

THE CAVES OF CERES

by JOE SCHEMBRIE

“Either-or” debates often forget there may be other possibilities....

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As Roger Thomas flew his flivver through the caves of Ceres, a wall of rock popped into the headlight beam and he stomped the retro pedal. The helmet glass of his space suit automatically tinted with the flare of the rocket exhaust. Around the curve came a robot hauling wagons of ore. With a pulse of his side thrusters, Roger squeezed by. He ignored the sparks as an outcropping scraped bumper metal.

The tunnel opened into a cavern. The flivver settled with a ballistic spray of dust. Excavators resembling mechanical dinosaurs chewed rock while a humanoid robot glared with expressionless lenses at the human pawing under the vehicle's netting.

“Drill fuses,” Roger said, flicking a package with a spin.

The robot caught clumsily. It flashed an authorization code into Roger's computer tablet and promptly about-faced.

“You're welcome,” Roger said.

He thrust the way he'd come. His dash-mounted laser-ring gyro-map showed a blip ascending toward the Rift mouth. Seconds later, he pulled into a cavern as large as Manhattan Island. Along the frost-encrusted walls, men and machines enacted an arcane choreography upon scaffolding as slender as knitting needles.

A space suit with the blue-and-white Ceres Mining logo on its chest bounced over.

“Hey, Grady,” Roger said. “Got a big one from your corporate slave drivers.”

Grady Olsen gestured at the bumpers. “Looks like you've got some new bruises too.”

“Either I drive faster than the robots do, or go home.”

“You could also rejoin CM.”

“That's going backwards.”

“How you exit a dead end.”

Roger unnetted a refrigerator-sized box. Not a lumbar-popper in Ceres's .025 Earth-standard gravity, but cumbersome. Grunting, Roger dumped the load onto a pallet.

Suddenly, Grady touched his helmet. “Hey, Roger, just got a message from my supervisor’s office. Hal Winkler wants to contact you, urgent.”

Roger glanced at his computer tablet, whose long-range communications functions were useless in the caves. “Wink? What for?”

“Something about a guide job. You’re conducting tours now?”

“If it floats food above the table. But why is Wink drumming business for me? I haven’t been in his place for months. He overcharges, you know.”

“And waters the beer. I’m just the messenger. By the way, you didn’t forget?”

“Do I ever?” Roger made a slow-motion football pass with an airtight container. “Synthetic pastrami and artificial rye. Hope you didn’t want the other way around.”

Grady snatched the sandwich. “I owe you.”

“Big time.”

Authorizations traded, Roger returned to the main shaft. He hovered, pondering whether to continue his rounds or see Wink. They weren’t buddies, but Roger couldn’t picture Wink pulling his leg.

Merging into the surface-bound traffic, Roger weaved among transports and ore carriers until he burst from the Obarator Rift. He headed over Planum Ferdinanda, increased his velocity by three hundred meters per second, and inserted into equatorial orbit. A star gleamed in the black sky above the geometrically patterned lights of Schroter Base. Alphaville Station resolved into a cylinder of multitiered windows pirouetting with a counterweight of slag at the end of a two-kilometer tether.

Roger matched orbital and rotational vectors and plunked onto the landing platform. While his legs adjusted to the full-Earth spingrav, he eyed his flivver.

One headlight was broken from that cave-in last week in Tunnel 18A. The passenger-side rear strut was crimped from when he had flown too fast through the fog in those new tunnels at the nine-thousand-meter level ... well, the damage hadn’t mattered until he wondered how a customer might react.

Sighing, Roger headed for the mall deck airlock.

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The dining room of Wink’s Interplanetary Bar & Grill was jammed with the usual suspects—miners, prospectors, technicians, drifters, quasicriminal low-lives. Fitting comfortably into the middle of that milieu, Roger entered unnoticed.

Hal Winkler, looking more a waiter than the station’s foremost entrepreneur, held a towel and had his sleeves rolled to display his skull-and-crossbones tattoo. As

Roger neared, Wink spoke to someone at a table. With a jolt, Roger realized the person seated was female.

She wasn't bad looking: young, blonde, a smooth olive complexion with a nose that seemed to actively tussle between half-Aztec broad and half-Irish upturned. Her liquid eyes were wide and riveted on what Wink was saying.

Once Roger was in range, Wink slapped him on the shoulder.

"Rebecca, this is Roger Thomas. Roger, this is Rebecca Sanchez."

"Thomas," Rebecca said, her clear diction tinged with a Texan drawl. "Your last name is Thomas."

"Yes." Her steady gaze almost compelled him to apologize. "I understand you're needing a guide."

Over folded arms, she stared.

"Can I sit?" he asked.

With her nod, he slid into the chair. He became conscious of the sidelong glances from the other patrons. *You'd think they'd never seen a woman before*, Roger thought. And here there'd been one on the station only last month.

Wink hung over them. Rebecca forced a smile.

"If you don't mind...."

"Oh, sure. I'll leave you to business."

Once they were alone, she gave Roger a gaze that felt like she was memorizing his facial pores.

"Well," she said. "So what's the message?"

"The message," Roger said slowly.

"Didn't my father tell you?"

"I'm afraid I don't know what you're talking about."

Her smile faded. Beads of moisture welled. "You don't know. I came all the way out here and—and—"

Roger heard the background chatter diminish. Glances turned to glares. He knew what they were thinking. It was his barroom fantasy, too, to be the shining knight who saved the noble lady from the boorish knave.

"Hey," he said softly. He offered her a napkin and she dabbed her cheeks. "This must be mistaken identity, that's all. So you're looking for a Roger Thomas?"

“Actually, someone named Tom.”

“Just Tom?”

She breathed deeply. “I suppose there are lots of Toms out here.”

“I’m afraid so. Ceres isn’t one little outpost anymore. It has several communities, thousands of people.”

“There’s no directory?”

“If there was, we’d swing the publisher by the neck at ten gees.” He paused. “Although, come to think, there is one listing.” He brushed away her computer tablet. “You can’t access via Asternet. It’s private.”

“I’ll pay for your trouble.”

Placing his hormones in standby mode, he took a financially appraising look. Her coveralls were not designer label. She was barely beyond her teens. And if she had paid for passage from Earth, she’d likely be low on funds. But for some reason, possibly that his hormonal-mode regulator seemed inoperative after ages of disuse, he trusted her.

“It’s a deal.” He noticed a handmade, long-necked bottle by her elbow. “Shall we toast?”

“Not that stuff.” Rebecca laughed. “My father is an amateur winemaker, and it’s one of his more, uh, creative attempts.”

“Oh, sentimental value—”

“No way. It’s just that I was to meet Tom at the storage room that my father leases here on the station. While I was waiting, I unlocked the room, and it was stacked to the ceiling with these bottles. I had a sip, and—well, I wouldn’t want to afflict you.”

“Rebecca ... I assume you can’t contact your father to ask about Tom.”

“My father isn’t ... available.” Her faced showed pain, then managed another smile. “How about I buy what you like?”

She signaled Wink. Roger requested a light beer. Wink did a double back and said, “Hey, Rog. Noticed your flivver’s kind of beat up. Why don’t my garage ‘bots do a go-over while you’re here?”

“I’m short on cash.”

“Your credit’s good.”

Wink grinned at Rebecca. But Roger knew Wink had never extended credit to anyone. The shining knights were just stumbling over one another today.

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Rebecca had an upset stomach, common for those new to shifting gravity fields. After she returned from the infirmary, Roger helped her rent a suit. He noticed how confidently she snapped the limb segments onto the torso.

“You’ve done this before?” he asked.

“I practiced during the trip from Earth.”

He gave her credit for effort, and points for not commenting on the flivver’s condition, which looked the same after Wink’s servicing as before. The retro pedal was still sticky, too. Roger wondered what Wink would charge him for.

They jettied into a higher orbit. Soon, while transiting the interior plain of Piazzzi Crater, they observed a twin sunrise.

“Solar mirror?” she asked.

“Yep. The Piazzzi Concentrator.”

“It looks huge.”

“Ten clicks.”

“Ten square kilometers?”

“Ten clicks diameter. About eighty square.”

“How much thermal power is that?”

“Around Ceres, solar intensity is roughly a gigawatt per square klick.”

“*Eighty gigawatts?*”

“Yep.”

“That’s incredible! Back home, Austin has been trying to get permits to build a one-gigawatt nuclear plant for years now! And here you just float some tin foil!”

