hall murmured, “not manned.”

Unperturbed by her correction, Rodriguez continued, “I might even bust the record for unmanned solar-powered flight.”

“Isn’t it cheating to compare a flight on Mars to flights on Earth?” Trudy asked as she helped Fuchida latch his life-support pack onto the back of his suit.

Rodriguez shook his head vigorously. “All that counts in the record book is the numbers, chica. Just the numbers.”

“Won’t they put an asterisk next to the numbers and a footnote that says, ‘This was done on Mars’?”

Rodriguez tried to shrug but not even he could manage that inside the hard suit. “Who cares, as long as they spell my name right?”

As the two men put on their suit helmets and sealed them to the neck rings, Jamie noticed that Fuchida was utterly silent through the suit-up procedure. Tòmas is doing enough talking for them both, he thought. But he wondered, is Mitsuo worried, nervous? He looks calm enough, but that might just be a mask. Come to think of it, the way Tòmas is blathering, he must be wired tighter than a drum.

The bulky hard suits had been pristine white when the explorers first touched down on Mars. Now their boots and leggings were tinged with reddish dust, no matter how hard the explorers vacuumed the ceramic-metal suits each time they returned to the dome’s airlock.

Rodriguez was the youngest of the eight explorers, the astronaut that NASA had loaned to the expedition. If it bothered him to work under Dezhurova, the more experienced Russian cosmonaut, he never showed it. All through training and the five-month flight to Mars and their nearly seven weeks on the planet’s surface, he had been a good-natured, willing worker. Short and stocky, with a swarthy complexion and thickly curled dark hair, his most noticeable feature was a dazzling smile that made his deep brown eyes sparkle.

But now he was jabbering away like a fast-pitch salesman. Jamie wondered if it was nerves or relief to be out on his own, in charge. Or maybe, Jamie thought, the guy was simply overjoyed at the prospect of flying.

Both men were suited up at last, helmet visors down, life-support systems functioning, radio checks completed. Jamie and Trudy walked with them to the airlock hatch: two Earthlings accompanying a pair of ponderous robots.

Jamie shook hands with Rodriguez. His bare hand hardly made it around the astronaut's glove, with its servo-driven exoskeleton "bones" on its back.

"Good luck, Tòmas," he said. "Don't take any unnecessary risks out there."

Rodriguez grinned from behind his visor. "Hey, you know what they say: There are old pilots and bold pilots, but there are no old, bold pilots."

Jamie chuckled politely. As mission director, he felt he had to impart some final words of wisdom. "Remember that when you're out there," he said.

"I will, boss. Don't worry."

Fuchida stepped up to the hatch once Rodriguez went through. Even in the bulky suit, even with sparrowlike Trudy Hall standing behind him, he looked small, somehow vulnerable.

"Good luck, Mitsuo," said Jamie.

Through the sealed helmet, Fuchida's voice sounded muffled, but unafraid. "I think my biggest problem is going to be listening to Tòmas's yakking all the way to the mountain."

Jamie laughed.

"And back, most likely," Fuchida added.

The indicator light turned green and Trudy pressed the stud that opened the inner hatch. Fuchida stepped through, carrying his portable life-support satchel in one hand.

He's all right, Jamie told himself. Mitsuo's not scared or even worried.

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Once they had clambered into the plane's side-by-side seats and

connected to its internal electrical power and life-support systems, both men changed.

Rodriguez became all business. No more chattering. He checked out the plane's systems with only a few clipped words of jargon to Stacy Dezhurova, who was serving as flight controller back in the dome's comm center.

Fuchida, for his part, felt his pulse thundering in his ears so loudly he wondered if the suit radio was picking it up. Certainly the medical monitors must be close to the redline, his heart was racing so hard.

Like the expedition's remotely piloted soarplanes, the rocketplane was built of gossamer-thin plastic skin stretched over a framework of ceramic-plastic cerplast. To Fuchida it looked like an oversized model airplane made of some kind of kitchen wrap, complete with an odd-looking six-bladed propeller on its nose.

But it was big enough to carry two people. Huge, compared to the unmanned soarplanes. Rodriguez said it was nothing more than a fuel tank with wings. The wings stretched wide, drooping to the ground at their tips. The cockpit was tiny, nothing more than a glass bubble up front. The rocket engines, tucked in where the wing roots joined the fuselage, looked too small to lift the thing off the ground.

The plane was designed to use its rocket engines for takeoffs, then once at altitude, it would run on the prop. Solar panels painted onto the wing's upper surface would provide the electricity to power the electrical engine. There was too little oxygen in the Martian air to run a jet engine; the rockets were the plane's main muscle, the solar cells its secondary energy source.

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Back in the dome, Jamie and the others crowded over Dezhurova's shoulders to watch the takeoff on the comm center's desktop display screen.

As an airport, the base left much to be desired. The bulldozed runway ran just short of two kilometers in length. There was no taxiway; Rodriguez and a helper—often Jamie—simply turned the fragile plane around after a landing so it was pointed up the runway again. There was no windsock. The atmosphere was so rare that it made scant difference which way the wind was blowing when the plane took off. The rocket engines did most of the

work of lifting the plane off the ground and providing the speed it needed for the broad, drooping wings to generate enough lift for flight.

Jamie felt a dull throbbing in his jaw as he bent over Dezhurova, watching the final moments before takeoff. With a conscious effort he unclenched his teeth. There are two men in that plane, he told himself. If anything goes wrong, if they crash, they'll both be killed.

"Clear for takeoff," Dezhurova said mechanically into her lip mike.

"Copy clear," Rodriguez's voice came through the speakers.

Stacy scanned the screens around her one final time, then said, "Clear for ignition."

"Ignition."

Suddenly the twin rocket engines beneath the wing roots shot out a bellowing flame and the plane jerked into motion. As the camera followed it jouncing down the runway, gathering speed, the long, drooping wings seemed to stiffen and stretch out.

"Come on, baby," Dezhurova muttered.

Jamie saw it all as if it were happening in slow motion: the plane trundling down the runway, the rockets' exhaust turning so hot the flame became invisible, clouds of dust and grit billowing behind the plane as it sped faster, faster along the runway, nose lifting now.

"Looking good," Dezhurova whispered.

The plane hurtled up off the ground and arched into the pristine sky, leaving a roiling cloud of dust and vapor slowly dissipating along the length of the runway. To Jamie it looked as if the cloud was trying to reach for the plane and pull it back to the ground.

But the plane was little more than a speck in the salmon-pink sky now.

Rodriguez's voice crackled through the speakers, "Next stop, Mount Olympus!"

* * * *

Rodriguez was a happy man. The plane was responding to his touch like a

beau-tiful woman, gentle and sweet.

They were purring along at—he glanced at the altimeter—twenty-eight thousand and six meters. Let's see, he mused. Something like three point two feet in a meter, that makes it eighty-nine, almost ninety thousand feet. Not bad. Not bad at all.

He knew the world altitude record for a solar-powered plane was above one hundred thousand feet. But that was a UAV, an unmanned aerial vehicle. No pilot's flown this high in a solar-powered plane, he knew. Behind his helmet visor he smiled at the big six-bladed propeller as it spun lazily before his eyes.

Beside him, Fuchida was absolutely silent and unmoving. He might as well be dead inside his suit, I'd never know the difference, Rodriguez thought. He's scared, just plain scared. He doesn't trust me. He's scared of flying with me. Probably wanted Stacy to fly him, not me.

Well, my silent Japanese buddy, I'm the guy you're stuck with, whether you like it or not. So go ahead and sit there like a fuckin' statue, I don't give a damn.

Mitsuo Fuchida felt an unaccustomed tendril of fear worming its way through his innards. This puzzled him, since he had known for almost two years now that he would be flying to the top of Olympus Mons. He had flown simulations hundreds of times. This whole excursion to Olympus Mons had been his idea, and he had worked hard to get the plan incorporated into the expedition schedule.

He had first learned to fly while an undergraduate biology student, and had been elected president of the university's flying club. With the single-minded intensity of a competitor who knew he had to beat the best of the best to win a berth on the Second Mars Expedition, Fuchida had taken the time to qualify as a pilot of ultralight aircraft over the inland mountains of his native Kyushu and then went on to pilot soarplanes across the jagged peaks of Sinkiang.

He had never felt any fear of flying. Just the opposite: he had always felt relaxed and happy in the air, free of all the pressures and cares of life.

Yet now, as the sun sank toward the rocky horizon, casting eerie red light across the barren rust-red landscape, Fuchida knew that he was afraid. What if the engine fails? What if Rodriguez cracks up the plane when we land on the mountain? One of the unmanned soarplanes had crashed while

it was flying over the volcano on a reconnaissance flight; what if the same thing happens to us?

Even in rugged Sinkiang there was a reasonable chance of surviving an emergency landing. You could breathe the air and walk to a village, even if the trek took many days. Not so here on Mars.

What if Rodriguez gets hurt while we're out there? I have only flown this plane in the simulator, I don't know if I could fly it in reality.

Rodriguez seemed perfectly at ease, happily excited to be flying. He shames me, Fuchida thought. Yet... is he truly capable? How will he react in an emergency? Fuchida hoped he would not have to find out.

They passed Pavonis Mons on their left, one of the three giant shield volcanoes that lined up in a row on the eastern side of the Tharsis bulge. It was so big that it stretched out to the horizon and beyond, a massive hump of solid stone that had once oozed red-hot lava across an area the size of Japan. Quiet now. Cold and dead. For how long?

