

The Old Cosmonaut  
and the Construction Worker  
Dream of Mars

Ian McDonald

British author Ian McDonald is an ambitious and daring writer with a wide range and an impressive amount of talent. His first story was published in 1982, and since then he has appeared with some frequency in *Interzone*, *Asimov's Science Fiction*, *New Worlds*, *Zenith*, *Other Edens*, *Amazing*, and elsewhere. He was nominated for the John W. Campbell Award in 1985, and in 1989 he won the Locus "Best First Novel" Award for his novel *Desolation Road*. He won the Philip K. Dick Award in 1992 for his novel *King of Morning*, *Queen of Day*. His other books include the novels *Out On Blue Six* and *Hearts, Hands and Voices*, *Terminal Cafe*, *Sacrifice of Pools*, *Evolution's Shore*, *Kirinya*, and two collections of his short fiction, *Empire Dreams* and *Speaking In Tongues*. His stories have appeared in our Eighth through Tenth, Fourteenth through Sixteenth, and Nineteenth Annual Collections. His most recent books are a chapbook novella *Tendeleo's Story*, and a new novel, *Ares Express*. Coming up is another new novel, *Cyberabad*. Born in Manchester, England, in 1960, McDonald has spent most of his life in Northern Ireland, and now lives and works in Belfast. He has a Web site at <http://www.lywator.liu.se/~unicorn/mcdonald/>.

In the lyrical story that follows, we learn that sometimes the dream is what counts--no matter how different the dreamers are.

From the summer room he watched the car wind along the road by the bay, and he thought, they will be bringing the dog. His pleasure at seeing them all again did a sharp down-turn at that. He did not like the dog. He did not like dogs in general; fawning, attention-seeking things, with a surfeit of bodily fluids, and this dog in particular owned a superabundance of those things. It was a tatty white-and-black urchin with a need for human attention so consuming that once, coming down in the night for a drink of water, he caught it four-square in the middle of the kitchen table, enthusiastically pissing on the tablecloth. It had been lonely. He had scrubbed, steeped, disinfected twice, and said nothing as Paavo and Raisa and Yuri sat around it pouring their coffee and breaking their rolls.

You can no more kick a man's dog than his child. Even for pissing on the table. And Yuri adored the beast.

As he always did when they came on their twice yearly visits, he lit all the house lights so that there should be a welcome as they came across the causeway over the frozen inlet. Last of all were the porch lights, as he stood by the open door in the knifing cold of December and the car turned in the gravel drive, sending its headlight beams washing over him. He could hear the dog barking in the back. It had probably been barking like that all the way from Haapealu.

Yuri came running in first; then his son and Raisa, beating their hands and stamping their feet. Breath-steamy kisses with the dog leaping up at him, leaping and leaping and leaping until he stove in its ribs with a timely lifted knee.

"The roads bad?"

Paavo lumbered in with the bags.

"Bad enough. Down to thirty this side of Tallinn. Repair budget's probably putting some councillor's kid through university."

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“Bad enough. Down to thirty this side of Tallinn. Repair budget’s probably putting some councillor’s kid through university.”

“Ah, no budget for anything, these

days.” He looked out at the setting indigo before closing the porch door on the winter. The silhouettes of the trees across the bay were still discernible, shadows against the infra-blue; low over them, Jupiter rising, and the early stars. Another thing we couldn’t afford.

“You can cut the rest, but you have to have infrastructure,” Paavo was saying as he moved the bags into the hall.

“Spoken like a good new Russian,” the old man said, but Yuri was running ahead of any of them, even the dog.

“Where are they, can I see them?” he called out, questing in at the open door though he knew what room they were in, where they would always remain, that they were always his to look at and

marvel over. Grandfather Antti paused in the study doorway, reluctant to break the shell of unalloyed wonder. Yuri stood in the center of the threadbare Kazakh rug, head thrown back, looking up at the models hanging from the ceiling. Revolving slowly, unconsciously; the photographs and certificates and engineering diagrams and artist's impressions spinning around him. Relativity.

The dog scuffled at his heels, horrified that it was missing something. Antti shoved it away with his foot. Dare break the moment and, Yuri notwithstanding, I will poison you . Twice a year, summer and winter, was a meager ration of wonder stuff, and its



half-life was so short. Years and peers and sophistication would kill that thing you feel, orbiting beneath the models of the ships that should have taken us to Mars. Yuri stopped.

“That one. That wasn’t here before.”

“It’s new, that’s why.”

“I can see that. Show me.”

Antti pulled over the peeling swivel chair to stand on and unhook the curved delta of aerobody from its fishing line rig.

“What’s that bit?”

“That’s the fuel processing module. The idea was that it would go down first, maybe even six months before, and manufacture the fuel for the return trip.”

“An empty tank mission.”

“Empty tanks.” The boy had the language. “That’s right.”

Yuri turned the aerodynamic plastic wedge over in his hands, stopped at a hieroglyph in curvilinear blue.

“This isn’t Russian,” he pronounced. “I know this sign. That says NASA. But I don’t know this bit.” A line of red, alien letters above the noble blue insignia.

“It says ‘Astrodyne Systems MOREL 2’.”

“An American ship.”

“I have friends in America. I send them mine, they send me theirs. We’re all the same, really.”

“They didn’t get there either.”

