

# HOMINIDS

ROBERT J. SAWYER



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**Robert J. Sawyer**



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**For  
Marcel Gagné  
and  
Sally Tomasevic**

**Dude  
and  
The Other Dude**

**Great People,  
Great Friends**

*The southern forests provide the message that it didn't have to be this way, that there is room on the earth for a species biologically committed to the moral aspects of what, ironically, we like to call "humanity": respect for others, personal restraint, and turning aside from violence as a solution to conflicting interests. The appearance of these traits in bonobos hints at what might have been among Homo sapiens, if evolutionary history had been just slightly different.*

—RICHARD WRANGHAM AND DALE PETERSON  
*Demonic Males: Apes and the Origins of Human Violence*

*You have zero privacy anyway. Get over it.*

—SCOTT McNEALY  
*Chief Executive Officer  
Sun Microsystems*

## Chapter One

### **DAY ONE FRIDAY, AUGUST 2 148/103/24**

The blackness was absolute.

Watching over it was Louise Benoît, twenty-eight, a statuesque postdoc from Montreal with a mane of thick brown hair stuffed, as required here, into a hair net. She kept her vigil in a cramped control room, buried two kilometers—“a mile an’ a quarder,” as she sometimes explained for American visitors in an accent that charmed them—beneath the Earth’s surface.

The control room was next to the deck above the vast, unilluminated cavern housing the Sudbury Neutrino Observatory. Suspended in the center of that cavern was the world’s largest acrylic sphere, twelve meters—“almost forty feet”—across. The sphere was filled with eleven hundred tonnes of heavy water on loan from Atomic Energy of Canada Limited.

Enveloping that transparent globe was a geodesic array of stainless-steel struts, supporting 9,600 photomultiplier tubes, each cupped in a reflective parabola, each aimed in toward the sphere. All of this—the heavy water, the acrylic globe that contained it, and the enveloping geodesic shell—was housed in a ten-story-tall barrel-shaped cavern, excavated from the surrounding norite rock. And that gargantuan cavern was filled almost to the top with ultrapure regular water.

The two kilometers of Canadian shield overhead, Louise knew, protected the heavy water from cosmic rays. And the shell of regular water absorbed the natural background radiation from the small quantities of uranium and thorium in the surrounding rock, preventing that, too, from reaching the heavy water. Indeed, nothing could penetrate into the heavy water except neutrinos, those infinitesimal subatomic particles that were the subject of Louise’s research. Trillions of neutrinos passed right through the Earth every second; in fact, a neutrino could travel through a block of lead a light-year thick with only a fifty-percent chance of hitting something.

Still, neutrinos poured out of the sun in such vast profusion that collisions did occasionally occur—and heavy water was an ideal target for such collisions. The hydrogen nuclei in heavy water each contain a proton—the normal constituent of a hydrogen nucleus—plus a neutron, as well. And when a neutrino did chance to hit a neutron, the neutron decayed, releasing a proton of its own, an electron, and a flash of light that could be detected by the photomultiplier tubes.

At first, Louise’s dark, arching eyebrows did not rise when she heard the neutrino-detection alarm go *ping*, the alarm sounded briefly about a dozen times a day, and although it was normally the most exciting thing to happen down here, it still didn’t merit looking up from her copy of *Cosmopolitan*.

But then the alarm sounded again, and yet again, and then it stayed on, a solid, unending electric bleep like a dying man’s EKG.

Louise got up from her desk and walked over to the detector console. On top of it was a framed picture of Stephen Hawking—not signed, of course. Hawking had visited the Sudbury Neutrino Observatory for its grand opening a few years ago, in 1998. Louise tapped on the alarm’s speaker, in case it was on the fritz, but the keening continued.

Paul Kiriya, a scrawny grad student, dashed into the control room, arriving from elsewhere in the vast, underground facility. Paul was, Louise knew, usually quite flustered around her, but this time he wasn’t at a loss for words. “What the heck’s going on?” he asked. There was a grid of ninety-eight by ninety-eight LEDs on the detector panel, representing the 9,600 photomultiplier tubes; every one of them was illuminated.