There was a whole line of smaller volcanoes stretching off to the horizon and, beyond them, the hugely massive Olympus Mons. What happened here to create a thousand-kilometer-long chain of volcanoes? Fuchida tried to meditate on that question, but his mind kept coming back to the risks he was undertaking.

And to Elizabeth.

* * * *

Their wedding had to be a secret. Married persons would not be allowed on the Mars expedition. Worse yet. Mitsuo Fuchida had fallen in love with a foreigner, a young Irish biologist with flame-red hair and skin like white porcelain.

"Sleep with her," Fuchida's father advised him, "enjoy her all you want to. But father no children with her! Under no circumstances may you marry her."

Elizabeth Vernon seemed content with that. She loved Mitsuo.

They had met at Tokyo University. Like him, she was a biologist. Unlike him, she had neither the talent nor the drive to get very far in the competition for tenure and a professorship.

“I’ll be fine,” she told Mitsuo. “Don’t ruin your chance for Mars. I’ll wait for you.”

That was neither good nor fair, in Fuchida’s eyes. How could he go to Mars, spend years away from her, expect her to store her emotions in suspended animation for so long?

His father made other demands on him, as well.

“The only man to die on the First Mars Expedition was your cousin, Konoye. He disgraced us all.”

Isoruku Konoye suffered a fatal stroke while attempting to explore the smaller moon of Mars, Deimos. His Russian teammate, cosmonaut Leonid Tolbukhin, said that Konoye had panicked, frightened to be outside their spacecraft in nothing more than a spacesuit, disoriented by the looming menace of Deimos’s rocky bulk.

‘You must redeem the family’s honor,’ Fuchida’s father insisted. “You must make the world respect Japan. Your namesake was a great warrior. You must add new honors to his name.”

So Mitsuo knew that he could not marry Elizabeth openly, honestly, as he wanted to. Instead, he took her to a monastery in the remote mountains of Kyushu, where he had perfected his climbing skills.

“It’s not necessary, Mitsuo,” Elizabeth protested, once she understood what he wanted to do. “I love you. A ceremony won’t change that.”

“Would you prefer a Catholic rite?” he asked.

She threw her arms around his neck. He felt tears on her cheek.

When the day came that he had to leave, Mitsuo promised Elizabeth that he would come back to her. “And when I do, we will be married again, openly, for all the world to see.”

“Including your father?” she asked wryly.

Mitsuo smiled. “Yes, including even my noble father.”

Then he left for Mars, intent on honoring his family’s name and

returning to the woman he loved.

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The excursion plan called for them to land late in the afternoon, almost at sunset, when the low sun cast its longest shadows. That allowed them to take off in daylight, while giving them the best view of their landing area. Every boulder and rock would show in bold relief, allowing them to find the smoothest spot for their landing.

It also meant, Fuchida knew, that they would have to endure the dark frigid hours of night immediately after they landed. What if the batteries fail? The lithium-polymer batteries had been tested for years, Fuchida knew. They stored electricity generated in sunlight by the solar panels and powered the plane's equipment through the long, cold hours of darkness. But what if they break down when the temperature drops to a hundred and fifty below zero?

Rodriguez was making a strange, moaning sound, he realized. Turning sharply to look at the astronaut sitting beside him, Fuchida saw only the inside of his own helmet. He had to turn from the shoulders to see the space-suited pilot—who was humming tunelessly.

"Are you all right?" Fuchida asked nervously.

"Sure."

"Was that a Mexican song you were humming?"

"Naw. The Beatles. 'Lucy in the Sky with Diamonds.'" "

"Oh."

Rodriguez sighed happily. "There she is," he said.

"What?"

"Mount Olympus." He pointed straight ahead.

Fuchida did not see a mountain, merely the horizon. It seemed rounded, now that he paid attention to it: a large gently rising hump.

It grew as they approached it. And grew. And grew. Olympus Mons was an immense island unto itself, a continent rising up above the bleak red

plain like some gigantic mythical beast. Its slopes were gentle, above the steep scarps of its base. A man could climb that grade easily, Fuchida thought. Then he realized that the mountain was so huge it would take a man weeks to walk from its base to its summit.

Rodriguez was humming again, calm and relaxed as a man sitting in his favorite chair at home.

“You enjoy flying, don’t you?” Fuchida commented.

“You know what they say,” Rodrigueez replied, a serene smile in his voice. “Fly-ing a plane is the second most exciting thing a man can do.”

Fuchida nodded inside his helmet. “And the most exciting must be sex, right?”

“Nope. The first most exciting thing a man can do is landing a plane.”

Fuchida sank into gloomy silence.

* * * *

As the senior of the expedition’s two astronauts, Anastasia Dezhurova was techni-cally second-in-command to Jamie Waterman. She saw to it that her main duty was the communications center, where she could watch everyone and everything. As long as she was watching, Dezhurova felt, nothing very bad could happen to her fellow explorers.

The dome was quiet, everyone busy at their appointed tasks. Dezhurova could see Waterman outside, doggedly chipping still more rock samples. Trudy Hall was in her lab working with the lichen from the Grand Canyon; the only other woman among them, Vijay Shektar, was in her infirmary, scrolling medical data on her computer.

“Rodriguez to base,” the astronaut’s voice suddenly crackled in the speaker. “I’m making a dry run over the landing area. Sending my camera view.”

“Base to Rodrigueez,” Dezhurova snapped, all business. “Copy dry run.” Her fingers raced over the keyboard and the main display suddenly showed a pock-marked, boulder-strewn stretch of bare rock. “We have your imagery.”

Dezhurova felt her mouth go dry. I’d better call Jamie back into the

dome. If that's the landing area, they're never going to get down safely.

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Rodriguez banked the plane slightly so he could see the ground better. To Fuchida it seemed as if the plane was standing on its left wingtip while the hard, bare rock below turned in a slow circle.

"Well," Rodriguez said, "we've got a choice: boulders or craters."

"Where's the clear area the soarplanes showed?" Fuchida asked.

"'Clear' is a relative term," Rodriguez muttered.

Fuchida swallowed bile. It burned in his throat.

"Rodriguez to base. I'm going to circle the landing area one more time. Tell me if you see anything I miss."

"Copy another circle." Stacy Dezhurova's tone was clipped, professional.

Rodriguez peered hard at the ground below. The setting sun cast long shadows that emphasized every pebble down there. Between a fresh-looking crater and a scattering of rocks was a relatively clean area, more than a kilometer long. Room enough to land if the retros fired on command.

"Looks OK to me," he said into his helmet mike.

"Barely," came Dezhurova's voice.

"The wheels can handle small rocks."

"Shock absorbers are no substitute for level ground, Tòmas."

Rodriguez laughed. He and Dezhurova had gone through this discussion a few dozen times, ever since the first recon photos had come back from the UAVs.

"Turning into final approach," he reported.

Dezhurova did not reply. As the flight controller she had the authority to forbid him to land.

“Lining up for final.”

‘Tour imagery is breaking up a little.’

“Light level’s sinking fast.”

“Yes.”

Fuchida saw the ground rushing up toward him. It was covered with boulders and pitted with craters and looked as hard as concrete, harder. They were coming in too fast, he thought. He wanted to grab the control T-stick in front of him and pull up, cut in the rocket engines and get the hell away while they had a chance. Instead, he squeezed his eyes shut.

Something hit the plane so hard that Fuchida thought he’d be driven through the canopy. His safety harness held, though, and within an eyeblink he heard the howling screech of the tiny retro rocket motors. The front of the plane seemed to be on fire. They were bouncing, jolting, rattling along like a tin can kicked across a field of rubble.

Then a final lurch and all the noise and motion stopped.

“We’re down,” Rodriguez sang out. “Piece of cake.”

“Good,” came Dezhurova’s stolid voice.

Fuchida urgently needed to urinate.

“OK,” Rodriguez said to his partner. “Now we just sit tight until sunrise.”

“Like a pair of tinned sardines,” said Fuchida.

Rodriguez laughed. “Hey, man, we got all the creature comforts you could want—almost. Like tourist class in an overnight flight.”

Fuchida nodded inside his helmet. He did not relish the idea of trying to sleep in the cockpit seats, sealed in their suits. But that was the price to be paid for the honor of being the first humans to set foot on the tallest mountain in the solar system.

Almost, he smiled. I too will be in the Guinness Book of Records, he thought.

“You OK?” Rodriguez asked.

“Yes, certainly.”

“Kinda quiet, Mitsuo.”

“I’m admiring the view,” said Fuchida.

Nothing but a barren expanse of bare rock, in every direction. The sky overhead was darkening swiftly. Already Fuchida could see a few stars staring down at them.

“Well, look on the bright side,” Rodriguez quipped. “Now we get to test the FES.”

The Fecal Elimination System. Fuchida dreaded the moment when he had to try to use it.

Rodriguez chuckled happily, as if he hadn’t a care in the world. In two worlds.

* * * *

“Never show fear.” Tòmas Rodriguez learned that as a scrawny asthmatic child, growing up amidst the crime and violence of an inner-city San Diego barrio.

“Never let them see you’re scared,” his older brother Luis told him. “Never back down from a fight.”

Tòmas was not physically big, but he had his big brother to protect him. Most of the time. Then he found a refuge of sorts in the dilapidated neighborhood gym, where he traded hours of sweeping and cleaning for free use of the weight machines. As he gained muscle mass, he learned the rudiments of alley fighting from Luis. In middle school he was spotted and recruited by an elderly Korean who taught martial arts as a school volunteer.