“No, they left it too late. Do you know what they ask for most? The

Americans?” He nodded Yuri to the disk of embroidered fabric, insignificant among the prints and plans of the boosters and orbiters. Vorontsev, Nitin, Rozdevshensky, Selkokari:Novy Mir . And the date, so many decades ago he could not believe the hubris of those who had planned to send men to another world. Another Russia, then. “I’ll never let them have it. A photograph, that’s what they’ll get. At least we made it to the pad.”

The hatch-dog spinning. The gloved hand reaching in: the thick, black glove. The glove, the hand that should not have been there. The gold-plated audio jacks pulling free from the helmet sockets, dangling on their glossy black wire

coils. Commander Rozdevshensky hitting his chest release and surging up from his restraint straps—slowly, so slowly—as the white digits on the countdown timer remained forever frozen between the flip and flop. Better to die that way. Better by far than to be talked to death by pragmatists and right Christians.

And it still hurt, by God, still brought that involuntary twitch to the corners of the mouth. Thirty-five years since the light of a Kazakhstan morning flooded through the hatch into the capsule, the hatch that should have opened on another light altogether. Scrap now. Plumbing in the Presidential palaces of new Republics. Pig sheds. He had heard that

one of the preignition pumps had turned up as a vodka still. New Russia. Dismembered. But in this shrine to a lost space age deep in Baltic winter, ATOM 12 still stood as he remembered her that morning as they drove across the steppe, high and lovely and unbelievably white. Its model in the corner by the curtained window towered over Yuri. Towers over us all, his grandfather thought. We are never out of its shadow, the rocket that would have taken Antti Selkokari, Cosmonaut, to Mars.

The holy woman has been in the tomb five days now and the crowds are gathering again. Most are there to witness a miracle, a triumph of faith and will. They are easy to spot: many wear

the sadhu's unbraided hair and go flagrantly naked, skin daubed with holy ash. Spirit clad. Some practice asceticism; burning cones of incense on their skin, driving hooks through folds of flesh, tongue, eyelids. One man walks around for the admiration of the crowd, his right arm held aloft by a devotee declaring that the sadhu had held his arm fifteen years thus in asceticism. Fifteen years! The arm is withered as a stick in a drought. It will never bend again. The joints are fused, locked. The holy man's eyes glare spiritual challenge at the crowds thronging the station approach. See what I do: who in this corrupt century dares attempt such practice to sever soul from flesh?

This corrupt century has surer and swifter ways to samadhi, Ashwin thinks, smiling to himself, as he joins the queue for holy breakfast. He has done this every morning since the sacred woman's coffin was sealed, lowered into the dusty grave, and buried. Behind him, a band tootles. Off-shift jitneys and money-kids on bio-motor scooters dart around the musicians. The sky is already that flat, dusty steel blue of the most ferociously hot days; the sun a savage copper atom. Ashwin thanks whatever gods mind buried women for the air-conditioning of the cyber-mahals of Chandigarh. The line shuffles forward, toward the shade of the tent where Ashwin can make out the bobbing,

nodding head of the benefactor; adatarajah : grown sleekon the global market's hunger for cheap IT labor. His expiation: a pile of chapattis and a pot ofdaal . Ashwin reaches the folding deal table where the alms are bestowed. The old man bows to him in blessing, an assistant hands him a chapati. Ashwin cannot but notice the barrier gloves. He looks a moment at the bowed head of the rich man, the saffron markon the forehead, the simple white robes. Are you the one whose machines split my mind from my body and send it across the solar system?

A nudge moves him on.

“How long?” Ashwin asks the man at the end of the row of tables, whose job



seems to be to keep the beneficiaries moving. He nods to the richly patterned cloth draped over the pile.

“Looking like today,” the minder says.

By the time Ashwin reaches the station, he has finished the holy breakfast. With each step up, the sound from within increases until it seems as solid as the four-hundred-year-old Raj-brick walls. Hand-scrawled signs apologize again for the delay in final construction of the nano-carbon diamond train shed. Labor shortages. More money to be made, out there. The spars of the half-completed dome reach over the crumbling station like a hunting hawk’s claws, stooping. Beneath them, legions of shift workers clash on the platforms,

merge, flow through each, separate, neither the victor. Clocking on, clocking off. Families camped on the platforms make meals, wipe children, tend elders. Water sellers clack bronze water cups, newsplug hawkers hold up five fingers full of the days' headlines; wallahs lift baskets of guavas and mangoes; battered tin trays of samosas and nimki; paper-wrapped pokes of channa

. Buy eat buy eat. Ashwin half-hears an announcement, half-glimpses a platform change on a hovering roll-screen, then is almost carried off his feet as a thousand people move as one. Out there, a sleek little electric commuter train slides stealthily into its platform. He makes it as the doors close, dodges

the Sikh packer who would seize him by collar and seat of pants and wedge him between that oily man with the big mustache and that girl in the suddenly self-consciously short skirt. Ashwin swings into the gap between carriages: hands reach down, pull him up the ladder as the fast little train begins to accelerate.