“Well, actually, it’s aluminum-coated Mylar, weighs over a thousand tons, and maneuvers with minirockets. But yeah, power’s cheap out here. Your family lives in Austin?”

“Just myself, these days.”

In the midst of Piazzzi’s bowl, a third sun glowed orange, then white-hot. They lowered their visors.

“Smelting by concentrated sunlight?” she asked.

“About a quarter million tons.”

Her helmet shook. “You couldn’t do that scale on Earth.”

“I suppose not. Environmental impact statements and all.”

A habitat wheel revolved above the mirror’s backside. The flivver’s docking ring looped a rim hook. They climbed into a foyer. Cameras scanned. Grady greeted them inside.

“A woman,” Grady said as they lifted helmets. “I thought they quit making those.”

“Cut the cute,” Roger said. “She’s my client.”

“Hokay. Roger, I owe you, but be discreet. Even if you were still Company, accessing the human resources data base for personal use is *verbot*.”

Grady led them through a deserted office area to a cubicle. He plopped in front of the workstation. “Keep a lookout,” he said, plugging passwords into screen windows.

Roger scanned the partition tops. Presently, Grady announced, “Forty-three employees with Thomas in their names.”

“We’re assuming he worked for Ceres Mining,” Rebecca said.

“Everyone around Ceres has,” Grady said. “No sane person pays their own way out here. They sign with CM and the company covers the ticket.”

“I paid my own way,” Rebecca said.

Grady pretended to be fully absorbed by the screen.

“Rebecca,” Roger said. “You recognize any names?”

“No.”

“Would it help to view photos?”

“No. Hmm. Instead of Tom, try Huck.”

“Huck?” Grady asked.

“H-U-C-K. My father said if Tom didn’t come, Huck would.”

Grady checked. “No Hucks.”

Huck, Roger mulled. Then inspiration: “I take it your father was out here, too, and that’s how he met Tom and Huck.”

“Yes. So?”

“What’s your father’s name?”

“Alberto. Why?”

“Grady. Try Alberto Sanchez.”

The screen reported Alberto Sanchez, Service April 16, 2037 to May 5, 2039.

“I didn’t know he worked for Ceres Mining,” Rebecca said.

“The Assignment field says he was a mixer,” Roger said. “Unusual.”

“A mixer?”

“Slang for nanotechnician.”

“Oh, yes. He was a nanotech.”

“Let’s see if we can find any other mixers who worked with Alberto Sanchez around the same time. Maybe they know something about Tom or Huck.”

The query shuffled employees, filtering all but five. All were hired and terminated on the same dates as Alberto Sanchez. The Contact field stated EARTH RETURN for three, LOCATION-UNKNOWN for the fourth. And the fifth:

“Melvin Barrow,” Grady read. “Ceres coordinates.”

Roger calculated. The man dwelt in the depths of Obarator Rift.

* * * *

The flivver dove into the main shaft. Painted numerals on the walls announced depths in hundred-meter units. At the seventy level, Roger consulted the laser-gyro and streaked into an S-curving gallery. They were so deep inside Ceres that the atmosphere had thickened enough to support pockets of mist, which reflected the headlight beam with a series of milky veils.

“You’re heading in circles,” Rebecca said after several minutes of branching tunnels.

“More like a spiral.” He tapped a glove against the gyro. “These numbers are our three-dimensional coordinates—longitude, latitude, altitude/depth. I’m matching them to Grady’s report.”

“So you don’t know your way around?”

“These tunnels closed before my time.”

“I noticed the lack of traffic.” Her hand touched the clasp on her handbag.

The tunnel widened into a cavern whose walls vanished into the gloom beyond the headlamp beam. Light gleamed off cylinders so tall that roof stalactites had been broken off in accommodation. Roger landed in a deserted parking lot.

“It’s like a lost city,” Rebecca said, gaping at the avenues of towers.

“A mixing facility,” Roger said. “Those are nanojuice tanks, I know that much.”

Plucking the gyro from its dashboard mount, Roger left the flivver and tracked the coordinates to a side passage, where a flatbed car rested on rail tracks. They gripped the siding and Roger pressed the panel button. The car lurched down the track, into a bend.

“You have any idea where you’re going?” Rebecca asked.

“Not since leaving Earth.” In the silence: “Sorry. Old joke.”

The track tilted sideways. The car hit a hundred KPH, looping the curving passage. Centripetal force, Roger judged, mimicked Mars surface gee.

They merged into a wider tunnel. A train of huts rolled on parallel tracks. Their car automatically docked with the rear porch. Roger pressed the airlock buzzer.

“Don’t often have visitors,” Melvin Barrow said after introductions had been exchanged. He wore a rumpled corduroy shirt and looked to be late middle-aged, about eighty or so. “Come on in. And call me Mel.”

Rebecca and Roger took opposite ends of the sofa. The chocolate-colored Labrador sniffed, then drooped its jowls onto the throw rug. Mel muted the TV.

“Little Becky Sanchez,” he said. “Must have seen a dozen vids of your childhood. Now you’re all grown.”

Her complexion wasn’t dark enough to conceal the blush. “So, Mel, how well did you know my father?”

“Enough to tolerate his wine. But I only met him here after the Jersey Goo, ‘course.”

“You mean the New Jersey Nanoindustrial Release Incident,” Roger said.

“Well, the media circus called it the ‘Jersey Goo.’ God, the nonsense! A cupful of molecular-separation nanojuice leaks from one recycling plant, and there’s a tri-state evacuation! And the lawsuits! Every circuit card that malfunctioned on the Eastern Seaboard was grounds for a class action settlement! Course it was overreaction, but tell that to the public.”

“My father mentioned it,” Rebecca said. “It was why he had to leave Earth.”

“The whole molecular-separation industry was driven off Earth because of liability and regulatory costs. We nanotechies had to follow.”

“But I saw that smelting mirror in orbit here. How could you compete with

something that size?"

Rebecca was taking her time, Roger noticed, in getting to the business of finding Tom or Huck.

"Politics," Mel replied. "The nanotech lobby demanded subsidies. They got 'em 'til Congress decided the cost-vote ratio was too high. Then we were shut down."

"Then you joined Ceres Mining," Rebecca said.

"Yep, they had nanotech projects too. Marginal, experimental affairs. Then they let us go. And then us nanotechies learned the government had abandoned the facility here. Someone stripped the parts for black market. Me, I set up house here in the old control center. No plans to return Earthside. Got no money, no family."

Curiosity getting the better of him, Roger asked, "And Rebecca's father?"

"Alberto was different. His ex-wife died, and he went Earthside to care for you, Becky. But I heard he got arrested right off the shuttle."

"For stealing public property," she said. "From this place here, I suppose."

"Becky, your father didn't take a gram of equipment. Only took the residual juice from the tanks. Which was about to denature soon, anyway. Hardly worth a penny. Can't see any fuss over that."

"He took nanojuice," Roger said, perking. And as if he didn't suspect: "What for?"

"Alberto planned a molecular extraction operation of his own. Wasn't that crazy. The juice was already brewed. And some places on Ceres, the rock's so porous that all you have to do is sprinkle the juice and the platinum oozes right out."

Roger asked: "How big an operation?"

Rebecca glanced sharply. Mel shrugged.

"Hard to say. Problem is, the process is snail-slow unless you have catalytic boosters, which we lack the infrastructure to fabricate here. Given the diffusion rates, Alberto probably went home before the first kilo was leached. Sorry, Becky."

"But he told me," Rebecca said, "contact Tom or Huck, and they would give me the platinum!"

"Never heard Alberto mention any Tom or Huck, outside of his discourses on Mark Twain."

"Twain," Roger said, wrinkling his forehead. "What does—"

The sentence died on his tongue. Rebecca was glaring.

“How’s your father these days?” Mel asked. “Did he ever go back to graduate school?”

“No,” Rebecca said quietly. “He’s ... okay.”

The Labrador on the rug, aware of the discomfort, did an eye-dance of darting glances. Rebecca abruptly arose, fidgeting with her helmet.

“Thank you,” she said. “Guess I’ll find the mine somehow.”

“The mine?” Mel snorted again. “That what you’re looking for?”

“You know where it is?”

“Your father wanted me to partner, took me there once. I’ll give you directions.”