In high school he discovered that he was bright, smart enough not merely to understand algebra but to want to understand it and the other mysteries of mathematics and science. He made friends among the nerds as well as the jocks, often protecting the former against the hazing and casual cruelty of the latter.

He grew into a solid, broad-shouldered youth with quick reflexes and the brains to talk his way out of most confrontations. He did not look for fights, but handled himself well enough when a fight became unavoidable. He worked, he learned, he had the kind of sunny disposition — and firm physical courage — that made even the nastiest punks in the school leave him alone. He never went out for any of the school teams and he never did drugs. He didn't even smoke. He couldn't afford such luxuries.

He even avoided the trap that caught most of his buddies: fatherhood. Whether they got married or not, most of the guys quickly got tied down with a woman. Tòmas had plenty of girls, and learned even before high school the pleasures of sex. But he never formed a lasting relationship. He didn't want to. The neighbor-hood girls were attractive, yes, until they started talking. Tòmas couldn't stand even to imagine listening to one of them for more than a few hours. They had nothing to say. Their lives were empty. He ached for something more.

Most of the high school teachers were zeroes, but one —the weary old man who taught math — encouraged him to apply for a scholarship to college. To Tòmas' enormous surprise, he won one: full tuition to UCSD. Even so, he could not afford the other expenses, so he again listened to his mentor's advice and joined the Air Force. Uncle Sam paid his way through school, and once he graduated he became a jet fighter pilot. "More fun than sex," he would maintain, always adding, "Almost."

Never show fear. That meant that he could never back away from a challenge. Never. Whether in a cockpit or a barroom, the stocky Hispanic kid with the big smile took every confrontation as it arose. He got a reputation for it.

The fear was always there, constantly, but he never let it show. And always there was that inner doubt. That feeling that somehow he didn't really belong here. They were allowing the chicano kid to pretend he was as smart as the white guys, allowing him to get through college on his little scholarship, allowing him to wear a flyboy uniform and play with the hotshot jet planes.

But he really wasn't one of them. That was made abundantly clear to him in a thousand little ways, every day. He was a greaser, tolerated only as long as he stayed in the place they expected him to be. Don't try to climb too far; don't show off too much; above all, don't try to date anyone except "your own."

Flying was different, though. Alone in a plane seven or eight miles up in the sky it was just him and God, the rest of the world far away, out of sight and out of mind.

Then came the chance to win an astronaut's wings. He couldn't back away from the challenge. Again, the others made it clear that he was not welcome to the competition. But Tòmas entered anyway and won a slot in the astronaut training corps. "The benefits of affirmative action," one of other pilots jeered.

Whatever he achieved, they always tried to take the joy out of it. Tòmas paid no outward attention, as usual; he kept his wounds hidden, his bleeding internal.

Two years after he had won his astronaut's wings came the call for the Second Mars Expedition. Smiling his broadest, Tòmas applied. No fear. He kept his gritted teeth hidden from all the others, and won the position.

"Big fuckin' deal," said his buddies. "You'll be second fiddle to some Russian broad."

Tòmas shrugged and nodded. "Yeah," he admitted. "I guess I'll have to take orders from everybody."

To himself he added, But I'll be on Mars, shitheads, while you're still down here.

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Following his astronaut teammate, Mitsuo Fuchida clambered stiffly down the ladder from the plane's cockpit and set foot on the top of the tallest mountain in the solar system.

In the pale light of the rising sun, it did not look like the top of a mountain to him. He had done a considerable amount of climbing in Japan and Canada and this was nothing like the jagged, snow-capped slabs of granite where the wind whistled like a hurled knife and the clouds scudded by below you.

Here he seemed to be on nothing more dramatic than a wide, fairly flat plain of bare basalt. Pebbles and larger rocks were scattered here and there, but not as thickly as they were back at the base dome. The craters that they had seen from the air were not visible here; at least, he saw nothing that looked like a crater.

But when he looked up he realized how high they were. The sky was a deep blue, instead of its usual salmon pink. The dust particles that reddened the sky of Mars were far below them. At this altitude on Earth they would be up in the stratosphere.

Fuchida wondered if he could see any stars through his visor, maybe find Earth. He turned, trying to orient himself with the rising sun.

“Watch your step,” Rodriguez’s voice warned in his earphones. “It’s — “

Fuchida’s boot slid out from under him and he thumped painfully on his rear.

“. . . slippery,” Rodriguez finished lamely.

The astronaut shuffled carefully to Fuchida’s side, moving like a man crossing an ice rink in street shoes. He extended a hand to help the biologist up to his feet.

Stiff and aching from a night of sitting in the cockpit. Fuchida now felt a throbbing pain in his backside. I’ll have a nasty bruise there, he told himself. Lucky I didn’t land on the backpack and break the life-support rig.

“Feels like ice underfoot,” Rodriguez said.

“It couldn’t be frost, we’re up too high for water ice to form.”

“Dry ice.”

“Ah.” Fuchida nodded inside his helmet. “Dry ice. Carbon dioxide from the atmosphere condenses out on the cold rock.”

“Yep.”

“But dry ice isn’t slippery . . .”

“This stuff is.”

Fuchida thought quickly. “Perhaps the pressure of our boots on the dry ice causes a thin layer to vaporize.”

“So we get a layer of carbon dioxide gas under our boots.” Rodriguez

immediately grasped the situation.

“Exactly. We skid along on a film of gas, like gas-lubricated ball bearings.”

“That’s gonna make it damned difficult to move around.”

Fuchida wanted to rub his butt, although he knew it was impossible inside the hard suit. “The sun will get rid of the ice.”

“I don’t think it’ll get warm enough up here to vaporize it.”

“It sublimates at seventy-eight point five degrees below zero. Celsius,” Fuchida recalled.

“At normal pressure,” Rodriguez pointed out.

Fuchida looked at the thermometer on his right cuff. “It’s already up to forty-two below,” he said, feeling cheerful for the first time. “Besides, the lower the pressure, the lower the boiling point.”

“Yeah. That’s right.”

“That patch must have been shaded by the plane’s wing,” Fuchida pointed out. “The rest of the ground seems clear.”

“Then let’s go to the beach and get a suntan,” Rodriguez said humorlessly.

“No, let’s go to the caldera, as planned.”

“You think it’s safe to walk around?”

Nodding inside his helmet, Fuchida took a tentative step. The ground felt smooth, but not slick. Another step, then another.

“Maybe we should’ve brought football cleats.”

“Not necessary. The ground’s OK now.”

Rodriguez grunted. “Be careful, anyway.”

“Yes, I will.”

While Rodriguez relayed his morning report from his suit radio through the more powerful transmitter in the plane, Fuchida unlatched the cargo bay hatch and slid their equipment skid to the ground. Again he marvelled that this plane of plastic and gossamer could carry them and their gear. It seemed quite impos-sible, yet it was true.

“Are you ready?” he asked Rodriguez, feeling eager now to get going.

“Yep. Lemme check the compass bearing.. . .”

Fuchida did not wait for the astronaut’s check. He knew the direction to the caldera as if its coordinates were printed on his heart.

* * * *

Rodriguez felt a chill of apprehension tingling through him as they stared down into the caldera. It was like being on the edge of an enormous hole in the world, a hole that went all the way down into hell.

“Nietzsche was right,” Fuchida said, his voice sounding awed, almost frightened, in Rodriguez’s earphones.

Rodriguez had to turn his entire torso from the hips to see the Japanese biologist standing beside him, anonymous in his bulky hard suit except for the blue stripes on his arms.

“You mean about when you stare into the abyss the abyss stares back.”

“You’ve read Nietzsche?”

Rodriguez grunted. “In Spanish.”

“That must have been interesting. I read him in Japanese.”

Breaking into a chuckle, Rodriguez said, “So neither one of us can read German, huh?”

It was as good a way as any to break the tension. The caldera was huge, a mammoth pit that stretched from horizon to horizon. Standing there on its lip, looking down into the dark, shadowy depths that dropped away for who knew how far, was distinctly unnerving.

“That’s a helluva hole,” Rodriguez muttered.

“It’s big enough to swallow Mt. Everest,” said Fuchida, his voice slightly hollow with awe.

“How long’s this beast been dead?” Rodriguez asked.

“Tens of millions of years, at least. Probably much longer. That’s one of the things we want to establish while we’re here.”

“Think it’s due for another blow?”

Fuchida laughed shakily. “We’ll get plenty of warning, don’t worry.”

“What, me worry?”

They began to unload the equipment they had dragged on the skid. Its two runners were lined with small Teflon-coated wheels so it could ride along rough ground without needing more than the muscle power of the two men. Much of the equipment was mountaineering gear: chocks and pitons and long coiled lengths of Buckyball cable.

“You really want to go down there?” Rodriguez asked while he drilled holes in the hard basalt for Fuchida to implant geo/met beacons. The instrumentation built into the slim pole would continuously measure ground tremors, heat flow from the planet’s interior, air temperature, wind velocity and humidity.

“I spent a lot of time exploring caves,” Fuchida answered, gripping one of the beacons in his gloved hands. “I’ve been preparing for this for a long time.”

“Spelunking? You?”

“They call it caving. Spelunking is a term used by non-cavers.”

“So you’re all set to go down there, huh?”

Fuchida realized that he did not truly want to go. Every time he had entered a cave on Earth he had felt an irrational sense of dread. But he had forced himself to explore the caverns because he knew it would be an important point in his favor in the competition for a berth on the Mars expedition.