The inside monthly ticket has gone up again. Roof-riders shuffle aside for Ashwin as the train pulls out of the cracked dome of Kharar station. He grips tight as the carriage lurches over points. If you slide down between the carriages, there is no hope. But it is cheap, and the air is fresher than the hot spew pushed around by the carriage

ventilators. From his high seat, it seems to Ashwin that even in one night the slumchawls have divided and grown denser again, like bacteria doubling, in a sample dish. They seem to shoulder closer to the line. Chawl life as a series of snapshots. Flash : a dirty little urchin girl, wide-eyed at the wonderful train, one hand in her mouth, the other held up in salutation. Hello hello hello... Flash: three men in dhotis drag the corpse of a pickup on frayed nylon ropes, like an ox hauled to the slaughter. Flash : two barefoot women push a water-barrow, leaning hard into the shafts to shift the heavy leaking plastic barrel. Flash : a leathery old man angles a solar umbrella into the best light to power his sewing

machine. Flash : A skeletal yellow cow stares dully at the level crossing, unfazed by the train hurtling past its nose. Don't test your sacred status this morning. Panjab Rapid Transit respects you not. Ashwin thinks of his own tenaciously held few rooms, the roof garden where his mother tends a small urban farm, the balcony; his father's pride, the mark of a man, a place where he may entertain his friends, read the paper of a morning, watch the satellite sports of an evening. But a proper house; no slum, no cardboard shanty, no. So proud they are. He thinks of the world he will build that day, the homes and towns they will design beneath the glass sky. Cities. Hundreds of cities; cities built

for people, with districts where everyone knows your name and open spaces where you can meet and talk and markets where you can buy goods from two worlds and then a cup of coffee in a bar where you may watch sports. Cities big enough to be thrilling, small enough to be intimate. Andchawls ? Ashwin looks at the sprawling degradation with a new eye. Yes, chawls!Of course chawls! Where there are people, there will always be the cities we build for ourselves, out of our deepest needs, not given by those who tell us how we should live. Human cities. He imagines the people of Old Kharar and Basi and Kurali flocking from their hovels, along the sewage-seeping lanes to the roads, to

the rail, south, ever south, to the girdle of space elevators ringing the world's waist. He sees them flowing up those spun-diamond towers, sailing across space in colossal arks, whole families together. He imagines them coming down the hundred thousand pier-towers, spreading out under his glass roof across the virgin grasslands, taking the things they find and building from them their homes. A sudden slam of sound and air and movement jars him out of his dreams. Ashwin slides on his tender perch, grabs, finds human bodies. Hands seize him, steady him. The 07:00 Jullundur express hurtles past on the main line, a blurred streak of steel and windows and speed. Ashwin laughs.

And trains. Of course trains. The only practical transport. No plane can operate in the cold, primeval atmosphere beyond the roof, and none but a fool or a sparrow would fly inside a glass house. Trains, then. Already, he has heard, engineers are designing fusion-powered juggernauts the size of city blocks riding tracks wide as a house. Grand journeys they shall go on; not gritty little commuter runs, but voyages across whole continents. Those who ride up on the roofs of these titans will see entire landscapes unfolding before their eyes, new vistas, geographies; new worlds that have never felt the foot of man. When the fast train slams past, Ashwin always looks forward for the first glints



from the towers of Chandigarh through the smog haze. Ghost cities in the mist. The Cybermahals of the Indian Tiger. Curving scimitars of construction crystal, minarets of spun titanium and glass, curtain walls of solar tiling, battlements half a kilometer above thechawl sprawl of the Panjab. Ashwin seeks particularly the golden glint of the huge solar disk that fronts the Ambedkar tower, the vanity ofcorporada architecture but also the device that will spin his mind, his perceptions, his abilities, across the solar system to that new world. Ashwin thinks again of the holy woman by the station, buried in dirt. Can you promise them anything like this? Or is it all internal, all for the next

world? There is the next world, hanging up there. All you have to do is look. A promise, a lure. A world of your own. Your Mars. For how many years had the disciple lifted his own arm, uncomplainingly, unnoticed, to bear aloft his master's?

Then cutting walls seal off the vision as the overburdened little commuter train dives into the approach tunnel to Chandigarh station.

The others were asleep now, and the house was quiet and dark. A time for men. A time for father and son. They sat by the fire in the drawing room. Burning wood gave the only light. Paavo had brought a bottle of good vodka: Polish, none of that Russian dung. The dog lay at

his feet, but it did not lie easily. Every creak, every click of the geriatric heating, every pop of the fire roused it: enemy/interest/ attention. Lie at peace like a proper dog, Antti thought. Proper dogs trust their masters.

The long, bad winter drive had drained Paavo; it did not take much vodka, Polish or not, to bring him to the point where he could speak the truth. He lifted his glass, turned it to catch the light from the fire, send its rays into his eyes, his soul of souls.

“I thought twice about bringing Yuri with us this time.”

A brief knurl of cold in Antti's chest. Cold of winter, cold of space. Cold of an old man alone in a wooden house by

the sea.

“Why would you do that?”

Paavo shifted uncomfortably in his chair. The bloody dog started.

“He has exams.”

“I thought he was doing well at school.”

“Heis. Heis. Just...”

“Not at the right subjects.”

“His science grades have been dropping.”

Antti eyed the bottle, thought the Polish vodka made what he had to say next slip out so much more easily.

“So, why should he not come to see me for New Year? I’m a scientist. Scientist first class. I’ve got the medal, from Comrade Kosygin himself. I could

help him with his grades.” He waved down any interruption Paavo might make. “I know, I know. It’s the wrong kind of science. Space travel. Stars, galaxies, planets. Missions to Mars. Old science. Wrong science. Not the kind you can make money from. Not technology. Not computers.” The dog was edgy now, sensing an arousal beyond its primeval levels of reaction and response. Its velvet mongrel ears lifted. “All that time and research and effort and money to send men to Mars, and how many people get to go? Four men. All that money and time and effort. And the stars? Impossible! The universe is too big for us. Let’s explore inner space instead. Cyberspace. Everyone

can go there. All you need is a computer. And look at the wonders you find there! All those wonderful things you can buy, if you have the money. All those beautiful women who want you to look at them having sex with donkeys or drinking each other's piss. If you have the money. All the famous people; you can find out about their lives and their clothes and what they eat and how they make love, but you can never ever be like them. Reach the stars? Impossible.”