* * * *

Helmets reaffixed, they returned to the sunlit surface world. While Roger refueled at the hyox station on the threshold of the Rift, Rebecca handed over ten Bank of Ceres notes.

“I hope this covers it,” she said crisply. “Thanks for your help.”

The bills were about half of what he’d normally earn in an afternoon. He returned two and said, “How are you going to find the mine? By yourself?”

She gave a nervous glance toward the other pumps. Voices carried far, over space suit transceivers.

“I’ll manage.”

She started walking toward the Ceres Transit stop.

“I’m sorry,” he called.

She turned back. “For what?”

“You know. Grabbing control of the conversation with Mel. I should know better. But I’d like to help.”

She grimaced. “Lately, people have been entirely too helpful.”

“Well, I realize I’m an unknown quantity, but so is everyone else here. And you still need help.”

“I don’t have money—and I don’t want charity. I’m old enough to know that when a guy offers something for free in the beginning, he usually demands a certain kind of payment in the end.”

“I understand. We’ll keep this professional. How about ... ten percent finder’s

fee?”

“Five. And you’ll do more than drive.”

Roger didn’t want to seem a pushover, but her expression said not to haggle.

The hydrogen and oxygen pumps blinked shut-off. Roger and Rebecca buckled into the flivver. As the vehicle arched over the mesas of Ferdinanda, Rebecca studied the driving directions Mel had transmitted to her computer tablet.

“South of the catapult,” she read. “He means, the electromagnetic catapult that launches shipments to Earth?”

“No doubt,” Roger replied, veering south. They overflowed a straight line that ran for kilometers, its evenly spaced lights glowing bright against the low albedo of the natural rock.

“Next. Proserpina Highlands and Palermo Crater.”

Roger knew the highlands, and soon the flivver was bounding over the spires of the Aventine Mountains. But then came the uninhabited wastes of the Ceresian Outback, mottled with ice-bottomed craters whose names had been forgotten even by the planetologists who had christened them early in the century.

“Palermo,” Roger muttered, plugging the gyro into his computer tablet’s atlas.

“You’re lost?”

“I know where we are, give or take a hemisphere.”

“Roger ... assuming we find it, do you think I can operate my father’s mine successfully?”

Roger took a moment to absorb her first-time use of his name. “Well, for years, there’s been an economic tug of war between asteroid miners and Earthside nanotechnologists. The nanotechies claimed it wasn’t competitive to mine in space, because molecular separation was far less energy intensive. But energy costs are almost negligible here.”

“You get it all from solar power.”

“Yeah, even the EM catapult is solar-powered. As a result, molecular separation hasn’t been competitive for a while.”

“But Mel said all you’d have to do to get platinum out of the mine was spray on the nanojuice.”

“That’s cost-effective with free nanojuice. But nanojuice usually requires an army of Ph.D.s to oversee the synthesis process. It’s not cheap. And the juice your father took would have spoiled years ago.”

She had faced him while he watched the horizon for signs of Palermo's rim. Now she turned forward and shifted in her seat.

Finally, he broke the silence: "Mel mentioned your father and Mark Twain. What's that about?"

She half smirked. "Do you know who Mark Twain is?"

"Famous American author, twentieth century."

"More, nineteenth. It has to do with my father wanting to teach early U.S. Literature. Nanotech was just to put food on the table."

"I know how that works."

"Anyway, dad was really into Mark Twain. He read *Tom Sawyer* to me when I was five years old. And I suspect I'm named after Becky Thatcher, Tom's girlfriend." Her teeth flashed an unexpectedly broad grin. "Which I don't appreciate, since she's a stereotypical Southern Belle. Very emotional, very fragile." Rebecca stared skyward. "Couldn't last long here, that's for sure."

"*Tom Sawyer*. That's one of Twain's novels, right?"

"*The Adventures of Tom Sawyer* is his most famous."

"Wasn't there another character, Huck Something?"

"Huckleberry Finn. Tom's best friend."

"Tom and Huck. Rebecca, the coincidence troubles me."

"You mean, my father the Twain fanatic, meeting a Tom and Huck in real life."

"Did you ask him about that?"

"I ... wasn't able to."

The crosshairs flashed on the computer map. Roger descended toward a rubble-strewn crater bed.

Mindful of fuel, Roger swooped over the plain of Palermo Crater. It was stuccoed with boulders and rocks, the debris ejected from the impacts that had formed neighboring craters. In the center, a mound rose in pinnacles like the towers of a fantasy castle.

Passing over the cliffs of the rim, his headlight beam shifted shadows. Every cleft yielded a wall of rock and frost, but never a deeper recess.

"Where's the mine?" Rebecca asked. "Mel said we couldn't miss it."

Roger saw a glint as bright as Jupiter, beneath the crater rim. On approach, he realized it was his flivver's own beam, reflected by the window of a shack. Spotting a flat clearing on the crater floor, he landed.

Rebecca bounded out. Her first jumps were unsure and wild, but she soon mastered the knack of twitching her feet to mimic a normal stride in Ceres gravity. Roger hopped over. She gazed to the east. Translucent pillars of predawn light streamed from the rim.

"Dust," he said. "Electrostatically levitated by solar wind."

"It's beautiful, in its own way."

The shack lay nestled between cliff protrusions that Roger judged, by the angle of the celestial pole, would shield from solar flares during the daytime hours.

"The airlock is open," she said.

"Meaning it's abandoned."

Their boots trod upon smooth dust. Inside the lock, their helmet beams played over a bare desk, a fold-up chair, wall hooks where a hammock might have hung—and, in the corner, a wine-press, filtration device, and fermentation vat. Boxes, mechanical parts, and electrical components lay scattered across the floor.

Rebecca slipped around the desk. Against the far wall, the floor glittered in her helmet lamplight like a field of diamonds. She picked up a fragment of glass. It was part of a bottle, Roger saw, like the one she'd had on the table at Wink's bar.

"He wasn't a heavy drinker," she said. "He never smashed things."

"Rebecca, he lost his job and was alone for a long time—"

"He's not like that!"

Feeling the rage in her voice, Roger looked away. His eyes rested on the smooth ground outside the shack. He frowned.

"Maybe you're right."

She joined him outside and watched him scrutinize the dust.

"Just your footprints and mine," he said. "Yet your father must have walked here a hundred times."

"That's right! There's no wind to blow the tracks away. So where are they?"

"Offhand guess? Somebody came after your father left. They searched the shack, knocked everything over. Then they swept the prints to cover their tracks. Which, unfortunately, also conceals the path to the mine."

“But it’s got to be nearby.”

“Yeah.”

They bounced—three meters at a time—down the incline to the edge of the clearing where the flivver rested. While Roger examined the surrounding rocks, Rebecca held her computer tablet skyward.

“I’m linked to the comsat, but all I get is a call tone,” she said after a few minutes. “Maybe the signal isn’t penetrating the cave.”

“His TV worked. He’s tapped into the Rift’s communications spine.”

“Mel, answer!”

Roger halted and crouched. A few grains of dust, barely visible—but yes!

He straightened and saw her in profile. Unaware that he was watching, she had let her guard down. As she gazed at the untwinkling stars, she looked both lovely and bewildered.

“Rebecca.”

She slowly faced him.

“I realize I’m only a stranger,” he said, “but I’d like to know what I’m getting into. I saw how you reacted when Mel asked about your father. Is there a reason we can’t contact your father and find out where the mine is?”

Silence ensued. Roger feared she might demand a return to Alphaville. But then she said, “Yes, there’s a reason.”

“Is he in prison?”

She paused. “Worse than prison.”

“Is he—dead?”

“Maybe ... worse.”

“It might help if you told me.”

“There’s not much to tell.” She added quietly: “He’s in hypersleep.”

“*Hypersleep*. Why?”

“Because the government regards theft of nanotechnology as a national security issue. Technically, dad is charged with treason.”

“Just for taking platinum-extraction nanojuice that was past its shelf date?”

“He was accused of stealing a lot more than that. The charges were made

anonymously, and I know they're false! But he's being held without trial. A prosecutor told me that my father doesn't deserve a trial, because traitors don't deserve trials. People on Earth think that way."

"But a trial is how you determine the truth! You can't automatically believe accusations!"

"I think they know they made a mistake. That's why they're holding him in hypersleep. If he was conscious, he could make legal appeals."

"Well, they can't keep him in hypersleep forever. There's risk of brain damage."

"I know. Five percent after five years, ten after six. It goes up fast." Her voice lowered. "This is year five."