"I'm all set," the biologist answered, grunting as he worked the geology/mete-orology beacon into its hole.

"It's a dirty job," Rodriguez joked, over the whine of the auger's electric motor, "but somebody's got to do it."

"A man's got to do what a man's got to do," Fuchida replied, matching his teammate's bravado.

Rodriguez laughed. "That ain't Nietzsche."

"No. John Wayne."

They finished all the preliminary work and headed back to the lip of the caldera. Slowly. Reluctantly, Rodriguez thought. Well, he told himself, even if we break our asses poking around down there at least we've got the beacons up and running.

Fuchida stopped to check the readouts coming from the beacons.

"They all transmitting OK?" Rodriguez asked.

"Yes," came the reply in his earphones. "Interesting. . ."

"What?"

"Heat flow from below ground is much higher here than at the dome or even down in the Canyon."

Rodriguez felt his eyebrows crawl upward. "You mean she's still active?"

"No, no, no. That can't be. But there is still some thermal energy down there."

"We should've brought marshmallows."

"Perhaps. Or maybe there'll be something to picnic on down there waiting for us!" The biologist's voice sounded excited.

"Whattaya mean?"

"Heat energy! Energy for life, perhaps."

A vision of bad videos flashed through Rodriguez's mind: slimy alien monsters with tentacles and bulging eyes. He forced himself not to laugh aloud. Don't worry, they're only interested in blondes with big boobs.

Fuchida called, "Help me get the lines attached and make certain the anchors are firmly imbedded."

He's not reluctant anymore, Rodriguez saw. He's itching to go down into that huge hole and see what kind of alien creatures he can find.

* * * *

"You all set?" Rodriguez asked.

Fuchida had the climbing harness buckled over his hard suit, the tether firmly clipped to the yoke that ran under his arms.

"Ready to go," the biologist replied, with an assurance he did not truly feel. That dark, yawning abyss stirred a primal fear in both men, but Fuchida did not want to admit to it himself, much less to his teammate.

Rodriguez had spent the morning setting up the climbing rig while Fuchida collected rock samples and then did a half-hour VR show for viewers back on Earth. The rocks were sparser here atop Olympus Mons than they were down on the plains below, and none of them showed the intrusions of color that marked colonies of Martian lichen.

Still, sample collection was the biologist's first order of business. He thought of it as his gift to the geologists, since he felt a dreary certainty that there was no biology going on here on the roof of this world. But down below, inside the caldera ... that might be a different matter.

Fuchida still had the virtual reality rig clamped to his helmet. They would not do a real-time transmission, but the recording of the first descent into Olympus Mons's main caldera would be very useful both for science and entertainment.

"OK," Rodriguez said, letting his reluctance show in his voice. "I'm ready when-ever you are."

Nodding inside his helmet, Fuchida said, "Then let's get started."

"Be careful now," said Rodriguez as the biologist backed slowly away from him.

Fuchida did not reply. He turned and started over the softly rounded lip of the giant hole in the ground. The caldera was so big that it would take half an hour to sink below the level where Rodriguez could still see him without moving from his station beside the tether winch.

I should have read Dante's *Inferno* in preparation for this task, Fuchida thought to himself.

The road to hell begins with a gradual slope, he knew. It will get steep enough soon.

Then both his booted feet slipped out from under him.

* * * *

"You OK?" Rodriguez's voice sounded anxious in Fuchida's earphones.

"I hit a slick spot. There must be patches of dry ice coating the rock here in the shadows."

The biologist was lying on his side, his hip throbbing painfully from his fall. At this rate, he thought, I'll be black-and-blue from the waist down.

"Can you get up?"

"Yes. Certainly." Fuchida felt more embarrassed than hurt. He grabbed angrily at the tether and pulled himself to his feet. Even in the one-third gravity of Mars it took an effort, with the suit and backpack weighing him down. And all the equipment that dangled from his belt and harness.

Once on his feet he stared down once more into the darkness of the caldera's yawning maw. It's like the mouth of a great beast, a voice in his mind said. Like the gateway to the eternal pit.

He took a deep breath, then said into his helmet microphone, "OK. I'm starting down again."

"Be careful, man."

"Thanks for the advice," Fuchida snapped.

Rodriguez seemed untroubled by his irritation. "Maybe I oughta keep

the line tighter,” he suggested. “Not so much slack.”

Regretting his temper, Fuchida agreed, “Yes, that might help to keep me on my feet.” The hip really hurt, and his rump was still sore from his first fall.

I’m lucky I didn’t rupture the suit, he thought. Or damage the backpack.

“OK, I’ve adjusted the tension. Take it easy, now.”

A journey of a thousand miles must begin with a single step. Mitsuo Fuchida quoted Lao-tzu’s ancient dictum as he planted one booted foot on the ground ahead of him. The bare rock seemed to offer good traction.

You can’t see the ice, he told himself. It’s too thin a coating to be visible. Several dozen meters to his right, sunlight slanted down into the gradually sloping side of the caldera. There’ll be no ice there, Fuchida thought. He moved off in that direction, slowly, testing his footing every step of the way.

The tether connected to his harness at his chest, so he could easily disconnect it if necessary. The increased tension of the line made walking all the more difficult. Fuchida felt almost like a marionette on a string.

“Slack off a little,” he called to Rodriguez.

‘You sure?’

He turned back to look up at his teammate, and was startled to see that the astronaut was nothing more than a tiny blob of a figure up on the rim, standing in bright sunlight with the deep blue sky behind him.

‘Yes, I’m certain,’ he said, with deliberate patience.

A few moments later Rodriguez asked, “How’s that?”

The difference was imperceptible, but Fuchida replied, “Better.”

He saw a ledge in the sunlight some twenty meters below him and decided to head for it. Slowly, carefully he descended.

“I can’t see you.” Rodriguez’s voice in his earphones sounded only slightly concerned.

Looking up, Fuchida saw the expanse of deep blue sky and nothing else except the gentle slope of the bare rock. And the tether, his lifeline, holding strong.

“It’s all right,” he said. “I’m using the VR cameras to record my descent. I’m going to stop at a ledge and chip out some rock samples there.”

* * * *

“Hey, Mitsuo,” Rodriguez called.

Automatically Fuchida looked up. But the astronaut was beyond his view. Fuchida was alone down on the ledge in the caldera’s sloping flank of solid rock. The Buckyball tether that connected him to the winch up above also carried their suit-to-suit radio transmissions.

“What is it?” he replied, grateful to hear Rodriguez’s voice.

“How’s it going, man?”

“That depends,” said Fuchida.

“On what?”

The biologist hesitated. He had been working on this rock ledge for hours, chipping out samples, measuring heat flow, patiently working an auger into the hard basalt to see if there might be water ice trapped in the rock.

He was in shadow now. The sun had moved away. Looking up, he saw with relief that the sky was still a bright blue. It was still daylight up there. Rodriguez would not let him stay down after sunset, he knew, yet he still felt comforted to see that there was still daylight up there.

“It depends,” he answered slowly, “on what you are looking for. Whether you are a geologist or a biologist.”

“Oh,” said Rodriguez.

“A geologist would be very happy here. There is a considerable amount of heat still trapped in these rocks. Much more than can be accounted for by solar warm-ing alone.”

“You mean the volcano’s still active?”

“No, no, no. It is dead, but the corpse is still warm —a little.”

Rodriguez did not reply.

“Do you realize what this means? This volcano must be much younger than was thought. Much younger!”

“How young?”

“Perhaps only a few million years,” Fuchida said excitedly. “No more than ten million.”

“Sounds pretty damned old to me, amigo.”

“But there might be life here! If there is heat, there might be liquid water within the rock.”

“I thought water couldn’t stay liquid on Mars.”

“Not on the surface,” Fuchida said, feeling the exhilaration quivering within him. “But deeper down, inside the rock where the pressure is higher...maybe ...”

“Looks pretty dark down there.”

“It is,” Fuchida answered, peering over the lip of the ledge on which he sat. The suit’s heater seemed to be working fine; it might be a hundred below zero in those shadows, but he felt comfortably warm.

“I don’t like the idea of your being down there in the dark.”

“Neither do I, but that’s why we’re here, isn’t it?”

No answer.

“I mean, we still have several hundred meters of tether to unwind, don’t we?”

Rodriguez said, “Eleven hundred and ninety-two, according to the meter.”

“So I can go down a long way, then.”

“I don’t like the dark.”

“My helmet lamp is working fine.”

“Still...”

“Don’t worry about it,” Fuchida insisted, cutting off the astronaut’s worries. It was bad enough to battle his own fears; he wanted no part of Rodriguez’s.

“I saw a crevice at the end of this ledge,” he told the astronaut. “It looks like the opening of an old lava tube. It probably leads down a considerable distance.”

“Do you think that’s a good idea?”

“I’ll take a look into it.”

“Don’t take any chances you don’t have to.”

Fuchida grimaced as he climbed slowly to his feet. His whole body ached from the bruising he’d received in his falls and he felt stiff after sitting on the ledge for so long. Walk carefully, he warned himself. Even though the rock is warmer down here, there could still be patches of ice.

“You hear me?” Rodriguez called.

“If I followed your advice I’d be in my bed in Osaka,” he said, trying to make it sound light and witty.

“Yeah, sure.”

Stiffly he walked toward the fissure he had seen earlier. His helmet lamp threw a glare of light before him, but he had to bend over slightly to make the light reach the ground.