He snatched up the bottle. Surprised, the dog gave a little grizzle. And you, the old man thought at it.

“Are you finished?” Paavo asked.

“No, not nearly; I've hardly even begun.”

“Well, when you’re done, give me a shot of that and I’ll show you something.”

Antti handed the bottle through the firelight. Paavo poured, and the two men drank in silence, one too proud to admit his hurt, the other to apologize. When you were Yuri’s age, on such a night as this we went out through those French windows into the gardens and named the winter constellations together, Antti thought. I saw you look up. I saw their light in your eyes. I have always respected your work, even if I haven’t always comprehended it, and if I am scornful, if I am critical and bitter, it is because, like my ATOM project, there, too, a great promise has been betrayed.

Buy things. Look at things. The constellations in this cyberspace have no shine, no wonder. They are shaped like Coke logos and Nike swooshes. There is no sparkle in them to catch in your eye. They don't call you outward from home. Now Paavo was taking a flat case from his bag beside his chair. He set it on his lap, unfolded it. Blue screen light illuminated his face.

“This is the thing you wanted to show me?” Antti asked. “Another laptop.”

“No,” Paavo said carefully. “Not another laptop. You were saying about the universe being too big for us? No, it's not. I've got it right in here.” He tapped the translucent blue polycarbonate casing. “I've got them all



in here. Infinite universes, in one small box.”

“You got it to work, then.”

The son nodded.

“If Einstein couldn’t get his head around quantum theory, I don’t imagine that I ever will,” Antti said, realizing as the words left him how mealy they sounded. “This quantum computing: calculations being made simultaneously in thousands of parallel universes, each as real as this room, as us, that dog....”

Other rooms, like reflections of reflections. Mirror in mirror. Other worlds. One where the crew of Novy Mir were not pulled from the capsule at T-minus-seven because the booster, the ATOM mission, the entire Mars project

had been so rotten with corruption and creaming-off that safety standards had been squandered.

The moment you went for throttle-up, the fuel lines would have ruptured, Launch Controller Barsamian had said as the army transporter sped away from the launch site, the summer dust pluming up behind it. The call came through from Kirilenko. The whole thing is rotten. Rotten to the heart. It always was. A quick, cheap fix .

He had glanced back through the window at the great white tower on the scorched steppe and thought, Was there a chance it could have flown, or had it been quick and cheap and botched from the start? All a feint in the game with the

Americans?

In another world, the word did not come from Kirilenko in time. They went for throttle-up. It blew.

In another universe, they went for throttle-up. It flew. It flew right off this world, on to another. They came burning down in an arc of fire clear across Amazonis Planitia and the calderas of Elysium. Ten kilometers above Isidia Planitia the descent stage fired. They came down in fire and steam in the crater shadow of Nili Patera. The hammer and sickle of the Union of Soviet Socialist Republics was stabbed into the regolith and unfurled in the winds of Syrtis Major.

Somewhere in that thin plastic case,

that possibility existed.

“Can I see it?”

Paavo gave a shrug of assent. Antti lifted the plastic shell as if what it held were terribly terribly fragile. It was lighter than he had imagined.

“All these...”

Paavo smiled. Antti turned the screen toward him, angled it to make sense and shape out of the plasma film screen. A brief frown of disappointment: the display was a standard operating system interface. But its pristine touch pads, white as milk teeth, called his fingers to type. Test us if we speak the truth .

“I feel I should ask it something.”

“It’s not an oracle. It’s just a computer.”

“All the same...”

“It’s still garbage in, garbage out in every universe.” The coals collapsed, sending up a spear of flame, and the dog started, and they were two men together with the mad cold outside the window. “If it were an oracle, if it could send one question out into all universes and all times, what would you ask?”

Paavo saw his father smile, then think, then the light from the surge of fire fade from his face. Slowly, deliberately, with winter-stiff fingers, not wanting to get one holy word wrong, Antti began to type.

The locker rooms are all numbered and work in strict rotation. Fifteen hundred workers off-shifting as the next

battalion shift on would clash like Vedic armies in the corridors and changing rooms, so they are channeled into separate sectors. Ashwin always imagines he can feel the drub of feet through the carbon steel skeleton of the tower. Likewise, though he never met his shift predecessor, Ashwin knows the heat and particular perfume of his body (irrefutably ahis ) from the imprint on the live-leather transfer seat. Men here, women there. Shirt on this peg. Shoes on that shelf. Pants here. Always folded, neatly folded. A gentleman looks after his clothes. A nod, a word to the number up and the number down and the number across as he changes into the simple white coverall. Sometimes, in the

transfer, the body forgets itself; a soiling, a leaking, at least, a drooling. As ever, the papery thing catches at the crotch. Ready. Fifteen hundred locker doors clatter shut, ranked and filed. People moving; always moving, along streets, down platform, onto trains, into rooms, down plastic clad corridors, moving together, a herd of bodies under the utilitarian strip light. He nods to his fellow on-shifters. He does not confuse them with workmates anymore. Once you get in that chair, they can send you anywhere. The thin Sikh man next him could work an entire quartersphere away. His own closest workmate is a black man from Senegal. Ashwin carries, he bolts. But the room catches

him, every time. He flies heavy-lift rosettes through the staggering canyon lands of Valles Marineris, but a thousand black-chairs, row upon row, all facing in the same direction, is awe-full. As ever, the air hums to barely audible mantras to relax the on-workers and set the brain-wave patterns ready for the transfer. The scent is mood blue. Ashwin has come to hate that stink up his nose. He finds his seat, twenty along by thirty-five deep. Still warm. He knows its every creak as he lowers himself onto the skin. A nod to the Sikh, mumbling a prayer to himself. Ashwin lies back, stretches. The sensory array arms unfold over his face like a mantis over her husband.