“Maybe someone accidentally turned on the lights in the cavern,” said Louise, sounding dubious even to herself.

The prolonged bleep finally stopped. Paul pressed a couple of buttons, activating five TV monitors slaved to five underwater cameras inside the observatory chamber. Their screens were perfectly black rectangles. “Well, if the lights *were* on,” he said, “they’re off now. I wonder what—”

“A supernova!” declared Louise, clapping her long-fingered hands together. “We should contact the Central Bureau for Astronomical Telegrams; establish our priority.” Although SNO had been built to study neutrinos from the sun, it could detect them from anywhere in the universe.

Paul nodded and plunked himself down in front of a Web browser, clicking on the bookmark for the Bureau’s site. It was worth reporting the event, Louise knew, even if they weren’t yet sure.

A new series of pings sounded from the detector panel. Louise looked at the LED board; several hundred lights were illuminated all over the grid. Strange, she thought. A supernova should register as a *directional* source ...

“Maybe something’s wrong with the equipment?” said Paul, clearly reaching the same conclusion. “Or maybe the connection to one of the photomultipliers is shorting out, and the others are picking up the arc.”

The air split with a creaking, groaning sound, coming from next door—from the deck atop the giant detector chamber itself. “Perhaps we should turn on the chamber lights,” said Louise. The groaning continued, a subterranean beast prowling in the dark.

“But what if it is a supernova?” said Paul. “The detector is useless with the lights on, and—”

Another loud cracking, like a hockey player making a slap shot. “Turn on the lights!”

Paul lifted the protective cover on the switch and pressed it. The images on the TV monitors flared then settled down, showing—

“*Mon dieu,*” declared Louise.

“There’s something inside the heavy-water tank!” said Paul. “But how could—?”

“Did you see that?” said Louise. “It’s moving, and—good Lord, it’s a man!”

The cracking and groaning sounds continued, and then—

They could see it on the monitors and hear it coming through the walls.

The giant acrylic sphere burst apart along several of the seams that held its

component pieces together. “*Tabernacle*,” Louise swore, realizing the heavy water must now be mixing with the regular H<sub>2</sub>O inside the barrel-shaped chamber. Her heart was jackhammering. For half a second, she didn’t know whether to be more concerned about the destruction of the detector or about the man who was obviously drowning inside it.

“Come on!” said Paul, heading for the door leading to the deck above the observatory chamber. The cameras were slaved to VCRs; nothing would be missed.

“*Un moment*,” said Louise. She dashed across the control room, grabbed a telephone handset, and pounded out an extension from the list taped to the wall.

The phone rang twice. “Dr. Montego?” said Louise, when the Jamaican-accented voice of the mine-site physician came on. “Louise Benoît here, at SNO. We need you right away down at the neutrino observatory. There’s a man drowning in the detector chamber.”

“A man drowning?” said Montego. “But how could he possibly get in there?”

“We don’t know. Hurry!”

“I’m on my way,” said the doctor. Louise replaced the handset and ran toward the same blue door Paul had gone through earlier, which had since swung shut. She knew the signs on it by heart:

**Keep Door Closed**  
**Danger: High Voltage Cables**  
**No Unauthorized Electronic Equipment Beyond This Point**  
**Air Quality Checked—Cleared for Entry**

Louise grabbed the handle, pulling the door open, and hurried onto the wide expanse of the metal deck.

There was a trapdoor off to one side leading down to the actual detector chamber; the final construction worker had exited through it, and had sealed it shut behind him. To Louise’s astonishment, the trapdoor was still sealed by forty separate bolts—of course, it was *supposed* to be sealed, but there was no way a man could have gotten inside except through that trapdoor ...

The walls surrounding the deck were covered with dark green plastic sheeting to keep rock dust out. Dozens of conduits and polypropylene pipes hung from the ceiling, and steel girders sketched out the shape of the room. Computing equipment lined some walls; others had shelves. Paul was over by one of the latter, desperately rummaging around, presumably for pliers strong enough to crank the bolts free.