There it is, he saw. A narrow, slightly rounded hole in the basalt face. Like the mouth of a pirate’s cave.

Fuchida took a step into the opening and turned from side to side, playing his helmet lamp on the walls of the cave.

It was a lava tube, he was certain of it. Like a tunnel made by some giant extraterrestrial worm, it curved downward. How far down? he wondered.

Stifling a voice in his head that whispered of fear and danger, Fuchida started into the cold, dark lava tube.

* * * *

“Jamie,” Stacy Dezhurova’s voice called out sharply, “we have an emergency mes-sage from Rodriguez.”

Sitting at the electron microscope in the geology lab, Jamie looked up from the display screen when Dezhurova’s voice rang through the dome. He left the core sample in the microscope without turning it off and sprinted across the dome to the comm center.

Dezhurova looked grim as she silently handed Jamie a headset. The other sci-entists in the dome crowded into the comm center behind him.

Rodriguez’s voice was calm but tight with tension. “. . . down there more than two hours now and then radio contact cut off,” the astronaut was saying.

Sitting again on the wheeled chair next to Dezhurova as he adjusted the pin microphone, Jamie said, “This is Waterman. What’s happening, Tòmas?”

“Mitsuo went down into the caldera as scheduled. He found a lava tube about fifty-sixty meters down and went into it. Then his radio transmission was cut off.”

“How long—”

“It’s more than half an hour now. I’ve tried yanking on his tether but I’m getting no response.”

“What do you think?”

“Either he’s unconscious or his radio’s failed. I mean, I really pulled on the tether. Nothing.”

The astronaut did not mention the third possibility: that Fuchida was dead. But the thought blazed in Jamie’s mind.

“You say your radio contact with him cut off while he was still in the lava tube?”

“Yeah, right. That was more’n half an hour ago.”

A thousand possibilities spun through Jamie’s mind. The tether’s too tough to break, he knew. Those Buckyballs can take tons of tension.

“It’s going to be dark soon,” Rodriguez said.

“You’re going to have to go down after him,” Jamie said.

“I know.”

“Just go down far enough to see what’s happened to him. Find out what’s happened and call back here.”

“Yeah. Right.”

“I don’t like it, but that’s what you’re going to have to do.”

“I don’t like it much, either,” said Rodriguez.

Through a haze of pain, Mitsuo Fuchida saw the irony of the situation. He had made a great discovery but he would probably not live to tell anyone about it.

When he entered the lava tube he felt an unaccustomed sense of dread, like a character in an old horror movie, stepping slowly, fearfully down the narrow cor-ridor of a haunted house, lit only by the flicker of a candle. Except this corridor was a tube melted out of the solid rock by an ancient stream of red-hot lava, and Fuchida’s light came from the lamp on his hard suit helmet.

Nonsense! he snapped silently. You are safe in your hard suit, and the tether connects you to Rodriguez, up at the surface. But he called to the astronaut and chatted inanely with him, just to reassure himself that he was not truly cut off from the rest of the universe down in this dark, narrow passageway.

The VR cameras fixed to his helmet were recording everything he saw, but Fuchida thought that only a geologist would be interested in this cramped, claus-trophobic tunnel.

The tube slanted downward, its walls fairly smooth, almost glassy in places. The black rock gleamed in the light of his lamp. The tunnel grew narrower in spots, then widened again, although nowhere was it wide enough for him to spread his arms fully.

Perspiration was beading Fuchida's lip and brow, trickling coldly down his ribs. Stop this foolishness, he admonished himself. You've been in tighter caves than this.

He thought of Elizabeth, waiting for him back in Japan, accepting the subtle snubs of deep-seated racism because she loved him and wanted to be with him when he returned. I'll get back to you, he vowed, even if this tunnel leads down to hell itself.

The tether seemed to snag from time to time. He had to stop and tug on it to loosen it again. Or perhaps Rodriguez was fiddling with the tension on the line, he thought.

Deeper into the tunnel he went, stepping cautiously, now and then running his gloved hands over the strangely smooth walls.

Fuchida lost track of time as he chipped at the tunnel walls here and there, filling the sample bags that dangled from his harness belt. The tether made it uncomfortable to push forward, attached to his harness at the chest. It had to pass over his shoulder or around his waist: clumsy, at best.

Then he noticed that the circle of light cast by his helmet lamp showed an indentation off toward the left, a mini-alcove that seemed lighter in color than the rest of the glossy black tunnel walls. Fuchida edged closer to it, leaning slightly into the niche to examine it.

A bubble of lava did this, he thought. The niche was barely big enough for a man to enter. A man not encumbered with a hard suit and bulky backpack, that is. Fuchida stood at the entrance to the narrow niche, peering inside, wondering.

And then he noticed a streak of red, the color of iron rust. Rust? Why here and not elsewhere?

He pushed in closer, squeezing into the narrow opening to inspect the rust spot. Yes, definitely the color of iron rust.

He took a scraper from the tool kit at his waist, nearly fumbling it in his

awk-wardly gloved fingers. If I drop it I won't be able to bend down to pick it up, not in this narrow cleft, he realized.

The red stain crumbled at the touch of the scraper. Strange! thought Fuchida. Not like the basalt at all. Could it be ... wet? No! Liquid water cannot exist at this low air pressure. But what is the pressure inside the rock? Perhaps...

The red stuff crumbled easily into the sample bag he held beneath it with trembling fingers. It must be iron oxide that is being eroded by water, somehow. Water and iron. Siderophiles! Bacteria that metabolize iron and water!

Fuchida was as certain of it as he was of his own existence. His heart was racing. A colony of iron-loving bacteria living inside the caldera of Olympus Mons! Who knew what else might be found deeper down?

It was only when he sealed up the sample bag and placed it in the plastic box dangling from his belt that he heard the strange rumbling sound. Through the thickness of his helmet it sounded muted, far-off, but still any sound at all this deep in the tunnel was startling.

Fuchida started to back away from the crumbling, rust-red cleft. The rumbling sound seemed to grow louder, like the growl of some prowling beast. It was non-sense, of course, but he thought the tunnel walls were shaking slightly, trembling. It's you who are trembling, foolish man! he admonished himself.

Something in the back of his mind said, Fear is healthy. It is nothing to be ashamed of, if you —

The rusted area of rock dissolved into a burst of exploding steam that lifted Fuchida off his feet and slammed him painfully against the far wall of the lava tube.

* * * *

Fuchida nearly blacked out as his head banged against the back of his helmet. He sagged to the floor of the tunnel, his visor completely fogged, his skull thundering with pain.

With a teeth-gritting effort of iron will he kept himself from slipping into un-consciousness. Despite the pounding in his head, he forced himself to stay awake, alert. Do not faint! he commanded himself. Do not allow

yourself to take the cowardly way. You must remain awake if you hope to remain alive. He felt perspiration beading his forehead, dripping into his eyes, forcing him to blink and squint.

Then a wave of anger swept over him. How stupid you are! he railed at him-self. A hydrothermal vent. Water. Liquid water, here on Mars. You should have known. You should have guessed. The heat flow, the rusted iron. There must be siderophiles here, bacteria that metabolize iron and water. They weak-ened the wall and you scraped enough of it away for the pressure to blow through the wall.

Yes, he agreed with himself. Now that you've made the discovery, you must live to report it to the rest of the world.

His visor was still badly fogged. Fuchida groped for the control stud at his wrist that would turn up his suit fans and clear the visor. He thought he found the right keypad and pushed it. Nothing changed. In fact, now that he listened for it, he could not hear the soft buzz of his suit fans at all. Except for his own labored breathing, there was nothing but silence. Wait. Be calm. Think. Call Rodriguez. Tell him what's happened. "Tòmas, I've had a little accident." No response.

"Rodriguez! Can you hear me?" Silence.

Slowly, carefully, he flexed both his arms, then his legs. His body ached, but there didn't seem to be any broken bones. Still the air fans remained silent, and beads of sweat dripped into his eyes.

Blinking, squinting, he saw that the visor was beginning to clear up on its own. The hydrothermal vent must have been a weak one, he thought thankfully. He could hear no more rumbling; the tunnel did not seem to be shaking now.

Almost reluctantly, he wormed his arm up to eye level and held the wrist key-board close to his visor. The keyboard was blank. Electrical malfunction! Franti-cally he tapped at the keyboard: nothing. Heater, heat exchanger, air fans, radio — all gone.

I'm a dead man.

Cold panic hit him like a blow to the heart. That's why you no longer hear the air circulation fans! The suit battery must have been damaged when I slammed against the wall.

Fuchida could hear his pulse thundering in his ears. Calm down! he commanded himself. That's not so bad. The suit has enough air in it for an hour or so. And it's insulated very thoroughly; you won't freeze—not for several hours, at least. You can get by without the air circulation fans. For a while.

It was when he tried to stand up that the real fear hit him. His right ankle flared with agony. Broken or badly sprained, Fuchida realized. I can't stand on it. I can't get out of here.

Then the irony really struck him. I might be the first man to die of heat prostration on Mars.

* * * *

The problem is, Rodriguez said to himself, that we only have one climbing harness and Mitsuo's wearing it.

I've got to go down there without a tether, without any of the climbing tools that he's carrying with him.

Shit!

The alternative, he knew, was to leave the biologist and return to the safety of the plane. Rodriguez shook his head inside his helmet. Can't leave him. It's already getting dark and he'd never survive overnight.

On the other hand, there's a damned good chance that we'll both die down there.