"I'm ... sorry." Roger felt his cheeks redden at the inadequacy of his words.

She raised moist-rimmed eyes. "I can't afford attorney fees. That's why I need this mine. But all I have is the text message he smuggled over the nurse's phone, just before they put him in. I thought it would be easy. Just, 'Go to Ceres, meet Tom.'"

His earphones transmitted her sniffing.

"Come here," he said. "Please."

When she had hobbled over, he pointed to the rocks edging the clearing.

"See?" he said. "The dust shook off your father's boots as he walked here."

Tracing the faint trickle, Roger pointed toward the central peaks.

For an hour they circuted the peaks. Roger thought of the walls of Jericho.

Above the cliffs, the pinnacles resembled minarets and accusing fingers. Earth gravity and weather erosion would not have tolerated such ungainly formations, but here they might endure eternally. They almost had, except over one pile of rubble on the far side. Which was where the dust path terminated.

"This isn't natural," Roger said.

Together, they heaved rocks off the pile. After minutes of mutual huffing, he realized it was too deep.

A hippopotamus-sized boulder occupied the center of the landslide. Climbing behind, Roger pushed with his legs. Rebecca helped. But even in Ceres gravity, some things are beyond human strength.

"We'll need explosives," Rebecca said.

“I’ve got better than explosives. I’ve got rocket fuel.”

He soon had the flivver hovering over the landslide. The winches unwound and Rebecca wrapped the cables around the boulder, fastening the hooks tight. She retreated with a thumbs-up. He pushed the thrust lever to one ton, two tons ... high enough to buck him unconscious should the cables snap.

The flivver’s main thruster flame licked the rocks. Silently, the boulder levitated. With fuel critical, Roger dragged the boulder only a meter. He released the cables, relanded the flivver, and trotted back to the peak.

It took a moment for Roger’s eyes to readjust from a scene lit by rocket glare to one lit by starlight and helmet lamps. Then he, too, saw the dark mouth, a gash barely wide enough for a grown man. He certainly wouldn’t be flying the flivver through that.

Large white letters were scrawled above the entrance, in what Roger assumed was synthetic chalk. They read, simply: MCDUGAL’S.

“Who’s ‘McDougal?’” Roger asked. “Should we be looking for him, too?”

“No,” Rebecca said. “There’s a cave in *The Adventures of Tom Sawyer*. It’s owned by a man named McDougal.”

Roger tilted his helmet. “So ... you think this is your father’s whimsy?”

“See how the letters lean? That’s how he always wrote on my birthday cards.”

“All right. Great. Then this it. Guess we’d better start, huh?”

He took a step. Rebecca, fixed in place, stared at the entrance. As the seconds stretched, Roger realized her lack of reply was a reply.

“You should stay outside,” he said. “You can call for help if there’s trouble.”

“No, I’ll come.” Her breath was deep and fast, almost hyperventilating. “It’s just that ... nothing’s ever affected me like *that*. Dozens of horror movies, and nothing’s ever scared me as much as *that*.”

“What are you talking about?”

The labored sound of her breathing made him wonder if her suit was leaking.

“I told you,” she said. “When I was five years old, my dad read *Tom Sawyer* to me. At the end, Tom and Becky are touring this cave—I mean, McDougal’s cave—when they get lost. They wander for days and days and can’t find the opening. Their candles go out and they almost die in the darkness. It’s ... the thing that scares me the most.”

Roger shone the beam deep inside the hole. He didn’t feel terrified, but he did

feel enough unease to appreciate Rebecca's trepidation.

"We'll have to go a ways," he said. "Ceres is a carbonaceous chondrite asteroid. The metal deposits come from meteor impacts. They're buried deep, like raisins in pudding. If you've got claustrophobia—"

"I don't. I'm fine in buildings, spaceships, everything else. Even the Rift didn't bother me that much. But this..."

* * * *

He groped for encouraging words, but then she stiffened.

"Well," she said huskily. "It's not as if we'll run into Injun Joe, is it? Let me get my handbag."

She returned from the flivver, bearing her handbag. His mouth was still open as she brushed him aside.

* * * *

When he had squeezed meters within the gap, the telecom status bar on his helmet heads-up display vanished, signifying loss of contact with humanity. To Roger, it was more disconcerting than the silence of the vacuum or the darkness of the passage.

He took the lead. Stepping over boulders, they bent low as the roof and floor closed together. At the passage's neck, they got on their knees. Then it became even tighter, and they pulled their bodies with their hands. The constant flexing against suit linings made hard work.

After the bottleneck came a large cavern. Finger-thin stalactites and stalagmites jutted everywhere, many white as fangs from the frost. The needles were bent at midpoint, all at the same angle. Roger surmised that the floor and roof had drastically tilted over the eons. And for mineralized water to drip, the cavern must have been pressurized and warmer, once.

The ice-free wall ahead proclaimed: ALADDIN'S PALACE. Roger raised an eyebrow.

"It's definitely dad's writing," Rebecca said. "And the over descriptive, tourist-trappy name is right out of the cave in *Tom Sawyer*."

Additional scrawlings designated the branches into other chambers: *AREA 1*, *AREA 2*, and *Crystalarium/FAC*.

"No crosses," Rebecca murmured.

"What?"

"Nothing."

Trying to make conversation: “Was there a ‘Crystarium’ in Tom Sawyer’s cave?”

“No. What does ‘Fac’ mean?”

“Facility. Ceres Mining-speak.”

“So you worked at Ceres Mining, too.”

“For a while.”

“You don’t strike me as the miner type.”

“Which is?”

“Not that they’re stupid. Just that they must have a high tolerance for boredom.”

“And you think my tolerance is low?”

“The way you drive...”

“Let’s keep moving. We’ve only got a couple hours of suit power.”

They took the branch marked for the facility. Soon the passage widened into another cavern, where flakes of dust were drifting from the roof.

“Cave dandruff,” she said.

Roger brushed a chip off a sleeve. “Probably a small tremor.”

“Ceres is geologically active?”

“No. But it’s in the middle of the Asteroid Belt, and it’s always colliding with something. Settling aftershocks last decades, sometimes. The ice deposits have a high plasticity under pressure, too. So the ground is always shifting.”

“That doesn’t sound safe.”

“Yes and no. I’ve flown through a cave-in, relatively unbruised.”

“Low gravity makes it seem like slow motion.”

“Yeah. Course, you can still get crushed, if you just sit and watch.”

The drizzle of dust continued. Ahead, across their path, the rocky floor had vanished beneath a carpet of dust. Roger extrapolated the roof-fall for millennia, perhaps eons.

“Stay here,” he said. “Please.”

He unzipped his pocket and extracted a spool. He wrapped the end of the line

around a boulder, and unspooled the rest as he slowly trod over the dust. His footing felt firm—and then it didn't.

Roger saw her eyes widen. Then his helmet slipped beneath the surface of the dust pool. All became darkness.

He clutched the line and jerked to a halt. He started to pull, but then felt himself rising. His helmet broke surface.

Rebecca hoisted the line, hand over hand. She helped him onto solid ground.

"I think I saw an arrow pointing to a side path," she said.

"Let's try that."

He brushed himself off, and took the lead so that she wouldn't see the redness of his cheeks.

* * * *

A few caverns farther came a pit. As Roger peered over the ledge, his helmet lamp beam flickered against vertical, smooth walls. He saw an opening about fifty meters below, but the beam faded before reaching the bottom of the pit. A deadly fall, even in Ceres gravity.

"I bet," Rebecca said, nodding toward the opening below, "that you never made a delivery to a place like that."

"You lose."

He unspooled the line. Tying the end around a stalagmite, he rappelled until even with the lower opening. He pushed off the wall and swung, pendulumlike, to the opposing ledge.

"You don't have to—" he started.

But she tugged on the line until he released. A moment later, she swung alongside.

"If you're trying to prove something," he said, "don't."

"I just want us to get there."

"We need to proceed with caution." He forced a grin. "On a frontier, a little fear can be a good thing."

"I can't allow myself to be afraid. I don't believe in fear."

From a height a head shorter than his own, she presented a steady gaze and a jutting chin. He almost averted his eyes, but then humiliation led to rage.

"That's a stupid thing to say!" he blurted. "And if you want to fire me for

telling you that, fine. We'll go back to Alphaville and you can hire some fool who hasn't been out here a month—and the two of you can hop and skip hand in hand over the edge of the next pit, for all I care!"