Metal screamed in anguish. Louise ran toward the trapdoor—not that there was anything she could do to unseal it with her bare hands. Her heart leapt; a sound like machine-gun fire erupted into the room as the restraining bolts shot into the air. The trapdoor burst open, slapping back on its hinges and hitting the deck with a reverberating clang. Louise had jumped out of the way, but a geyser of cold water leapt up through the opening, soaking her.

The very top of the detector chamber was filled with nitrogen gas, which Louise knew must be venting now. The water spout quickly subsided. She moved toward the opening in the deck and looked down, trying not to breathe. The interior was illuminated by the floodlights Paul had turned on, and the water was absolutely pure; Louise could see all the way to the bottom, thirty meters below.

She could just make out the giant curving sections of the acrylic sphere; the acrylic's index of refraction was almost identical to that of water, making it hard to see. The sections, separated from each other now, were anchored to the roof by synthetic-fiber cables; otherwise, they would have already sunk to the bottom of the surrounding geodesic shell. The trapdoor's opening gave only a limited perspective, and Louise couldn't yet see the drowning man.

"*Merde!*" The lights inside the chamber had gone off. "Paul!" Louise shouted. "What are you doing?"

Paul's voice—now coming from back in the control room—was barely audible above the air-conditioning equipment and the sloshing of the water in the huge cavern beneath Louise's feet. "If that man's still alive," he shouted, "he'll see the lights up on the deck through the trapdoor."

Louise nodded. The only thing the man would now be seeing was a single illuminated square, a meter on a side, in what, to him, would be a vast, dark ceiling.

A moment later, Paul returned to the deck. Louise looked at him, then back down at the open trapdoor. There was still no sign of the man. "One of us should go in," said Louise.

Paul's almond-shaped eyes went wide. "But ... the heavy water—"

"There's nothing else to do," said Louise. "How good a swimmer are you?"

Paul looked embarrassed; the last thing he ever wanted to do, Louise knew, was look bad in her eyes, but ... "Not very," he said, dropping his gaze.

It was already awkward enough down here with Paul mooning over her all the time, but Louise couldn't very well swim in her SNO-issue blue-nylon jumpsuit. Underneath, though, like almost everyone else who worked at SNO, she only had on her underwear; the temperature was a tropical 40.6 Celsius this far beneath Earth's surface. She yanked off her shoes, then pulled on the zipper that ran down the front of the jumpsuit; thank God she'd worn a bra today—although she wished now that it hadn't been as lacy.

"Turn the lights back on down there," said Louise. To his credit, Paul didn't tarry. Before he'd returned, Louise had slipped through the trapdoor into the cold water; the water was chilled to ten degrees Celsius to discourage biological growth and to reduce the spontaneous noise rate of the photomultiplier tubes.

She felt a rush of panic, a sudden feeling of being a long way up with nothing supporting her; the bottom was far, far below. She was treading water, her head and shoulders sticking up through the open trapdoor into the air, waiting for her panic to subside. When it did, she took three deep breaths, closed her mouth tight, and dived beneath the surface.

Louise could see clearly, and her eyes didn't sting at all. She looked around, trying to spot the man, but there were so many pieces of acrylic, and—

*There he was.*

He had indeed floated up, and there was a small gap— maybe fifteen centimeters—

between the top of the water and the deck above. Normally it was filled with ultrapure nitrogen. The poor guy *must* be dead; three breaths of that would be fatal. A sad irony: he probably fought his way to the surface, thinking he could find air, only to be killed by the gas he inhaled there. Breathable air from the open trapdoor must now be mixing with the nitrogen, but presumably it was too late to help him.

Louise pushed her own head and shoulders up through the trapdoor again. She could see Paul, desperately waiting for her to say something—anything. But there was no time for that. She gulped more air, filling her lungs as much as she could, then dived under. There wasn't enough room for her to keep her nose above water without constantly banging her head into the metal roof as she swam. The man was about ten meters away. Louise kicked her feet, covering the distance as quickly as she could, and

—  
A cloud in the water. Something dark.

*Mon dieu!*

It was blood.

The cloud surrounded the man's head, obscuring his features. He wasn't moving at all; if he were still alive, he was surely unconscious.