A start, something, down at the foot of the room. A noise raised over the mantra-wash; wailing, animal noise. Ashwin props himself up, the machine arms with their eyecups and earplugs and skull taps scurry away. Thrashing: something is spasming its couch. Attendants come running through the rows of transfer couches, screening the sight with their bodies, but the fear has rippled out to every corner of the huge room. The technology is safe, they said. Tested, tried, true, safe. You need have no fear. We are paying for your soul, but nothing will go wrong . But things go wrong. Things have always gone wrong. The ones who settled under the skull-tap probes and went into

seizures. The ones who built up an allergic response to the nanoprocessors. The ones who, like this one, come out in pieces, broken in the head. The ones, they rumor, who never come out at all. Who gosomewhere else .

Ashwin watches the electric gurney weave its load back between the couches. Nothing to see here, nothing's happened, everything will be fine, go about your work, you have great work to do today, great work. And Ashwin feels part of him saying, yes, yes to the blandishments of the company medics and he knows that part is the pretransfer drugs suffusing up through the skin of the seat, through his own skin, into his blood. Let go. All is illusion: mind,

body...illusion. Free your mind. Let us park your body. Go. Commute. Soft bioplastic fingers unfold over Ashwin. Eyecups press over his sockets: A moment's panic as the plugs seek out the contours of his inner ears and fill them. The breathing tubes worm down his nostrils, into his lungs. The drip-feed needles and blood scrubbers are busy at his wrists. Last of all, the taps caress his skull as the nanoprocessors swarm through the cranium into his selfhood and wrench it away from him.

But another Ashwin, one the drugs and tiny skull machines cannot touch, shouts through the drugs and the seethe of nanomachines, the sweat-reek of the workroom, the corporada mantra-blur.

What kind of world? What kind of Mars, you asked yourself, up on the roof, riding with the poor men like the poor man you are? That kind of Mars, where poor men are taken away quietly on a cart, where there is no fuss, no mess, nothing to spoil the corporata image. You think your people will ever ride on the roof of those great fusion-power expresses? There will never be enough cars on the space-elevator, there will never be enough berths in the transplanetary ships, enough lovely, habitable cities for all the poor of Chandigarh and the Punjab and all of Bharat, let alone the children they squeeze into being every second of every day. Rich men build a rich world. You go to construct a golf course in the

sky. A country club for the datarajahs .

Then that Ashwin is snuffed out, and there is the black of light-speed for a time the mind cannot clock. And after that instant: light, mass, sensation, existence. A world. His world. Ashwin Mehta has arrived on Mars.

The old man came down the stairs sniffing. No salty tang of mongrel urine in the porch. He threw back the heavy night curtains. The outer windows were leafy with frost. No taint in the hall. In the study the splendid erection of ATOM 12 was undefiled; a natural challenge to a dog. Why did he always forget to close the door when that thing came to call? Nothing and no one to close them on, most of the time. The living room

smelled of vodka and gentle sweat, but no taint of piss. The fire had burned down to gray charcoals. New morning now. Antti wrenched open the curtains, admitting watery, destroying light into every part of the room. He waved clear a circle in the frosted mist inside the window. Real mist beyond, moving slowly across the frozen bay. The sun was high and wan, seeming to dash and veer through the upper streamers of the fog. If it were a morning hoar, it would boil off, but the speed with which the trees on Kuresaari Island were fading hinted at an inversion layer forming out at the limit of the pack ice. They could lie out there for days. Weeks, in a stable winter anticyclone. Breath steaming,

Antti watched the ice crystals reform and close as cold coils of fog hastened across the ice to swaddle the wooden house.

In the unsympathetic morning light, the oracle-machine was just a wafer of translucent aquamarine plastic. No more wisdom than a credit card. Wincing at the foolishness of old men and firelight and vodka, Antti slipped open the lid. Still there from the night before. He had forgotten to shut the program down. So clever, and yet too stupid to think of doing it itself. WHAT WILL HAPPEN TO MY DREAM OF MARS?

Dining room unsullied. Dining table polished and perfect. Table linen pure and unpolluted. Kitchen. And there it

was, one paw in a shallow lagoon of cold, orange piss, proudly wagging its tail.

“Hiii! Hutt! Hutt! Hutt! Out with you, pissing beast! Go on, out, out, away with you.”

The thing had a terrible temper, but the wrath of old men is swift and fearless. The vile thing was bundled out the back door before it could open its jaw. It stood there, grubby white on the white, stunned by the suddenness of the cold. Antti bent to the undersink cupboard to fetch cleaner and cloths and disinfectant before young feet in search of cereals came skidding through the amber slick. It was crying now, a kind of sobbing keen that made Antti despise it



all the more. Learn Darwin , he thought as he went down on his knees to the crusted piss.