She met his eyes with an expression that was set and firm yet somehow revealed nothing of her thoughts. She said nothing. Roger's anger, quick as it had come, mutated into shame.

"I'm sorry," he mumbled, lowering his gaze. "Maybe I just don't want to admit, I'm just a delivery driver. I have no experience as an explorer. Maybe you should get someone else."

A slight smile. "You've been doing fine, so far. I feel I can trust you—and that's what's really important to me now." She added quietly, "I think the only other man I've ever been able to trust is my father."

Roger cut the line and wrapped the free end around a rock. Rebecca followed him into the passage.

* * * *

The Crystalarium needed no words in chalk.

The walls of the huge chamber shimmered with razor sharp crystal. Formations of white gypsum loomed with the proportions of grotesquely deformed human statues. Gargantuan chunks of quartz, transparent as ice cubes, transformed their helmet lamp beams into a dazzle of rainbow-fringed, splintered reflections.

They snapped off their lamps. Their eyes grew accustomed to the dimness. Roger felt awe. The crystals glowed and sparked with enough light to distinguish silhouettes.

"Beautiful," Rebecca said.

No qualifier this time, Roger thought.

She reached for a luminescent projection. Roger blocked.

"Careful, there might be static build-up."

She indicated a pair of insulated cables running along the walls. "Those look like power lines."

"Good guess. If this vein reaches the surface, then it could receive a substantial charge from the solar wind during the day. It's far less efficient than solar cells, but the crystal is here and he didn't have to pay for it."

The cables snaked into a narrow passage. Leaving the crystalline formations behind, they turned on their helmet lamps again and entered a realm of ordinary rock, shorn of ice or frost.

Ahead, their beams shone on a rubble pile. Boots stuck out of the bottom.

“The size!” Rebecca exclaimed. “It’s like a child!”

They scraped away the rocks. The body was metal encased. When Roger turned the figure over, he met camera lenses.

“A robot,” he said.

The chest was half missing, the abdomen computer module shredded. Roger thought of a frenzied robokiller armed with a hatchet, but what hatchet could cleave metal like that?

Another pair of boots projected from the rubble farther down. Roger pulled the body out. The robot was identical to the first, a humanoid figure about the size of a twelve-year-old human. From rubble near the head, Roger extracted a straw hat.

“My dad’s,” Rebecca said.

On this robot, the back was ripped open. When Roger flipped the body over, he found a label on the chest.

TOM, it read.

“One mystery solved,” he said. “The other must be Huck.”

“No wonder they didn’t meet me when I called.”

Roger attempted to flex a broken shard of casing. “This is too much damage to have been done by a cave-in.”

“Someone attacked them? Who?”

“Your father’s coworkers were the only ones who knew about this mine.”

She hugged her handbag. “Those cables there. They go to the facility?”

“Probably.”

“Let’s go.”

“Well...”

“You’re going to say, don’t get my hopes up.”

“Well, if the robots worked here for years after your father left, then they probably did accumulate a supply of platinum before the nanojuice went sour. But if someone’s been here, chances are they took the platinum.”

“I want to know.”

They followed the cables.

* * * *

The laser-ring gyro indicated that they had descended more than half a kilometer from the crater floor, and had traversed kilometers of winding, branching caverns.

Then the passage widened and leveled into an arena-sized chamber. Roger saw footprints in the dust, matching the boot sizes of robots and full-grown men. The cables plugged into a junction box, which distributed cords to storage tanks.

The tanks were spherical balloons suspended by threadlike cables from the roof of the chamber, and utilized the environment's vacuum for thermal insulation just as did spacecraft for long-term storage of cryogenic fuel. They were small only in comparison to the towers in the cavern where Mel Barrow dwelt. Watching his distorted reflection in their mirrored surfaces, Roger felt like an ant wandering among marbles.

“Did he build all this himself?” Rebecca asked.

“It's actually pretty flimsy,” Roger replied. He pressed a balloon and it jostled with liquid. “N2,” he read the marking-pen scrawl. Liquid nitrogen was used extensively as a coolant and pressurizer in certain nanotech processes, he recalled.

He traced through the hoses and valves, and located the nanojuice tanks in the rear. PRECURSOR, read one label. STAGE ONE, read another. Portable applicators and collector equipment occupied a shelf. Roger demonstrated how the robots aimed the spray wand.

“First they foam the walls with the primary-extractor nanojuice,” he said. “The nanomolecules secrete hydrochloric acid to cut microscopic capillaries into the wall. Then components of the nanomolecular structure distinguish between platinum and nonplatinum elements, procure the platinum, and transport it back to the rock facing.”

“They sound like miniature robots.”

“That's what nanojuice is. Molecular robots. Anyhow, eventually the nanojuice seeps out of the rock and the big robots—Tom and Huck, that is—scrape it off and bring it here for extraction and recycling.”

“If the nanojuice can be recycled, then how come it goes—what did you say—sour?”

“The more sophisticated nanomolecules are similar to the molecular machinery within living cells. In a sense, they age and die.”

“You know a lot about this. Did you work in nanotech?”

“When I was studying to become a mining engineer, I took a couple semesters on molecular extraction technology. My instructor thought it would

replace traditional mining, like digital electronics replaced analog.”

“Did you ever become a mining engineer?”

“It didn’t work out.”

“Why not?”

“I wanted to be in space. But the way the industry works, only robots and miners go into space. Engineers stay home and crunch survey data in supercomputer simulations.”

“So how did you get out here?”

“I signed with CM as a miner.”

“You gave up your career because you were bitten by the Exploration Bug.”

“Well, being a miner means being stuck in a cave, so it’s hardly a cure. And my delivery service isn’t making ends meet. So I guess it’s back to Earth, soon.”

“You’d rather live on the frontier.”

“Yeah.”

“My father would understand.”

“And you?”

Rebecca said nothing more as Roger groped amid the hoses. Finally he came to the last containment. Opening the side door, he frowned.

“We’re missing the Stage Six converter,” he said.

“What does that do?”

“At this point in the process, the platinum is in a pseudofluidic state, confined within carbon-bonded buckyballs suspended within a graphite lubricant. The converter unlocks the buckyballs and releases the platinum in particulate form.”

“In plain English...?”

“A pseudofluid is like a very fine, slick powder that can be poured and pumped, and—well, long story short, this is where the platinum comes out.” The floor underneath glittered in his lamplight. “Platinum dust. So the system was working. For a while.”

They searched the remainder of the cavern. They found not a speckle more of platinum.

“I’m sorry,” he said. “Whoever was here made a clean sweep.”

Her eyes were unwilling to meet his.

“It’s all been a waste,” she said, kicking the dull gray dust.

* * * *

Following the chalk arrows in reverse, they passed through the Crystallarium, climbed the pit, and side routed the dust pool.

“I’m sorry,” she said at last. “I’ve wasted your time.”

“You don’t have to apologize.”

“I can’t pay you now. I will, though.”

She was leading and he couldn’t see her expression, but he sensed the discouragement in her voice. The Belt was always a rough place, but this had to be especially hard on someone so young.

“As I recall,” he said, “my payment was five percent. Five percent of nothing is nothing. You’re paid in full.”

His grin faded when she didn’t answer.

They entered into the grove of rock needles. She paused and gazed at the jointed stalks. Then she faced the legend scribbled in chalk on the wall.

“‘Aladdin’s Palace,’” she read. “Right out of the book. Which tells you all you need to know about dad’s problem and mine. We expect life to match fantasy. But there’s no buried treasure here.”

“Was there one in Tom Sawyer’s cave?”

“*Tom Sawyer!*” she said, as if spitting.

Roger felt as if the vacuum were echoing the silence. Finally, he said, “You know, you traveled millions of kilometers. You can’t just turn back.”

“Of course not. I don’t have money for a return trip.”

“Grady can help you get a job with CM.”

“Work as a miner? That won’t make enough to help my father.”

“We’ll come back here and search some more, all right? You won’t give up without a fight, will you?”

She swung around and met his eyes. In her gaze, it seemed, a fire had been kindled with that one remark.

“*No,*” she said. “That’s what Becky Thatcher would do. Weep and moan and say something insipid like, ‘I do declare that we are doomed without any hope

of respite whatsoever!”

He chuckled at her squeaky caricature.