Louise craned to get her mouth and nose into the air gap. She took one tentative breath—but there was plenty of breathable air there now—then grabbed the man's arm. Louise rolled the fellow over—he'd been floating facedown—so that his nose was sticking up into the air gap, but it seemed to make no difference. There was no spluttering from him, no sign that he was still breathing.

Louise dragged him through the water. It was tough work: the man was quite stocky, and he was fully dressed; his clothes were waterlogged. Louise didn't have time to notice much, but it did register on her that the man *wasn't* wearing coveralls or safety boots. He couldn't possibly be one of the nickel miners, and although Louise had only gotten a fleeting glimpse of the man's face—a white guy, blond beard—he wasn't from SNO, either.

Paul must have been crouching on the deck above. Louise could see his head sticking into the water; he was watching as Louise and the man came closer. Under other circumstances, Louise would have gotten the injured person out of the water before she herself left it, but the trapdoor was only big enough for one of them to go through at a time, and it would take both her and Paul to drag this large man out.

Louise let go of the man's arm and stuck her head up through the trapdoor, Paul having now backed off from it. She took a moment just to breathe; she was exhausted from pulling the man through the water. And then she put her palms flat on the wet deck and began to lift herself up and out. Paul crouched down again and helped Louise onto the deck, then they turned back to the man.

He had started to drift away, but Louise managed to grab his arm and drag him back under the opening. Louise and Paul then struggled to get him out, finally succeeding in lifting him onto the deck. He was still bleeding; the injury was clearly to the side of his head.

Paul immediately knelt next to the man and began administering mouth-to-mouth resuscitation, his cheek getting slick with blood each time he turned to see if the man's broad chest was rising.

Louise, meanwhile, found the man's right wrist and searched for a pulse. There

didn't—no, no, wait! There was! There was a pulse.

Paul continued to blow air into the man's mouth, over and over again, and finally the man began to gasp on his own. Water and vomit came pouring out of him. Paul turned his head sideways, and the liquid he was ejecting mixed with the blood on the deck, washing some of it away.

The man still seemed to be unconscious, though. Louise, soaking wet, almost naked, and still chilled from the water, was starting to feel quite self-conscious. She struggled back into her jumpsuit and zipped it up—Paul watching her, she knew, even while he pretended not to.

It would still be a while before Dr. Montego arrived. SNO wasn't just two kilometers down; it was also a kilometer and a quarter horizontally from the nearest elevator, at mineshaft number nine. Even if the lift cage had been at the top—and there was no guarantee it would have been—it would still take Montego twenty-odd minutes to get here.

Louise thought she should get the man out of his wet clothes. She reached for the front of his charcoal gray shirt, but—

But there were no buttons—and no zipper. It didn't appear to be a pullover, even though it was collarless, and—

Ah, there they were! Hidden snaps running along the tops of the broad shoulders. Louise tried to undo them, but they didn't budge. She glanced down at the man's pants. They seemed to be dark olive green, although they might have been much lighter if dry. But there was no belt; instead, a series of snaps and folds encircled the waist.

It suddenly occurred to Louise that the man might be suffering from the bends. The detector chamber was thirty meters deep; who knew how far down he'd gone or how quickly he'd come up? Air pressure this much below Earth's surface was 130 percent of normal. At that moment, Louise couldn't figure out how that would affect whether someone got the bends, but it did mean the man would now be receiving a higher concentration of oxygen than he would have up top, and that surely must be to the good.

There was nothing to do now but wait; the man was breathing, and his pulse had strengthened. Louise finally had a chance to really look at the stranger's face. It was broad but not flat; rather, the cheekbones trailed back at an angle. And his nose was gargantuan, almost the size of a clenched fist. The man's lower jaw was covered by a thick, dark blond beard, and straight blond hair was plastered across his forehead. His facial features were vaguely East ern European, but with Scandinavian rather than olive coloring. The wide-spaced eyes were closed.

"Where could he possibly have come from?" asked Paul, now sitting cross-legged on the deck next to the man. "No one should have been able to get down here, and—"

Louise nodded. "And even if he could, how would he get inside the sealed detector chamber?" She paused and brushed hair out of her eyes—realizing for the first time that she'd lost her hair net while swimming in the tank. "You know, the heavy water is ruined. If he survives this stunt, he'll face one heck of a lawsuit."