Only when he heard Yuri's voice from outside did Antti realize he had not heard the dog's yip for some minutes now. He ran to the door to scold Yuri about silly boys who went rushing out into the cold not properly dressed. He listened. Yuri's voice was getting farther away. He was out on the ice.

“Bloody cur!” Antti cursed. He dashed down the back path as fast as his years and the winter would let him.

“Yuri!”

The boy was farther even than he had feared, calling into the white fog that came weaving thicker every moment

through the trees across the inlet.

“Yuri!”

Come back, oh, come back now, don't let this be the moment when you decide that everything old men say is stupid and you can safely disregard them.

“Yuri!”

The boy stopped, on the edge of melting into the white and white.

“Come back, come on back. It's not safe; you can't see a foot in front of you in this fog, and the ice can still be rotten.”

“But my dog...”

“Come back to the house.” He saw the boy look back to the dimensionless white of the closing fog and knew what he must offer to buy his safety. “I'll go

look for him. You go on back. It'll be all right.”

Hunting through the drawer of the study desk, Antti looked at his private space fleet and shivered. Venture into the unknown. The alien on your doorstep

. He found his mission training compass. It saw me through Kamchatka, it won't let me down within sight of my own back door . Outside, the cold was paralyzing. Antti took a bearing on the house and went down to the edge of the ice. Pebbles grated beneath his booted feet. And he was there . The door opening, everyone waiting for that first crack of light, that pale slit widening into a wedge, a rectangle of illumination, beyond which lay a new world.

Cranking down the ladder, everyone getting into proper order in the lock as narrow as a birth canal; bulking in their excursion suits, rehearsing their lines. Rozdevshensky first, then him, last Nitin. The top of Rozdevshensky's helmet vanishing over the platform. Rozdevshensky down, a breath—more a sigh—on the helmet intercoms. Then him, lumbering out backward, clumsy as a spring-woken bear. Looking at the strangely lit metal, until the crunch of stones under his booted feet. You're down. Now, you can turn and look. How it would have been. Should have been . Antti Selkokari stepped out onto the frozen world. Within twenty paces, the house was a ghost. Another ten, and it

was gone. Antti was embedded in white from the surface of his skin to infinity. He looked around, suddenly cold and fearful in the knowledge that he had let his need to be admired by his grandson push him into folly. Pale fronds of trees swam momentarily through the nothing. He checked the compass. It pointed true. It pointed home. He struck out into the mist.

“Hiii! Hey! Here, boy!” he called. “Come on, where are you, you stupid mutt?”

No sign, no sound. He half-hoped that it was drowned already. It would wash up with the thaw, recognizable only by its blue plastic webbing collar. Thing-that-was-a-dog. Let it go. Your kitchen is

warm, there is coffee, and you are no Mars explorer. Anything lost in this is dead. But Yuri, he told himself. How can I tell him this and retain any honor?

Another reading on the compass, another tentative shuffle forward into the featureless white. Every footfall a test. Will it bear me. Is it rotten to its blue heart?

On Mars, there are craters silted so full of dust they cannot be seen on the surface. They wait, drowning traps of red, like buried ant-lions. Lost in remembrance, Antti realized with a shock of cold that he had been walking without thought. He flipped open the compass. The needle was spinning, swinging wildly from point to point,

hunting for home and unable to find it. Antti Selkokari tapped the compass.

Still the needle swung.

He closed the compass, opened it again, hit it with the heel of his hand, held it upside down, shook it, shook it like he would a dog that had pissed on his dining table, pressed it up to his ear as if it might tell him the reason for its betrayal. Still, it lied. It would not tell the way home. Antti was lost. The ice held no footprints, no track back.

“Hello!” Antti shouted. “Hello! Can you hear me!”

The ice fog took his words, smeared them, returned them as whispering echoes. Echoes. Nothing in this dimensionlessness should echo.

“Hello!”

Hello      hello      hello      hellooo  
hellllloooooosaid the echoes, in voices not  
his, that did not die away, but whispered  
on, into a mumble of conversations half  
heard, from another room, another  
universe.

Hello?

Against sense, Antti spun toward the  
voice so clear behind him. Is anyone  
there? Who is that?

The voice was at once out there in the  
white and inside his head, speaking in  
his own Estonian and another language  
he did not recognize.

“Who is this?” Antti asked, and heard  
his own voice speak in two places, two  
languages, two worlds. He frowned, a



thickening of the fog, a curdling of the white, a solidity, a shape. A shadow, moving toward him across the ice plain. The white swirled, and a man walked out of it.

White on gold. A line, a crack. Peer into it: a sliver of eye, a line of cheek, the corner of a lip. A face under the gold. Pull out: the crack is a hairbreadth in a curve of gold: another step's remove, and the golden arc is the laminated visor of a pressure-suit helmet. Reflected in the visor, a landscape curved like an image in a state fair hall of mirrors. Where visor seals to helmet, the golden landscape curves away to nothing. There are hills mirrored here on either side; they slide

off into nothingness, the mere suggestion of altitude. Optical lies: in truth, they are vast rim-walls, kilometers high. This same distortion gives undue prominence to the objects at the center of the field of vision. Immediate foreground: an insectlike vehicle, spiky with antennae, huge balloon wheels at the end of each of the six sprung legs. Behind it, a squat brick structure, incongruously like a Hopi pueblo, down to the satellite dish on the flat roof. Its location only adds to the likeness: a wide, dry plain of wind-eroded stones. Beyond, and dwarfing the little adobe home, a hovering saucer, keeping its station a handful of meters above the ground with twitches of its nacelle-mounted fans. The distortion of