Double shit.

For long, useless moments he stared down into the dark depths of the caldera, in complete shadow now as the sun crept closer to the distant horizon.

Never show fear, Rodriguez repeated to himself. Not even to yourself. He nodded inside his helmet. Yeah, easy to say. Now get the snakes in my guts to believe it.

Still, he started down, walking slowly, deliberately, gripping the tether hand-over-hand as he descended.

It became totally dark within a few steps of leaving the caldera's rim.

The only light was the patch of glow cast by his helmet lamp, and the dark rock all around him seemed to swallow that up greedily. He planted his booted feet carefully, deliberately, knowing that carbon dioxide from the air was already starting to freeze out on the bitterly cold rock.

Rodriguez cast a glance up at the dimming sky, like a prisoner taking his last desperate look at freedom before entering his dungeon.

At least I can follow the tether, he thought. He moved with ponderous deliberation, worried about slipping on patches of ice. If I get disabled we're both toast, he told himself. Take it easy. Don't rush it. Don't make any mistakes.

Slowly, slowly he descended. By the time the tether led him to the mouth of the lava tube, he could no longer see the scant slice of sky above; it was completely black. If there were stars winking at him up there he could not see them through the tinted visor of his helmet.

He peered into the tunnel. It was like staring into a well of blackness.

"Hey, Mitsuo!" he called. "Can you hear me?"

No response. He's either dead or unconscious. Rodriguez thought. He's laying deep down that tunnel someplace and I've got to go find him. Or what's left of him.

He took a deep breath. No fear, he reminded himself.

Down the dark tunnel he plodded, ignoring the fluttering of his innards, paying no attention to the voice in his head that told him he'd gone far enough, the guy's dead, no sense getting yourself killed down here too so get the hell out, now.

Can't leave him, Rodriguez shouted silently at the voice. Dead or alive, I can't leave him down here.

Your funeral, the voice countered.

Yeah, sure. I get back to the base OK without him. What're they gonna think of me? How'm I —

He saw the slumped form of the biologist, a lump of hard suit and equipment sitting against one wall of the tunnel.

“Hey, Mitsuo!” he called.

The inert form did not move.

Rodriguez hurried to the biologist and tried to peer into the visor of his helmet. It looked badly fogged.

“Mitsuo,” he shouted. “You OK?” It sounded idiotic the moment the words left his lips.

But Fuchida suddenly reached up and gripped his shoulders.

“You’re alive!”

Still no answer. His radio’s out, Rodriguez finally realized. And the air’s too thin to carry my voice.

He touched his helmet against Fuchida’s. “Hey, man, what happened?”

“Battery,” the biologist replied, his voice muffled but understandable. “Battery not working. And my ankle. Can’t walk.”

“Jesus! Can you stand up if I prop you?”

“I don’t know. My air fans are down. I’m afraid to move; I don’t want to generate any extra body heat.”

Shit, said Rodriguez to himself. Am I gonna have to carry him all the way up to the surface?

* * * *

Sitting there trapped like a stupid schoolboy on his first exploration of a cave, Fuchida wished he had paid more attention to his Buddhist instructors. This would be a good time to meditate, to reach for inner peace and attain a calm alpha state. Or was it beta state?

With his suit fans inoperative, the circulation of air inside the heavily insulated hard suit was almost nonexistent. Heat generated by his body could not be trans-ferred to the heat exchanger in the backpack; the temperature inside the suit was climbing steadily.

Worse, it was more and more difficult to get the carbon dioxide he

exhaled out of the suit and into the air recycler. He could choke to death on his own fumes.

The answer was to be as still as possible, not to move, not even to blink. Be calm. Achieve nothingness. Do not stir. Wait. Wait for help.

Rodriguez will come for me, he told himself. Tòmas won't leave me here to die. He'll come for me.

Will he come in time? Fuchida tried to shut the possibility of death out of his thoughts, but he knew that it was the ultimate inevitability.

The hell of it is, I'm certain I have a bag full of siderophiles! I'll be famous.

Posthumously.

Then he saw the bobbing light of a helmet lamp approaching. He nearly blub-bered with relief. Rodriguez appeared, a lumbering robotlike creature in the bulky hard suit. To Fuchida he looked sweeter than an angel.

Once Rodriguez realized that he had to touch helmets to be heard, he asked, "How in the hell did you get yourself banged up like this?"

"Hydrothermal vent," Fuchida replied. "It knocked me clear across the tunnel."

Rodriguez grunted. "Old Faithful strikes on Mars."

Fuchida tried to laugh; what came out was a shaky coughing giggle.

"Can you move? Get up?"

"I think so ..." Slowly, with Rodriguez lifting from beneath his armpits, Fu-chida got to his feet. He took a deep breath, then coughed. When he tried to put some weight on his bad ankle he nearly collapsed.

"Take it easy, buddy. Lean on me. We got to get you back to the plane before you choke to death."

* * * *

Rodriguez had forgotten about the ice.

He half-dragged Fuchida along the tunnel, the little pools of light made by their helmet lamps the only break in the total, overwhelming darkness around them.

“How you doing, buddy?” he asked the Japanese biologist. “Talk to me.”

Leaning his helmet against the astronaut’s, Fuchida answered, “I feel hot. Broil-ing—”

“You’re lucky. I’m freezing my ass off. I think my suit heater’s crapping out on me.

“I... I don’t know how long I can last without the air fans,” Fuchida said, his voice trembling slightly. “I feel a little lightheaded.”

“No problem,” Rodriguez replied, with a false heartiness. “It’ll get kinda stuffy inside your suit, but you won’t asphyxiate.”

The first American astronaut to take an EVA spacewalk outside his capsule had almost collapsed from heat prostration, Rodriguez remembered. The damned suits hold all your body heat inside; that’s why they make us wear the watercooled longjohns and put heat exchangers in the suits. But if the fans can’t circulate the air the exchanger’s pretty damned useless.

Rodriguez kept one hand on the tether. In the wan light from his helmet lamp he saw that it led upward, out of this abyss.

“We’ll be back in the plane in half an hour, maybe less. I can fix your backpack then.”

“Good,” said Fuchida. Then he coughed again.

It seemed to take hours before they got out of the tunnel, back onto the ledge in the slope of the giant caldera.

“Come on, grab the tether. We’re goin’ up.”

“Right.”

But Rodriguez’s boot slipped and he fell to his knees with a painful thump.

“Damn,” he muttered. “It’s slick.”

“The ice.”

The astronaut rocked back onto his haunches, both knees throbbing painfully.

“It’s too slippery to climb?” Fuchida’s voice was edging toward panic.

“Yeah. We’re gonna have to haul ourselves up with the winch.” He got down onto his belly and motioned the biologist to do the same.

“Isn’t this dangerous? What if we tear our suits?”

Rodriguez rapped on the shoulder of Fuchida’s suit. “Tough as steel, amigo. They won’t rip.”

“You’re certain?”

“You wanna spend the night down here?”

Fuchida grabbed the tether with both his hands.

Grinning to himself, Rodriguez also grasped the tether and told Fuchida to activate the winch.

But within seconds he felt the tether slacken.

“Stop!”

“What’s wrong?” Fuchida asked.

Rodriguez gave the tether a few light tugs. It felt loose, its original tension gone. “Holy shit,” he muttered. “What is it?”

“The weight of both of us on the line is too much for the rig to hold. We’re pulling it out of the ground up there.”

“You mean we’re stuck here?”

* * * *

“I see that none of us are going to get any sleep.”

Stacy Dezhurova was smiling as she spoke, but her bright blue eyes were dead serious. Trudy Hall was still on duty at the comm console. Stacy sat beside her while Jamie paced slowly back and forth behind her. Vijay Shektar, the expedition doctor, had pulled in another chair and sat by the doorway, watching them all.

The comm center cubicle felt stuffy and hot with all four of them crowded in there. Jamie did not answer Dezhurova's remark; he just kept on pacing, five strides from one partition to the other, then back again.

"Rodriguez must have found him by now," Hall said, swivelling her chair slightly toward Stacy.

"Then why doesn't he call in?" she demanded, almost angrily.

"They must still be down inside the caldera," Jamie said.

"It's night," Stacy pointed out.

Jamie nodded and kept pacing.

"It's the waiting that's the worst," Vijay offered. "Not knowing what—"

"This is Rodriguez," the radio speaker crackled. "We got a little problem here."

Jamie was at the comm console like a shot, leaning between the two women.

"What's happening, Tòmas?"

"Fuchida's alive. But his backpack's banged up and his battery's not functioning. Heater, air fans, nothing in his suit's working." Rodriguez's voice sounded tense but in control, like a pilot whose jet engine had just flamed out: trouble, but nothing that can't be handled. Until you hit the ground.

Then he added, "We're stuck on a ledge about thirty meters down and can't get back up 'cause the rock's coated with dry ice and it's too slippery to climb."

As the astronaut went on to describe how the tether winch almost pulled out of its supports when the two of them tried to haul themselves up the slope, Jamie tapped Hall on the shoulder and told her to pull up the

specs on the hard suit's air circulation system.

"OK," he said when Rodriguez stopped talking. "Are either of you hurt?"

"I'm bruised a little. Mitsuo's got a bad ankle. He can't stand on it."

One of the screens on the console now showed a diagram of the suit's air circulation system. Hall was scrolling through a long list on the screen next to it.

"Mitsuo, how do you feel?" Jamie asked, stalling for time, time to think, time to get the information he needed.