Louise found herself shaking her head. Who could this man be, anyway? Maybe a Native Canadian zealot—an Indian who felt the mining was interfering with sacred ground. But the man's hair was blond, rare among Natives. Nor was this a youthful

prank gone bad; the guy looked to be about thirty-five.

It was possible he was a terrorist or an antinuclear protester. But although Atomic Energy of Canada Limited had indeed supplied the heavy water, there was no nuclear work done at this site.

Whoever he was, Louise reflected, if he did finally die from his injuries, he'd be a prime candidate for the Darwin Awards. This was classic evolution-in-action stuff: a person who did something so incredibly stupid it cost him his own life.

## Chapter Two

Louise Benoît heard the sound of the opening door; someone was coming out onto the deck above the detector chamber. “Yoo-hoo!” she called, getting Dr. Montego’s attention. “Over here!”

Reuben Montego, a Jamaican-Canadian in his midthirties, hurried over to them. He shaved his head completely bald—meaning he was the only person allowed into SNO without a hair net—but, like everyone else, he still had to wear a hardhat. The doctor crouched down, rotated the injured man’s left wrist, and—

“What the heck is that?” said Reuben, in his accented voice.

Louise saw it, too: something set, apparently, into the skin of the man’s wrist, a high-contrast, matte-finish rectangular screen about eight centimeters long and two across. It was displaying a string of symbols, the leftmost of which was changing about once per second. Six small beads, each a different color, formed a line beneath the display, and something—maybe a lens—was positioned at the end of the device farthest up the man’s arm.

“Some kind of fancy watch?” said Louise.

Reuben clearly decided to ignore this mystery for the moment; he placed his index and middle fingers over the man’s radial artery. “He’s got a decent pulse,” he announced. He then lightly slapped one of the man’s cheeks, then the other, seeing if he could bring him to consciousness. “Come on,” he said in an encouraging tone. “Come on. Wake up.”

At last the man did stir. He coughed violently, and more water spilled from his mouth. Then his eyes fluttered open. His irises were an arresting golden brown, unlike any Louise had ever seen before. It seemed to take a second or two for them to focus, then they went wide. The man looked absolutely astonished by the sight of Reuben. He turned his head and saw Louise and Paul, and his expression continued to be one of shock. He moved a bit, as if trying perhaps to get away from them.

“Who are you?” asked Louise.

The man looked at her blankly.

“Who are you?” Louise repeated. “What were you trying to do?”

“*Dar,*” said the man, his deep voice rising as if asking a question.

“I need to get him to the hospital,” said Reuben. “He obviously took a nasty hit to the head; we’ll need skull x-rays.”

The man was looking around the metal deck, as if he couldn’t believe what he was seeing. “*Dar barta dulb tinta?*” he said. “*Dar hoolb ka tapar?*”

“What language is that?” Paul asked Louise.

Louise shrugged. “Ojibwa?” she said. There was an Ojibwa reserve not far from the mine.

“No,” Reuben said, shaking his head.

“*Monta has palap ko,*” said the man.

“We don’t understand you,” said Louise to the stranger. “Do you speak English?”

Nothing. “*Parlez-vous français?*” Still nothing.

Paul said “*Nihongo ga dekimasu ka?*” which Louise assumed meant, “Do you speak Japanese?”

The man looked at each of them in turn, eyes still wide, but he made no reply.

Reuben rose, then extended a hand down toward the man. He stared at it for a second, then took it in his own, which was huge, with fingers like sausages and an extraordinarily long thumb. He let Reuben pull him to his feet. Reuben then put an arm around the man’s broad back, helping to hold him up. The man must have outweighed Reuben by thirty kilos, all of it muscle. Paul moved to the man’s other side and used an arm to help support the stranger as well. Louise went ahead of the three of them, holding open the door to the control room, which had closed automatically after Reuben had entered.

Inside the control room, Louise put on her safety boots and hardhat, and Paul did the same; the hats had built-in lamps and hearing-protection cups that could be swung down when needed. They also put on safety glasses. Reuben was still wearing his own hardhat. Paul found another one on top of a metal locker and proffered it to the injured man, but before he could respond the doctor waved the hat away. “I don’t want any pressure on his skull until we’ve done those x-rays,” he said. “All right, let’s get him up to the surface. I called for an ambulance on my way over.”