“You said she was Tom Sawyer’s girlfriend. He was attracted to *that*?”

“In the nineteenth century, men liked their women as delicate flowers.”

“Well, in this century, we like our women strong. Not disagreeable, mind you, but a little backbone is appreciated!”

She struggled, but a grin at last curled her lips. “All right.” She allowed Roger to come alongside, and they walked together. He was still working up the courage to ask her to dinner when she said, “To answer your question. Yes. There was a treasure in Tom Sawyer’s cave. It was hidden by the villain, Injun Joe, and Tom and Huck discovered it.”

“*Injun Joe*?”

“Twain was commenting on the racial attitudes of the times. Injun Joe was simply a product of societal rejection and.... “She saw the glaze on his face. “Sorry. I guess there’s a little of the literature teacher in me, too.”

“The treasure. How’d they find it?”

“It was buried under what Twain called ‘the mystic symbol’ of a cross, that Injun Joe had drawn on the wall. And don’t bother looking. The moment we came down here and I saw the first chalk marks, I’ve looked for a cross.”

“Well, I can’t recall any—”

With a chill, Roger felt the rocks behind him crying out. He whirled and stared at the writing in chalk.

AREA 1. AREA 2. Crystalarium/FAC.

“‘*Crystalarium*,’” he said.

“What about it?”

“It’s the only word not in capital letters.”

“So?”

“The ‘t.’”

“Oh God! Dad’s sense of humor!”

They pounced upon the rubble beneath the fifth letter. There was no sign of treasure at first, but Roger was ready to dig to the core of the small world, if necessary.

He was too engrossed to notice the brief tremor.

* * * *

Black sky and parched landscape had never looked so cheerful as Roger descended from the cave mouth and plopped the chest onto the crater plain.

“Too heavy for regolith, that’s for sure.”

Rebecca twisted the padlock. “I don’t have a key.”

“I’ll get my cutters.”

Roger rounded the cliffs. His heart gushed, and it was hard to keep from jumping like a jackrabbit.

He expected to find his flivver parked in the clearing. In the vehicle’s place, however, was a crater he didn’t remember. Nearby rested a charred tangle of metal. It took a moment for the causal relationship to sink in.

He sprinted back to the cave entrance. Rebecca and the treasure chest were still there. A few meters away stood a figure garbed in a bulky space suit. The gloves of the suit clenched a rifle.

“Stand next to her!” a voice growled in Roger’s earphones.

The rifle was a late-model Kleister, popular with the local constabulary. Eying the bulging clip of explosive-tipped, rocket-propelled shells, Roger sidestepped over to Rebecca.

A hand lifted a helmet visor. Mel Barrow smirked at Roger.

“You’re betraying my father!” Rebecca said. “He offered you a partnership!”

“That was a lie, Little Becky,” Mel said. “Your father kept this mine a secret. I found out where it was on my own.”

“*How?*”

“Saw a robot in Alphaville one day, wearing a straw hat, loading wine bottles into a storage unit. Had ‘Tom’ on its nameplate. Not too hard to connect to Alberto. So I followed it here.”

Rebecca’s expression hardened. “And you were the one who got my father arrested, weren’t you?”

“Becky, really. Why would I do that?”

“To keep the government from investigating you. You stole the equipment from the government nanotech facility, and then you accused my father of the crime!”

“Becky, I was too late. Someone stripped the place clean before I got there. Think I’d live in that hole if I had any money? All I found was Engine Joe.”

“*Engine Joe?*” Roger asked.

Mel chuckled. “Alberto would appreciate my humor more than you will.”

He pointed a remote control toward the cliffs. Something stirred in the shadows. Roger felt cold and breathless.

A dirty ovoid, towering three meters tall, emerged upon spiderlike legs, tentacles whipping.

“Class One Autonomous Excavator,” Roger said slowly, finding it hard to enunciate through numb lips and a suddenly dry mouth.

“Reprogrammed as my watchdog,” Mel replied. “Not too bright, though. Tore apart poor Tom and Huck before I could download their memories. Now, move from the chest, or he might get excited again.”

Roger and Rebecca retreated from the chest. Mel aimed the remote, and the excavator bowed toward the padlock. Out of its head grew spikes that looked capable of slicing and dicing a Kodiak bear. The spikes twirled into a blur. The padlock fell with a cascade of sparks.

“Mel,” Roger said. “Let Rebecca keep a share. Her father needs—”

“Ever hear the story of the djinn imprisoned in a bottle for two thousand years?” Mel’s eyes held pinhead pupils above an ear-to-ear grin. “First thousand years. Swears he’ll grant every wish of the person who frees him. Second thousand, swears he’ll kill the person for taking so long. Get the picture? I’ve spent too many years buried alive in a frozen pit, searching for that treasure!”

“You can’t blame Rebecca for your own—”

“*Open it!*”

Roger lifted the lid. He backed away at a gesture from Mel’s rifle.

Mel stared into the chest. A deep scowl creased his face, from contorted mouth to pulsing temples.

“*What kind of joke is this?*”

He yanked out one of the bottles and threw it hard. Blobs of inky black exploded and flowed in rivulets against the cliffside. The sight transfixed Roger, until he noticed Mel’s glare upon him.

“*Think this is funny?*”

Mel thumbed the remote. Engine Joe’s lenses trained on Roger.

“Please!” Rebecca cried. “We don’t know where the platinum is!”

Mel, Roger realized, wasn’t looking in the right direction—or the mixer would have known. Roger saw no reason to enlighten him. The rage in Mel’s face said that even with the treasure, he wouldn’t allow them to live.

The excavator backed Roger into a cleft. Roger attempted a dodge. Tentacles slapped him center. Spinning spikes approached his helmet plate.

“Stop it!” Rebecca shouted.

Her hand dove into the handbag. She withdrew a pistol, a nine-millimeter automatic. Extending a shaking arm, she targeted Mel.

Mel guffawed. “Little girl, this suit is special. Armored against micrometeoroids. I don’t know who sold you that Earth toy, but out here it’s—”

Rebecca’s gun flashed. The recoil slammed her backward. The slug struck Mel’s shoulder. It glanced off his armor, but the momentum knocked him from his feet.

Roger jumped, somersaulting over the excavator’s head. Rebecca emptied her ammo clip. Mel stopped flinching. He had dropped the remote but still held his rifle.

Grabbing Rebecca’s arm, Roger sprinted into the cave mouth just as a new crater pocked the cliff wall.

Roger ran so fast, his body forgot gravity. His boots recoiled off the walls, bouncing from the sides, his legs never giving Ceres opportunity to pull him floorward. Rebecca, despite her newness to minigravity, kept pace.

They reached the bottleneck. Unmindful of pain, Roger wormed through as fast as he could, pushing Rebecca ahead. She didn’t protest.

Behind them, the excavator halted at the choke point. Then the spikes spun and rapidly chewed into the soft, congealed rubble that composed most of Ceres this close to the surface. In seconds, the machine widened the gap sufficiently to allow the skirt of its midsection to pass.

In the widening passage, they outdistanced their pursuer—for regardless of how Mel had programmed its brain, on the outside it was still an excavator. Its designers hadn’t built for speed, for rocks didn’t run away. But Roger knew the living could only run so far, and then they would be cornered.

They burst into Aladdin’s Palace. Roger swung from branch to branch, paralyzed with indecision. Then he bolted straight ahead.

“The dust!” Rebecca cried.

“I know!”

He saw the dust pool and doubled his speed and leaped. Momentum sailed him a score of meters. He smacked onto solid ground. Rebecca landed alongside.

Scrambling behind a boulder, they scrunched and extinguished helmet lamps. Roger felt rivulets of sweat trickling down his face as he stared into the darkness.

Soon a pale glow lit the walls. A glimpse portrayed the lamps of the excavator as ghoulish eyes. The machine was an arachnid in silhouette, gliding on legs too slender to have supported its weight in Earth gravity. But they were not on Earth.

Sensing the human presence, the machine approached the edge of the pool. Tentacles probed the surface. The excavator trundled forward. The pool swallowed it like a gulped morsel.

Absolute darkness reigned. Roger flipped on his lamp. On the surface of the pool, a ripple faded. Rebecca's eyes reflected his hope.

Then the surface roiled and a tentacle snapped like an anteater's tongue and grabbed a stalagmite. The excavator broke the surface and flopped onto solid rock.

Roger slapped Rebecca's shoulder. They fled into the descending passage.