the reflection thrusts the logo on the aircraft's nose into focus: ROTECH. It has colleagues, they hold tight formation across the valley floor as far as the visor reflections allow seeing. And beyond the flotilla of airships, and dwarfing them as they dwarf the house, the house the vehicle, the vehicle the man, the man the scratch etched by some accident in his helmet visor, the pillar. It is surely stupendous. It is buttressed like the roots of a rain-forest tree: tiny flakes of dirt cling to them. There are other pueblos, hanging from the lower slopes, insignificant as grains of salt. An airship drifts across the sheer face of the tower. It is tiny and bright as a fivepice coin. Follow the huge structure up until it

curves away off the edge of the visor. Look beyond: like the airships, this pillar is one of a mass. The floor of this vast canyon is forested with thousands of pillars, three kilometers high.

Pull out again, in a long, astronomical-scale zoom. The pressure-suited figure is just one of many, human and machine. The machines outnumber the humans in number and variety. The valley floor is a hive of machine species. There are high-stepping manufacturing robots, pausing to stab proboscises into the surface and release swarms of nanoassemblers. There are surveying machines, exchanging heliographs of laser light. There are great orange worm machines, burrowing

deep in the regolith, chewing dead red rock into pumice. There are planters and fermentories—great, slow, sessile things—gulping in carbon dioxide atmosphere by the ton and reacting it with water and wan sunlight into organic matter. Living stuff. The stuff of worlds. There are the fleets of heavy-lift LTAs—the man in the suit is marshaling them on some precision maneuver—and smaller, nimbler sky-craft, zipping between the big slow dirigibles on their priority missions. There are track layers and road builders and brick makers and patient little spider machines that mortar them into the neat adobes for the humans. There are machines that build machines and machines that service machines and

machines that program machines and machines that repair machines and everywhere is the green circle logo and sigil of ROTECH. Remote Orbital Terraform and Environmental Control Headquarters. Swarming machine life calls green out of the red; tentative, fragile plantations of gene-tweak grasses and mosses. Beneath human perceptions, the cleverest, the most important machines, the nanoassemblers, fuse red sand into silicon pillar. On the scale of planets, other hives of machines extend primeval run-water channels into canals to carry water from the thawing north pole to the terraformed lands of Grand Valley. A flash of light: eighty kilometers up in low, fast orbit, a vana,

a spinning mirror of silver polymer, frail as a hope, rolls its focus on to its true target; the northern polar cap. The scale of the work in this four-thousand kilometer rift valley only becomes apparent at this kind of altitude. To the northwest the forest of towers rise above our ascending point of view. Their tops open out into branches, those branches into twigs, bare, waiting. To the east the towers are still growing, one kilometer, two kilometers. Farther east still, trillions of assemblers swarming in the subsoil are pushing the great root-buttresses out of chaotic mesa-lands of Eos and Capri. The wave of construction passes down the chasm like a slow, silicon spring. Another glitter of light,

not from an orbital mirror this time, but sun catching the edge of the world roof, five kilometers above the wind-shaved hills of Coprates. Above it now, climbing fast. The world roof flows from the east like a river of glass that falls into red emptiness. How to terraform Mars. Easy. Stick a roof over Valles Marineris. Real greenhouse effect. By the time it is complete, it will be visible from Earth, a bright white mote in the eye of the ancient red war god. Higher now, past the littler, lower moon. Keeping precise pace with it on the other side of the planet is the SkyWheel, the spinning ground-to-orbit space-cable. All the humans, all the machines that build the bases and plants



and the machines, were spun down this cable. But the real work of terraforming, the RO in the ROTECH, is done from orbit. Up beyond the vanas and the supercores, weaving a magnetic cocoon around this tectonically dead, defenseless world, are the orbital habitats and factories and mass drivers of the planetary engineers and terraformers. By the time humans can walk unclad under the Grand Valley roof, they will form a ring around the planet, a band of satellites. The night will glitter with them. All in a construction worker's visor; reflected. Ashwin Mehta edges the heavy-lift flotilla in over the construction site. His belly sensors and satellite uplinks to

ROTECH's moon ring redoubt could guide him in with laser precision but human atavism endures. The gloved hands wave him down, and he follows. Spinners skitter clear. The winds that howl the full length of the rift valley have buried the load with sand: Ashwin's trim-fans sweep it clear as he maneuvers with millimeter precision. He feels the lift cables go out of him: it is a physical, pleasurable sensation but not one for which his flesh body has an analogue.

Despite Bharat trumpeting the largest IT skill pool on the planet, Ashwin knows that he and every other body on its live-skin couch only got there because of strong body mapping. It still

took him many shifts to feel his way into a new, weightless body to which modules could be added or swapped. His hands and arms are obviously the wiry little manipulators—though no human arm ever experienced the sensation of detaching itself and swinging, hand-over-hand to a new attachment point elsewhere on the body. His legs he regards as the fan-pods, his lungs the lift bags and the curved silver shell his body, the center of his being. The slave units, hooked up according to work schedule, were more difficult, but he has learned a way; he expands his sense of self to incorporate them. I am vast, I contain multitudes . It still takes some minutes after the computers flick

him home at light-speed to snap out of three-hundred-sixty-degree vision. The rabbit-eye sight of his hundreds of optical sensors has taught Ashwin truths about how body shapes consciousness. The universe of meat is divided rigidly into front and back, visible and invisible. Objects are sought out, selected, made part of the view. Morphology begets psychology. Ashwin, like a divinity, sees everywhere at once. There is no forward or backward, up or down, just movement toward a destination or away from it.