The four of them left the control room, headed down a corridor, and walked into the arrival area for the SNO facility. SNO maintained clean-room conditions—not that it mattered much anymore, Louise thought ruefully. They walked past the vacuuming chamber, a shower stall-like affair that sucked dust and dirt off those entering SNO. Then they passed a row of real shower stalls; everyone had to wash before entering SNO, but that, too, wasn’t necessary on the way out. There was a first-aid station here, and Louise saw Reuben looking briefly at the locker labeled “Stretcher.” But the man was walking well enough, so the doctor motioned for them to continue out into the drift.

They turned on their hardhat lights and began trudging the kilometer and a quarter down the dim dirt-floored tunnel. The rough-hewn walls were peppered with steel rods and covered over with wire mesh; this far beneath Earth’s surface, with the weight of two kilometers of crust pressing down on them, unreinforced rock walls would burst into any open space.

As they walked along the drift, occasionally coming across muddy patches, the man began to take more of his own weight; he was clearly recovering from his ordeal.

Paul and Dr. Montego were engaged in an animated discussion about how this man could have possibly gotten into the sealed chamber. For her part, Louise was lost in thought about the ruined neutrino detector—and what that was going to do to her research funding. Air blew into their faces all the way along the drift; giant fans constantly pumped atmosphere down from the surface.

Finally, they reached the elevator station. Reuben had ordered the lift cage locked off here, on the 6,800-foot level—the mine’s signage predated Canada’s switch to the metric system. It was still waiting for them, no doubt to the chagrin of miners who wanted to come down or go up.

They entered the cage, and Reuben repeatedly activated the buzzer that would let the hoist operator on the surface know it was time to start the winch. The lift

shuddered into motion. The cage had no internal lighting, and Reuben, Louise, and Paul had turned off their hardhat lamps rather than blind each other with their glare. The only illumination came in flashes from fixtures in the tunnels they passed every 200 feet, visible through the open front of the cage. In the weird, strobing light, Louise caught repeated glimpses of the strange man's angular features and his deep-set eyes.

As they went higher and higher, Louise felt her ears pop several times. They soon passed the 4,600-foot level, Louise's favorite. Inco grew trees there for reforestation projects around Sudbury. The temperature was a constant twenty degrees; adding artificial light turned it into a fabulous greenhouse.

Crazy thoughts occurred to Louise, weird *X-Files* notions about how the man could have gotten inside the sphere with the trapdoor still bolted shut. But she kept them to herself; if Paul and Reuben were having similar flights of fancy, they were also too embarrassed to give them voice. There *had* to be a rational explanation, Louise told herself. There had to be.

The cage continued its long ascent, and the man seemed to take stock of himself. His strange clothes were still somewhat wet, although the blowing air in the tunnels had done much to dry them. He tried wringing out his shirt, a few drops falling on the yellow-painted metal floor of the elevator cage. He then used his large hand to brush his wet hair off his forehead revealing, to Louise's astonishment—she gasped, although the sound surely was inaudible over the clanging of the rising car—a prodigious ridge arching above each eye, like a squashed version of the McDonald's logo.

At last the elevator shuddered to a halt. Paul, Louise, Dr. Montego, and the stranger disembarked, passing a small group of perplexed and irritated miners who were waiting to go down. The four of them headed up the ramp into the large room where workers hung their outdoor clothes each day, swapping them for coveralls. Two ambulance attendants were waiting. "I'm Reuben Montego," said Reuben, "the mine-site doctor. This man nearly drowned, and he's suffered a cranial trauma ..." The two attendants and the doctor continued to discuss the man's condition as they hustled him out of the building and into the hot summer day.

Paul and Louise followed, watching as the doctor, the injured man, and the attendants entered the ambulance and sped away on the gravel road.

"Now what?" said Paul.