The floor abruptly came to the vertical drop-off. Roger's lamp surveyed the seemingly bottomless pit. He turned. All too near, the ghoul's eyes jogged.

Rebecca reloaded an ammo clip. Roger grabbed the gun. While she slithered down the line, he pumped bullets. The slugs ricocheted off steel limbs and plexiglass sensor covers and gouged into the soft cave walls. Roger retreated to the pit, judged the drop, and leaped.

In Ceres gravity, a fall of fifty meters is like a meter and a quarter on Earth. But gravity also conspired against him. Crucial seconds passed while he drifted. The excavator arrived at the upper ledge. Eyestalks tracked his descent. The computer brain made a split-second calculation. Legs and tentacles pushing for added velocity, the ovoid lunged.

Roger smacked inside the mouth of the lower passage and rolled. Rebecca dragged him from the tentacles as the excavator anchored itself and clambered over the ledge.

Exhausted, they raced into the Crystallarium. They doused their helmet lamps. Rebecca's silhouette arm motioned to a gypsum outcropping. They hid. The faint sparking of the crystal was overwhelmed by the glare of the excavator's lamps.

Roger watched the machine's fractured reflection in a sheet of quartz. The excavator swayed its camera stalks back and forth, in imitation of human indecisiveness. Perhaps the electrical discharges, Roger thought, were degrading its sensors.

The machine made a methodical search, poking tentacles behind outcroppings and into crevices. Conforming to the contours of the concealing rocks, the humans slunk from the cavern, into the passage that led to the nanotech facility and the end of their escape route.

* * * *

Dodging the liquid nitrogen tank, Roger flew to the shelves of the facility cavern and picked up a nanojuice applicator—hose and wand and fluid drum—and carried it to the Stage One tank. He pulled off end caps and connected fittings. He twisted a valve. The balloon tank jiggled as the fluid silently enacted the motions of gurgling.

“You said the nanojuice won’t work anymore,” Rebecca said.

“It’s too senile now to fetch platinum,” he replied. “But as it ages, it actually gets nastier—more acidic.”

She watched the level indicator. “Like wine, fermenting into vinegar?”

“Yeah. Hydrochloric acid is the first component to detach from the molecular machinery.”

The fluid was syrupy. In one-fortieth earthgrav, it flowed into the applicator drum far more slowly than he remembered from a college lab demonstration a decade earlier—which was his most recent experience with nanotechnology.

Rebecca staggered from the passage. “It’s coming!”

Only a few liters sloshed in the applicator drum, but Roger broke the fittings. Slinging the applicator strap over his shoulder and working the hand pump, he strode past Rebecca.

The excavator was glowing eyes, a looming shadow, then tentacles swiping at his throat. The machine bowed, spun its crown of spikes, parted its jaws, and charged.

Roger leaped aside. He aimed the wand and squeezed the trigger. A spray of foam caught the excavator in the face. The machine crashed into a boulder, spikes hurling a cloud of rock. It reared. Foam lathered its entire front. Roger thought of a rabid bull.

He had no time to think more. The machine advanced, brandishing tentacles, forcing him to the Crystallarium.

The tentacles extended their full length and probed the walls—right, left, up and down, flicking too fast to allow evasion. Slowly, Roger retreated toward the pit.

At the ledge, Roger abandoned the applicator and climbed the line. The machine halted at the drop-off and elevated its stalks, tracking his progress.

But the lenses, Roger noticed, were caked with foam and dust, and etched with acid. How could the machine see?

That instant, he realized: *it couldn't*. But it had memorized the cavern layout, and could reason where he was—

Roger yanked and released the line just as a tentacle slashed at exactly where he would have been had he kept climbing. His impulse flung him against the pit wall. He shoved with a leg and flew to the other side. He pushed again. The perpendicular sides of the pit offered no handholds, but so long as he kept bounding from one side to another, he could keep from falling. But fatigue was winning...

Roger jumped at the machine's head and grabbed a swiping tentacle. Striking the wall, he shoved off with all his strength. At the other end of the tentacle, the machine teetered.

It seemed to regain balance. Then Rebecca tackled from behind.

The excavator stumbled over the ledge and into the pit. Prioritized with self-preservation, it released Roger and clawed its tentacle tips into the wall. But the wall material was too soft to support the weight and the tentacles only scraped furrows as the machine plummeted.

Roger clung to Rebecca's hand. Two wall pushes later, they flopped onto the ledge. Hundreds of meters below, the excavator's lights shrank into faint stars.

"Can it climb back?" Rebecca asked, gulping breath.

"It needs to jump, like we did," Roger replied. "Excavators aren't designed for jumping."

Kilometers below, a flash briefly lit a blanket of mist.

Rebecca touched his shoulder. "My suit power's at twenty-eight minutes."

Roger checked his own gage. "Twenty-five."

Less than half an hour, and their suit recirculators would stop refreshing their breathing air, and their suit thermal coils would cease to warm their bodies above the ambient temperature of a hundred degrees below zero centigrade. Then they would gasp and freeze, and end by envying Alberto Sanchez in hypersleep.

Roger decided not to look at his power gage anymore.

* * * *

They entered Aladdin's Palace. Roger hefted a rock and handed another to Rebecca, along with her gun. They switched off their lamps and headed into the passage to the surface.

A light gleamed around the bend. Roger slipped to the corner and peered. He

confronted the barrel of a rifle and reflexively dropped the rock in his hand.

“Someone will have to get his dog,” he said softly.

From the ground, Mel Barrow’s eyes gazed at the spot on the roof where his helmet lamp beam blazed a circle. Flecks of blood dabbed his lips. Black crystals ringed the fist-sized hole in his abdomen.

“Explosive bullet,” Roger said. “Probably shot in the back.”

He wasn’t sure about that, but neither was he going to turn over the body to make sure. Rebecca stood at a distance and looked elsewhere. Roger pried away the rifle. Cradling the weapon, he advanced toward the cave mouth.

“Whoever shot him, they’re still—” Rebecca began. “Well, we don’t have a choice, do we?”

“I think it’s just one person,” Roger said. “You take the rifle, I’ll draw his fire. Then you shoot him. Can you do that?”

“I’ll draw his fire. I’m a smaller target and you’re probably a better shot.”

“Now, look—”

But no matter that he raised his voice, her expression remained unmoved. Not that he really wanted to do it his way—

They passed through the excavator-widened bottleneck. Rebecca gasped at the unanticipated darkness. Roger flipped on his helmet lamp and stopped worrying about who would leave the cave first.

He faced the mouth, but instead of the outer world, they saw rock—like the haunch of a hippopotamus pressed against the only known exit.

“Stand back,” he said.

He took several steps back himself, and fired. The rocket-propelled shell’s exhaust gasses whumped and whooshed against his helmet. A sliver of light streaked toward the boulder. The cavern flashed and the blast wave staggered him.

He glimpsed a shallow crater. Then dust blizzarded from the roof in clumps. Roger had seen the phenomenon once before—and that was too often.

“Run!” he shouted.

A pelting of rocks followed the dust, and then whole shards broke free. Roger and Rebecca scrambled. A dozen meters farther, the roof overhead showed no signs of further collapse.

Rebecca stared at the passage, now clogged with rocks.

“We’re trapped,” she said. “It’s like—Tom and Becky—trapped in the cave!”

The pitch of her voice rose, a needle jabbed into his spinning mind.

“We’re not them,” he said. “They’re only—”

“It’s as if my whole life, I’ve been fated to—”

“*Stop it!*” he snapped.

She blinked.

He locked gazes and enunciated through half-clenched teeth: “Maybe believing in Fate is a luxury you can afford on Earth, but out here you’ve got to plan for every breath you take, and if every time you’re in a tight spot you give up and complain about the unfairness of life—”

He didn’t know how to end the speech, so he just puffed and balled his fists.

After a moment, she said: “It’s getting to you too, isn’t it?”

“Just don’t cry. *Please*, because, uh....”

Her eyes were too wise: *Because you might too?*

“...We, uh, don’t have time right now,” he finished.

He took and released a deep breath. Finally, she looked away.

“All right,” she said. “After all I’ve been through, I refuse to end like Becky Thatcher.” Facing the blocked exit, she said, with overstressed casualness: “But how do we—?”

“Wish I knew.” *How to be calm, especially*, he thought. After a moment’s meditation: “I hope this isn’t just idle curiosity, but since your father based so much stuff on Tom Sawyer ... how did Tom Sawyer escape his cave?”