"His radio's down," Rodriguez said. A hesitation, then, "But he says he's hot. Sweating."

Vijay nodded and murmured, "Hyperthermia."

Strangely, Rodriguez chuckled. "Mitsuo also says he discovered siderophiles, inside the caldera! He wants Trudy to know that."

"I heard it," Hall said, still scrolling down the suit specs. "Did he get samples?"

Again a wait, then Rodriguez replied, "Yep. There's water in the rock. Liquid water. Mitsuo says you've gotta publish . . . get it out on the Net."

"Liquid?" Hall stopped the scrolling. Her eyes went wide. "Are you certain about—"

"Never mind that now," Jamie said, studying the numbers on Hall's screen. "According to the suit specs you can get enough breathable air for two hours, at least, even with the fans off."

"We can't wait down here until daylight, then," Rodriguez said.

Jamie said, "Tòmas, is Mitsuo's harness still connected to the winch?"

"Far as I can see, yeah. But if we try to use the winch to haul us up it's gonna yank the rig right out of the ground."

“Then Mitsuo’s got to go up by himself.”

“By himself?”

“Right,” Jamie said. “Let the winch pull Mitsuo up to the top. Then he takes off the harness and sends it back to you so you can get up. Understand?”

* * * *

In the pale light of the helmet lamps, Fuchida could not see Rodriguez’s face behind his tinted visor. But he knew what the astronaut must be feeling.

Pressing his helmet against Rodriguez’s, he said, “I can’t leave you down here alone, without even the tether.” Rodriguez’s helmet mike must have picked up his voice, because Waterman replied, iron hard, “No arguments, Mitsuo. You drag your butt up there and send the harness back down. It shouldn’t take more than a few minutes to get you both up to the top.”

Fuchida started to object, but Rodriguez cut him off. “OK, Jamie. Sounds good. We’ll call you from the top when we get there.”

Fuchida heard the connection click off.

“I can’t leave you here,” he said, feeling almost desperate.

“That’s what you’ve got to do, man. Otherwise neither one of us will make it.”

“Then you go first and send the harness back down to me.”

“No way,” Rodriguez said. “You’re the scientist, you’re more important. I’m the astronaut, I’m trained to deal with dangerous situations.”

Fuchida said, “But it’s my fault—”

“Bullshit,” Rodriguez snapped. Then he added, “Besides, I’m bigger and meaner than you. Now get going and stop wasting time!”

“How will you find the harness in the dark? It could be dangling two meters from your nose and your helmet lamp won’t pick it up.”

Rodriguez made a huffing sound, almost a snort. "Tie one of the beacons to it and turn on the beacon light."

Fuchida felt mortified. I should have thought of that. It's so simple. I must be truly rattled, my mind is not functioning as it should.

"Now go on," Rodriguez said. "Get down on your belly again and start up the winch."

"Wait," Fuchida said. "There is something—"

"What?" Rodriguez demanded impatiently.

Fuchida hesitated, then spoke all in a rush. "If... if I don't make it... if I die . . . would you contact someone for me when you get back to Earth?"

"You're not gonna die."

"Her name is Elizabeth Vernon," Fuchida went on, afraid that if he stopped he would not be able to resume. "She's a lab assistant in the biology department of the University of Tokyo. Tell her... that I love her."

Rodriguez understood the importance of his companion's words. "Your girl-friend's not Japanese?"

"My wife," Fuchida answered.

Rodriguez whistled softly. Then, "OK, Mitsuo. Sure. I'll tell her. But you can tell her yourself. You're not gonna die."

"Of course. But if..."

"Yeah. I know. Now get going!"

Reluctantly, Fuchida did as he was told. He felt terribly afraid of a thousand possibilities, from tearing his suit to leaving his partner in the dark to freeze to death. But he felt more afraid of remaining there and doing nothing.

Worse, he felt hot. Stifling inside the suit. Gritting his teeth, he held on to the tether with all the pressure the servo-motors on his gloves could apply. Then he realized that he needed one hand free to work the winch control on his climbing harness.

He fumbled for the control stud, desperately trying to remember which one started the winch. He found it and pressed. For an instant nothing happened.

Then suddenly he was yanked off the ledge and dragged up the hard rock face of the caldera's slope, his suit grinding, grating, screeching against the rough rock.

I'll never make it. Fuchida realized. Even if the suit doesn't break apart, I'll suffocate in here before I reach the top.

* * * *

Rodriguez watched Fuchida slither up and away from him, a dim pool of light that receded slowly but steadily. Through the insulation of his helmet he could not hear the noise of the biologist's hard suit grating against the ice-rimed rock; he heard nothing but his own breathing, faster than it should have been. Calm down, he ordered himself. Keep calm and everything'll turn out OK.

Sure, a sardonic voice in his head answered. Nothing to it. Piece of cake.

Then he realized that he was totally, utterly alone in the darkness.

It's OK, he told himself. Mitsuo'll send the harness down and then I can winch myself up.

The light cast by his helmet lamp was only a feeble glow against the dark rough rock face. When Rodriguez turned, the light was swallowed by the emptiness of the caldera's abyss, deep and wide and endless.

The darkness surrounded him. It was as if there was no one else in the whole universe, no universe at all, only the all-engulfing darkness of this cold, black pit.

Unbidden, a line from some play he had read years earlier in school came to his mind:

Why, this is hell, nor am I out of it.

Don't be a goon! he snapped at himself. You'll be OK. Your suit's working fine and Mitsuo's up there by now, taking off the harness and getting ready to send it down to you.

Yeah, sure. He could be unconscious, he could be snagged on a rock or maybe the damned harness broke while the winch was dragging him up the slope.

Rodriguez put a gloved hand against the solid rock to steady himself. You'll be out of this soon, he repeated silently. Then he wondered if his lamp's light was weakening. Are the batteries starting to run down?

* * * *

Fuchida's head was banging against the inside of his helmet so hard he tasted blood in his mouth. He squeezed his eyes shut and saw his father's stern, uncom-promising glare. How disappointed he will be when he learns that I died on Mars, like cousin Konoye.

And Elizabeth. Perhaps it's better this way. She can go back to Ireland and find a man of her own culture to marry. My death will spare her a lifetime of troubles.

The winch stopped suddenly and Fuchida felt a pang of terror. It's stuck! He realized at that moment that he was not prepared for death. He did not want to die. Not here on Mars. Not at all.

A baleful red eye was staring at him. Fuchida thought for a moment he might be slipping into unconsciousness, then slowly realized that it was the light atop one of the geo/met beacons they had planted at the lip of the caldera.

Straining his eyes in the starlit darkness, he thought he could make out the form of the winch looming above his prostate body. He reached out and touched it.

Yes! He had reached the top. But he felt faint, giddy. His body was soaked with perspiration. Heat prostration, he thought. How funny to die of heat prostration when the temperature outside my suit is nearly two hundred degrees below zero.

He began to laugh, knowing he was slipping into hysteria and unable to stop himself. Until he began coughing uncontrollably.

* * * *

Down on the ledge, Rodriguez tried to keep his own terrors at bay.

“Mitsuo,” he called on the suit-to-suit frequency. “You OK?”

No answer. Of course, dummy! His radio’s not working. The cold seemed to be leaching into his suit. Cold enough to freeze carbon dioxide. Cold enough to overpower the suit’s heater. Cold enough to kill.

“Get up there, Mitsuo,” he whispered. “Get up there in one piece and send the damned tether back down to me.”

He wouldn’t leave me here. Not if he made it to the top. He wouldn’t run for the plane and leave me here. He can’t run, anyway. Can’t even walk. But he could make it to the plane once he’s up there. Hobble, jump on one leg. He wouldn’t do that. He wouldn’t leave me alone to die down here. Something must’ve hap-pened to him. He must be hurt or unconscious.

The memory of his big brother’s death came flooding back to him. In a sudden rush he saw Luis’s bloody mangled body as the rescue workers lifted him out of the wrecked semi. A police chase on the freeway. All those years his brother had been running drugs up from Tijuana in his eighteen-wheeler and Tòmas never knew, never even suspected. There was nothing he could do. By the time he saw Luis’s rig; sprawled along the shoulder of the highway it was already too late.

He saw himself standing, impotent, inert, as his brother was pronounced dead and then slid into the waiting ambulance and carried away. Just like that. Death can strike like a lightning bolt.

What could I have done to save him? Rodriguez wondered for the thousandth time. I should have done something. But I was too busy being a flyboy, training to be an astronaut. I didn’t have time for the family, for my own brother.

He took a deep, sighing breath of canned air. Well, now it’s going to even out. I got all the way to Mars, and now I’m gonna die here.

Then he heard his brother’s soft, musical voice. “No fear, muchacho. Never show fear. Not even to yourself.”

Rodriguez felt no fear. Just a deep eternal sadness that he did not help Luis when help was needed. And now it was all going to end. All the regrets, all the hopes, everything . . .

For an instant he thought he saw a flash of dim red light against the

rock wall. He blinked. Nothing. He looked up, but the top of his helmet cut off his view. Grasping at straws, he told himself. You want to see something bad enough, you'll see it, even if it isn't really there.

But the dim red glow flashed again, and this time when he blinked it didn't go away. Damned helmets! he raged. Can't see anything unless it's in front of your fuckin' face.

He tried to tilt his whole upper body back a little, urgently aware that it wouldn't take much to slip off this ledge and go toppling down into the bottomless caldera. And there it was! The red glow of the beacon's light swayed far above him, like the unwinking eye of an all-seeing savior.