Louise frowned. "I have to call Dr. Mah," she said. Bonnie Jean Mah was SNO's director. Her office was at Carleton University in Ottawa, almost 500 kilometers away. She was rarely seen at the actual observatory site; the day-to-day operations were left to postdocs and grad students, like Louise and Paul.

"What are you going to tell her?" asked Paul.

Louise looked in the direction of the departing ambulance, with its impossible passenger. "*Je ne sais pas*," she said, shaking her head slowly.

## Chapter Three

It had started *much* more serenely. “Healthy day,” Ponter Boddit had said softly, propping his jaw up with a crooked arm as he looked over at Adikor Huld, who was standing by the washbasin.

“Hey, sleepyhead,” said Adikor, turning now and leaning his muscular back against the scratching post. He shimmied left and right. “Healthy day.”

Ponter smiled back at Adikor. He liked watching Adikor move, liked watching the muscles in his chest work. Ponter didn’t know how he would have survived the loss of his woman-mate Klast without Adikor’s support—although there were still some lonely times. When Two became One—the latest occurrence of which had just ended—Adikor went in to be with his own woman-mate and their child. But Ponter’s daughters were getting older, and he’d hardly seen them this time. Of course, there were plenty of elderly women whose men had died, but women so full of experience and wisdom—women old enough to vote!—would want nothing to do with one as young as Ponter, who had seen only 447 moons.

Still, even if they didn’t have much time for him, Ponter had enjoyed seeing his daughters, although—

It depended on the light. But sometimes, when the sun was behind her, and she tilted her head just so, Jasmel was the absolute image of her mother. It took Ponter’s breath away; he missed Klast more than he could say.

Across the room, Adikor was now filling the pool. He was bent over, operating the nozzle, his back to Ponter. Ponter lowered his head onto the disk-shaped pillow and watched.

Some people had cautioned Ponter against moving in with Adikor, and, Ponter was sure, a few of Adikor’s friends had probably expressed a similar concern to him. It had nothing to do with what had transpired at the Academy; it was simply that working *and* living together could be an awkward combination. But although Saldak was a large city (its population was over twenty-five thousand, split between Rim and Center), there were only six physicists in it, and three of those were female. Ponter and Adikor both enjoyed talking about their work and debating new theories, and both appreciated having someone who really understood what they were saying.

Besides, they made a good pair in other ways. Adikor was a morning person; he hit the day running and enjoyed drawing the bath. Ponter rallied as the day progressed; he always looked after preparing the evening meal.

Water continued to spray from the nozzle; Ponter liked the sound, a raucous white noise. He let out a contented sigh and climbed out of the bed, the moss growing on the floor tickling his feet. He stepped over to the window and grasped the handles attached to the sheet-metal panel, pulling the shutter off the magnetic window frame. He then reached over his head, placing the shutter in its daytime position, adhering to a metal panel set in the ceiling.

The sun was rising through the trees; it stung Ponter’s eyes, and he tilted his head

down, bringing the front of his jaw to his chest, letting his browridge shade his vision. Outside, a deer was drinking from the brook three hundred paces away. Ponter hunted occasionally, but never in the residential areas; these deer knew they had nothing to fear—not here, not from any of the humans. Off in the distance, Ponter could see the glint of the solar panels spread along the ground by the next house.

Ponter spoke into the air. “Hak,” he said, calling his Companion implant by the name he’d given it, “what’s the forecast?”

“Quite lovely,” said the Companion. “The high today: sixteen degrees; the low tonight, nine.” The Companion used a feminine voice. Ponter had recently—and, he now realized, stupidly—reprogrammed it to use recordings of Klast’s voice, taken from her alibi archive, as the basis for the way it spoke. He’d thought hearing the sound of her voice would make him feel less lonely, but instead it tugged at his heart every time his implant talked to him.

“No chance of rain,” continued his Companion. “Winds from twenty-percent deasil, at eighteen thousand paces per daytenth.”

Ponter nodded; the implant’s scanners could easily detect him doing that.

“Bath’s ready,” said Adikor from behind him. Ponter turned and saw Adikor slipping into the circular pool recessed into the floor. He started the agitator, and the water roiled around him. Ponter—naked, like Adikor—walked over to the pool and slipped in as well. Adikor preferred his water warmer than Ponter did; they’d eventually settled on a compromise temperature of thirty-seven degrees—the same as body temperature.