“He found another exit. But he searched for days. We’ve only got minutes.”

He was still trying to think, when Rebecca uttered: “Bats.”

Her eyes were steady, her face untrembling—the composure of perfect calm possessed by a person who is either at peace or gone mad.

“*Bats?*”

“Tom and Becky ran away from bats. That’s how they got lost. When I was a kid, I always wondered, why didn’t they just follow the bats out again?”

“Rebecca, there aren’t any bats here. Just dead robots.”

“And the nanojuice.”

“So?”

“Well, they’re like little robots, right? If some of them are still functioning, could you program them to seek a way out of the cave?”

“We don’t have the equipment or expertise to—”

Then he thought about it.

* * * *

With Mel’s rifle in hand and Rebecca in tow, Roger returned to the threshold of the nanotech facility and aimed at the largest tank labeled “N2.”

“What are you doing?” Rebecca demanded.

He nudged her into the passage. “You said we needed to program the nanobot molecules to find a way out of the cave. Well, in a gaseous state, all molecules naturally try to escape confinement. The scientific term is, ‘leaking.’”

He pulled the trigger. The explosive shell ripped into the pressurized container. Liquid nitrogen instantly vaporized, filled the cavern, and rushed into the passage, bearing a miniature storm front of dust and ice particles.

“Follow the clouds!” he shouted.

They reached the ledge of the pit before Roger realized too late that there was a flaw in his plan. The pit was too vast a cavity. The expanding gas from the nitrogen tank was rushing not toward an upward passage, but into the chasm.

Roger fired at the passage roof near the ledge. The cavern’s radically thickened atmosphere transmitted the impact as a muffled boom as the roof collapsed.

“You’ve sealed us in!”

“Now we go back. Look for any kind of eddy, any disturbance in the clouds!”

By then the gas was equalizing throughout the cavern complex. Dust was settling, and on the path back to the Crystarium, Roger saw no particles drifting into the branching caverns. And beyond, Roger knew with a sinking heart, the passage to the facility was straight, short, and unbranching.

Rebecca knocked his arm. “There!”

In the tenuous atmosphere of the Crystarium, all was still—except for a swirl of dust behind the gypsum outcropping where Rebecca pointed. Roger jumped over and pushed away a slab, revealing a hole—and a rope dangling within. The hole

entered a shaft that was too consistent in diameter to be anything but artificial. Without a word, Roger pulled himself upward.

On Earth, an ascent of hundreds of meters was a daylong challenge of human endurance. On Ceres, their slight tuggings maintained a velocity that brought them to the surface in seconds.

The top opened into a room. Roger spotted the charging console and plugged in his suit and yes, there were active solar cells somewhere outside. And yes, dawn had come. The flashing red zero on his suit power reading faded as he took deep breaths and helped Rebecca plug in her suit.

“This looks like a basement to my father’s shack.”

He nodded toward a handle on the ceiling, in the corner. “That’ll go topside.”

“A trap door! How come we didn’t see it before?”

Roger twisted the handle and pushed. The door had unexpected inertia. He slid it aside and hopped through the hole. In the upper room of the shack, the fermentation vat rested atop the trap door. The base of the vat concealed the seams of the door, Roger observed.

A glint caught his eye.

Beyond the window, in the clearing where Roger’s flivver had once been parked, a figure in a spacesuit was loping from the central peak toward a newly landed vehicle. Upon the suit’s backside was imprinted a skull-and-crossbones, and upon its shoulder the figure hefted the chest that Roger and Rebecca had unearthed.

* * * *

As dawn’s rays spilled over the crater rim, Roger aimed the rifle barrel at the hunched figure securing the chest to the vehicle.

“Hold it there, Wink!”

Hal Winkler swung around.

“Roger! Heh! What are you doing here?”

“You know what we’re doing here. That’s why you put a transponder in my flivver, isn’t it?”

“Roger, please stop pointing that thing at me. We’ve known each other for—”

“Long enough to know you’re no businessman. You were a mixer, like Mel and Alberto, weren’t you? That’s how you knew Rebecca Sanchez would lead you to the mine.”

“I was a mixer? I’m sorry, is that a crime?”

Roger met the incredulous expression with an undiverted gaze.

“No,” Roger said. “But you killed Mel—and then you sealed us in the mine just now. You tried to kill Rebecca and jump her claim.”

“That’s absurd!”

“Someone sealed the cave. You’re the only person here.”

“Your accusations are outlandish. The cops will never accept them!”

“They’ll investigate one accusation. That you stole government property and framed Alberto Sanchez with your crime.”

Wink’s eyes shifted.

“The Ceres Mining human resources database lists one mixer as ‘location-unknown,’” Roger continued. “The constabulary can procure the DNA sequence from the employee records. Maybe you’ve changed your appearance and name, but once they match your DNA, they’ll investigate just where you got all that money to start your business. And then you’ll enjoy a long rest in hyper—”

Wink roared and heaved the chest. Simultaneously, he drew an explosive-projectile gun. Roger dodged the chest and fired. A crater burst at Wink’s feet, knocking weapon from hand.

Rebecca walked from behind Wink. Sprawled in the dust, Wink contemplated the sunlight gleaming off the muzzle of her gun.

“Your suit isn’t armored, is it?” she asked.

“N-no.”

“Then you’re lucky that I’m a mature person, who can control her emotions.”

Her kick sent him flying for meters.

* * * *

A pair of Ceres Enforcement Service constables arrived shortly after Rebecca’s call. Their interview with Roger was brief and professionally crisp. Their interview with Rebecca, to Roger’s annoyance, was friendly and leisurely. Even more annoying to Roger was that, judging from her smile, Rebecca was coming to terms with the persuasive powers of being female in a female-starved society.

Wink’s protests were ignored, and he was clapped into the CES cruiser, his vehicle keys turned over to Rebecca so that she and Roger could return to Alphaville at their own convenience. The constables departed with a promise to look in on Mel’s dog. In fact, they needed a mascot and Rebecca could come visit at their HQ and ... Roger had to practically herd them into the cruiser.

After their vehicle cleared the crater rim, Roger went over to the upturned chest and began reloading bottles. Rebecca came alongside and stooped. She picked up one of the cracked bottles. It dribbled its contents onto the dust, forming an inky puddle that glistened in the morning sunlight like polished slate.

“You know,” Rebecca said, “I haven’t a seen a single grape since coming here.”

He knew where she was going with that, but kept his expression deadpan. “Ceres is the goddess of grain crops. Wheat, rye, barley. Not so much emphasis on grapes.”

“I mean, this goop here—it’s not wine, is it?”

“No.” Roger squinted sunward, assuring himself that their recent visitors were out of communications sight. “Wine is like any other liquid, it vaporizes in a vacuum. That’s pseudofluid.”

“The converter was missing....”

“Yeah. Your father must have instructed the robots to stockpile the pseudofluid in his spare wine bottles until he could install a Stage Six converter. Which we can do now, no problem.”

“This pseudofluid. I think I drank some this morning. It’s not toxic, is it?”

“No, it’s just a transport medium. The acid’s filtered long before Stage Six. And the platinum’s encapsulated, so it’s safe too.”

An odd light came to her eyes. “How much platinum does pseudofluid contain?”

“By mass? Oh—about twenty percent.”

“Twenty—” Her jaw dropped. “The storage room in Alphaville! I’ve been in there! It’s packed with these bottles!”

“Well, the robots had to store the extra stock somewhere. I would have picked a more unobtrusive place, but you know how robots are.”

“*Roger!* How—how much—”

“Enough to enlist a legion of attorneys, I’m sure.” His face could no longer stay straight. After he stopped laughing, he said: “When we get back to Alphaville, how about discussing this over dinner? I mean—if you’d like.”

Rebecca beamed. “That sounds wonderful. And we can discuss anything else too. Except—I’m tired of Tom Sawyer.”

“Well, you know, Rebecca, in a way, he may have had something to do with

making you a stronger person.”

“You can think that—but I’ve had enough of that brat for today!”

“I’m sure we can find other topics for conversation.” His grin crinkled.
“Perhaps something else Mark Twain wrote.”

Her face turned pensive. “To be honest, I’ve never read anything else Mark Twain wrote.”

Despite forsaking Twain, they were almost too absorbed talking over dinner to eat.

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