He leaned against the rock face again. His legs felt weak, rubbery. Shit, man, you were really scared.

He could make out the dangling form of the harness now, with the telescoped pole of the beacon attached to it by duct tape. Where the hell did Mitsuo get duct tape? he wondered. He must've been carrying it with him all along. The universal cure-all. We could do a commercial for the stuff when we get back to Earth. Save your life on Mars with friggin' duct tape.

It seemed to take an hour for the tiny red light to get close enough to grab. With hands that trembled only slightly, Rodriguez reached up and grabbed the beacon, ripped it free and worked his arms into the climbing harness. Then he snapped its fasteners shut and gave the tether an experimental tug. It felt strong, good.

He started to reach for the control stud that would activate the winch. Then he caught himself. "Wait one," he whispered, in the clipped tone of the professional flier.

He bent down and picked up the beacon. Sliding it open to its full length, he worked its pointed end into a crack in the basalt rock face. It probably won't stay in place for long, he thought, and it won't work at all unless the sun shines on it for a few hours per day. But he felt satisfied that he had left a reminder that men from Earth had been here, had entered the pit and gleaned at least some of its secrets and survived,—maybe.

"OK," he said to himself, grasping the tether with one hand. "Here we go."

He pushed on the control stud and was hauled off his feet. Grinding, twisting, grating, he felt himself pulled up the rock slope, his head banging

inside his helmet, his legs and booted feet bouncing as he was dragged upward.

Worse than any simulator ride he'd ever been through in training. Worse than the high-g centrifuge they'd whirled him in. They'll never put this ride into Dis-neyland, Rodriguez thought, teeth clacking as he bounced, jounced, jolted up to the lip of the caldera.

At last it was over. Rodriguez lay panting, breathless, aching. Fuchida's hard-suited form lay on the ground next to him, unmoving.

Rodriguez rolled over on one side, as far as his backpack would allow. Beyond Fuchida's dark silhouette the sky was filled with stars. Dazzling bright friendly stars gleaming down at him, like a thousand thousand jewels. Like heaven itself.

I made it, Rodriguez told himself. Then he corrected: Not yet. Can't say that yet.

He touched his helmet to Fuchida's. "Hey, Mitsuo! You OK?"

It was an inane question and he knew it. Fuchida made no response, but Rod-riguez thought that he could hear the biologist's breathing: panting, really, shallow and fast.

Gotta get him to the plane. Can't do a thing for him out here.

As quickly as he could Rodriguez unbuckled the climbing harness, then tenderly lifted the unconscious Fuchida and struggled to his feet. Good thing we're on Mars. I could never lift him in his suit in a full g. Now where the hell is the plane?

In the distance he saw the single red eye of another one of the geo/met beacons they had planted. He headed in that direction, tenderly carrying his companion in his arms.

I couldn't do this for you, Luis, Rodriguez said silently. I wish I could have, but this is the most I can do.

* * * *

The base dome was dark and silent, its lighting turned down to sleep shift level, its plastic skin opaqued to prevent heat from leaking out into the Martian night. Stacy Dezhurova was still sitting at the comm console,

drowsing despite herself, when Rodriguez's call came through.

"We're back in the plane," the astronaut announced without preamble. "Lemme talk to Vijay."

"Vijay!" Stacy shouted in a voice that shattered the sleepy silence. "Jamie!" she added.

Running footsteps padded through the shadows, bare or stockinged feet against the plastic flooring. Vijay, the physician, slipped into a chair beside Dezhurova, her jet-black eyes wide open and alert. Jamie and Tracy Hall raced in, bleary-eyed, and stood behind the two women.

"This is Vijay," she said. "What's your condition?"

In the display screen they could see only the two men's helmets and shoulders. Their faces were masked by the heavily tinted visors. But Rodriguez's voice sounded steady, firm.

"I'm OK. Banged up a little, but that's nothing. I purged Mitsuo's suit and plugged him into the plane's emergency air supply. But he's still out of it."

"How long ago did you do that?" Vijay asked, her dark face rigid with tension.

"Fifteen — sixteen minutes ago."

"And you're just calling in now?" Dezhurova demanded.

"I had to fix his battery pack," Rodriguez answered, unruffled by her tone. "It got disconnected when he was knocked down — "

"Knocked down?" Jamie blurted.

"Yeah. That's when he hurt his ankle."

"How badly is he hurt?" Vijay asked.

"It's sprained, at least. Maybe a break."

"He couldn't break a bone inside the suit," Jamie muttered. "Not with all that protection."

“Anyway,” Rodriguez resumed, “his suit wasn’t getting any power. I figured that getting his suit powered up was the second most important thing to do. Pumping fresh air into him was the first.”

“And calling in, the third,” Dezhurova said, much more mildly.

“Right,” said Rodriguez.

“I’m getting his readouts,” Vijay said, studying the medical diagnostic screen.

“Yeah, his suit’s OK now that the battery’s reconnected.”

“Is his LCG working?” Vijay asked.

“Should be,” Rodriguez said. “Wait one . . .”

They saw the astronaut lean over and touch his helmet to the unconscious Fuchida’s shoulder.

“Yep,” he announced, after a moment. “I can hear the pump chugging. Water oughtta be circulating through his longjohns just fine.”

“That should bring his temperature down,” Vijay muttered, half to herself. “The problem is, he might be in shock from overheating.”

“What do I do about that?” Rodriguez asked.

The physician shook her head. “Not much you can do, mate. Especially with the two of you sealed into your suits.”

For a long moment they were all silent. Vijay stared at the medical screen. Fuchida’s temperature was coming down. Heart rate slowing nicely. Breathing almost normal. He should be —

The biologist coughed and stirred. “What happened?” he asked weakly.

All four of the people at the comm center broke into grins. None of them could see Rodriguez’s face behind his visor, but they heard the relief in his voice:

“Naw, Mitsuo; you’re supposed to ask, ‘Where am I?’ “

The biologist sat up straighter. "Is Tracy there?"

"Don't worry about—"

"I'm right here, Mitsuo," said Tracy Hall, leaning in between Dezhurova and Vijay Shektar. "What is it?"

"Siderophiles!" Fuchida exclaimed. "Iron-eating bacteria live in the caldera."

"Did you get samples?"

"Yes, of course."

Jamie stepped back as the two biologists chattered together. Fuchida nearly gets himself killed, but what's important to him is finding a new kind of organism. With an inward smile, Jamie admitted, maybe he's right.

* * * *

Jamie awoke the instant the dome's lighting turned up to daytime level. He pushed back the thin sheet that covered him and got to his feet. After the long night they had all put in, he should have felt tired, drained. Yet he was awake, alert, eager to start the day.

Quickly he stepped to his desk and booted up his laptop, then opened the communications channel to Rodriguez and Fuchida. With a glance at the desktop clock he saw that it was six-thirty-three. He hesitated for only a moment, though, then put through a call to the two men at Olympus Mons.

As he suspected, they were both awake. Jamie's laptop screen showed the two of them side-by-side in the plane's cockpit.

"Good morning," he said. "Did you sleep well?"

"Extremely well," said Fuchida.

"This cockpit looked like the best hotel suite in the world when we got into it last night," Rodriguez said.

Jamie nodded. "Yeah, I guess it did."

Rodriguez gave a crisp, terse morning report. Fuchida happily

praised the astronaut for purging his suit of the foul air and fixing the electrical connection that had worked loose in his backpack.

“My suit fans are buzzing faithfully,” he said. “But I’m afraid I won’t be able to do much useful work on my bad ankle.”

They had discussed the ankle injury the previous night, once Fuchida had regained consciousness. Vijay guessed that it was a sprain, but wanted to get the biologist back to the dome as quickly as possible for an X ray.

Jamie had decided to let Rodriguez carry out as much of their planned work as he could, alone, before returning. Their schedule called for another half day on the mountaintop, then a takeoff in the early afternoon for the flight back to dome. They should land at the base well before sunset.

“I’ll be happy to take off this suit,” Fuchida confessed.

“We’re not gonna smell so good when we do,” Rodriguez added.

Jamie found himself peering hard at the small screen of his laptop, trying to see past their visors. Impossible, of course. But they both sounded cheerful enough.

The fears and dangers of the previous night were gone, daylight and the relative safety of the plane brightened their outlook.

Rodriguez said, “We’ve decided that I’m going back down inside the caldera and properly implant the beacon we left on the ledge there.”

“So we can get good data from it,” Fuchida added, as if he were afraid Jamie would countermand his decision.

Jamie asked, “Do you really think you should try that?”

“Oughta be simple enough,” Rodriguez said easily, “long as we don’t go near that damned lava tube again.”

“That’s the imperial ‘we,’ “ Fuchida explained. “I’m staying here in the plane, I’m afraid.”

“Is there enough sunlight where you want to plant the beacon?” Jamie asked.

He sensed the biologist nodding inside his helmet. “Oh yes, the

ledge receives a few hours of sunlight each day.”

“So we’ll get data from inside the caldera,” Rodriguez prompted.

“Not very far inside,” Fuchida added, “but it will be better than no data at all.”

“You’re really set on doing this?”

“Yes,” they both said. Jamie could feel their determination. It was their little victory over Olympus Mons, their way of telling themselves that they were not afraid of the giant volcano.

“OK, then,” Jamie said. “But be careful, now.”

“We’re always careful,” said Fuchida.

“Most of the time,” Rodriguez added, with a laugh.

* * * *