Ponter used a *golbas* brush and his hands to clean the parts of Adikor that Adikor himself couldn’t reach, or preferred to have Ponter do. Then Adikor helped clean Ponter.

There was much moisture in the air; Ponter breathed deeply, letting it humidify his sinus cavities. Pabo, Ponter’s large reddish brown dog, came into the room. She didn’t like to get wet, so she stayed several paces from the pool. But she clearly wanted to be fed.

Ponter gave Adikor a “what can you do?” look and hauled himself out of the bath, dripping on the blanket of moss. “All right, girl,” he said. “Just let me get dressed.”

Satisfied that her message had been delivered, Pabo padded out of the bedroom. Ponter moved over to the washbasin and selected a drying cord. He gripped the two handles and rolled it from side to side across his back; he then chomped down on one of the cord’s handles while he dried off his arms and legs. Ponter looked at himself in the square mirror above the washbasin, and used splayed fingers to make sure his hair was deployed properly on either side of his central part.

There was a pile of clean clothes in a corner of the room. Ponter walked over and surveyed the selection. He normally didn’t think much about clothing, but if Adikor and he were successful today, one of the Exhibitionists might come look at them. He picked out a charcoal gray shirt, pulled it on, and did up the clasps at the tops of the shoulders, closing the wide gaps. This shirt was a good choice, he thought—it had been a gift from Klast.

He selected a pant and put it on, slipping his feet into the baggy pouches at the end of each leg. He then cinched the leather ankle and instep ties, producing a comfortable snugness.

Adikor was getting out of the pool now. Ponter glanced at him, then looked down at the display on his own Companion. They really did have to get going; the hover-bus would be along shortly.

Ponter headed out into the main room of the house. Pabo immediately bounded over to him. Ponter reached down and scratched the top of the dog's head. "Don't worry, girl," he said. "I haven't forgotten you."

He opened the vacuum box and pulled out a large, meaty bison bone, saved from last night's dinner. He then set it on the floor—the moss overlain with glass sheets here to make cleanups easier—and Pabo began to gnaw at it. Adikor joined Ponter in the kitchen and set about fixing breakfast. He took two slabs of elk meat out of the vacuum box and put them in the laser cooker, which filled with steam to remoisturize the meat. Ponter glanced over, looking through the cooker's window, watching the ruby beams crisscrossing in intricate patterns, perfectly grilling every part of the steaks. Adikor filled a bowl with pine nuts and set out mugs of diluted maple syrup, then fetched the nowdone steaks.

Ponter turned on the Voyeur, the square wall-mounted panel springing instantly to life. The screen was divided into four smaller squares, one showing transmissions from Hawst's enhanced Companion; another, those from Talok's; the lower-left, pictures of Gawlt's life; and the lower-right, images of Lulasm's. Adikor, Ponter knew, was a Hawst fan, so he told the Voyeur to expand that image to fill the entire screen. Ponter had to admit that Hawst was always up to something interesting—this morning, he'd headed to the outskirts of Saldak where five people had been buried alive by a rockslide. Still, if an Exhibitionist did come by the mineshaft entrance today, Ponter hoped it would be Lulasm; Ponter thought she usually asked the most insightful questions.

Ponter and Adikor both sat and put on dining gloves. Adikor scooped up some pine nuts from the bowl and sprinkled them over his steak, then pounded them into the meat with the palm of his gloved hand. Ponter smiled; it was one of Adikor's endearing quirks—he'd never met anyone else who did that.

Ponter picked up his own steak, still sizzling slightly, and bit a hunk off. It had that sharp tang one only tasted in meat that had never been frozen; how had anyone survived before vacuum storage had been invented?

A short time later, Ponter saw the hover-bus settle to the ground outside the house. He told the Voyeur to shut off, they tossed their dining gloves in the sonic cleanser, Ponter patted Pabo on the head, and he and Adikor went out the door, leaving it open so that Pabo could come and go as she pleased. They entered the hover-bus, greeting the seven other passengers already on board, and headed off to work as if it were just another ordinary day.