It is this aspect of his job that he finds hardest to tell others. His parents nod and say how good it is that he has employment and good steady money but

they do not comprehend what he is doing up there, let alone how he feels doing it. They are one generation away from believing that gods live in the sky. He does not want to tell them that, in a sense, they do. The girls are a little more sophisticated; they know about other planets and terraforming. Mars! How exciting! How romantic! Is it really really dangerous? Do you face sandstorms and explosions and volcanoes? Telling them that Mars is a quiet, placid sort of place, where what action there ever was happened billions of years ago, is not what they want to hear but they have passed on anyway, for these women also know what kind of work the corporadas hire for, and how

little it pays. He feels locked. The cable grippers bind molecule to molecule with the lift points. Ready , Ashwin says. Coprates control whispers clearance in his inner ear: the site foreman waves her hand. Take her up. Fans swivel to full lift. Winches wind in the strain. Flicker-lasers torch up: these loads require every gram of lift. Ashwin feels motor/muscles tense, strut-bones strain. He mentally grits his teeth. You are a weight lifter, going for the clean lift . The rosette of twelve linked LTAs pulls the five-hundred-meter diameter glass hexagon clear from the sand. Ashwin lifts straight for a hundred meters, then tilts the whole array from side to side to clear it of lingering dust and dead glass-

weavers. Gently, gently. The glass is engineered to tolerances far beyond terrestrial norms, and the gravity slight, but one crack, three kilometers up.... Tiny crystalshells cascade from the edges of the roof pane like iridescent snow. The great glass light heliographs in the sun. The forewoman raises an arm in salute as Ashwin gains cruising altitude. It is a sight he never tires of, this resurrection of glass from the earth. Two kilometers up, bearing  $5.3 \pi$  rad, Pier 112, 328. Pane 662, 259. Telephone number engineering.

Beneath him graders are leveling billion-year-old outwash hills for new glass fields. Ahead, the buried panes are stains in the sand, a mesh of linked

hexagons. Tiny machines, working, working. Ashwin reflects a moment on the incomplete dome of Kharar railway station, then a proximity alert gently chides him: Heavy Lift Array 2238 is on approach to pick up. Day and night the LTAs carry and set, busy and sterile as drone bees. In the air lane now. The lifters move in strictly regulated traffic zones over cleared terrain. There has not been an accidental drop since Ashwin started on the job, but a five-hundred hexagon of fifty-centimeter glass falling from three kays is the stuff of health and safety legend. HLA 1956 comes up from the glass fields of Cander and slips in ahead of Ashwin: a colleague, though Ashwin has never seen his flesh face,



nor knows where his meat is based. He sends a greeting message over the com channels; truckers flashing their headlights. Closing on the target now. The front edge of the construction is visible as a line of white light. Ashwin has never seen the sea, but he always thinks of the edge of the world roof as a line of surf breaking on a beach, frozen, turned to slow-flowing glass, inching forward day by day, hour by hour. One kilometer out, construction control taps into Ashwin's neural matrix and dispatches him and his load into an approach pattern to Pier 112, 328. As he moves in high over the open fingers of the Main Left Branch, he sees another heavy-lift cluster retract cables and slide

away from the pier top. Spider-welders skitter across the glass on delicate sucker feet to bolt the plate to the struts. That is what Ashwin's friend from Senegal does: Ashwin can see his spider-welder hugging the pure white spar like a tick as he swivels the rig on its belly fans. They earn more than lifter pilots. They have more responsibility.

Lasers flicker from all around Ashwin's multiple body—another sensation for which his meat has no likeness—guiding him in onto the baffle plates. The alignment must be millimeter perfect. Ashwin tunes the ducted fans to compensate for an unseasonable breeze he can feel picking up across his sensory skin, descends steadily through the mesh

of laser light. Thirty meters. Twenty.

Looking good, Ash, says the bolter from Senegal on the innercom. Ten meters.

Looking good. A simple expression of solidarity, but it opens Ashwin's extended senses like a key. From skin to horizon in every direction he can look, his world rushes in on him. He sees it all fresh, entire, as one thing. The stupendous canyon, one end to the other, wall to wall. The thin pink sky, the wisps of high cirrus. The surface three kilometers beneath him; the constructions of man, the patterns they make on the soil as they fuse sand to glass. The machines: those above, those below, those between, that crawl upon

the pillars and roof of the world. The SkyWheel on its ponderous orbits, ROTECH's habitats wheeling overhead in a carousel of satellites. The men and minds that looked on this world, and set their will upon it. He sees it all, and it looks good to him. Very good indeed. He is so proud of all that he is part of, this Bharati boy one foot out of the chawl, who is become Creator of Worlds.

Five meters.

And in that instant, everything goes white....

Is this what it is to be dead? he thinks and thinking so, knows himself to be alive. An image: the holy woman, buried alive for righteousness' sake. Real?

Imaginary? Is the darkness of the

grave really a white so intense it cannot be regarded by the eye? Is there any difference between outside and inside in this featureless white? A freezing thought. This is the pure white light of cyberspace. There has been an error in the mindlink, a fault in the tap-head technology. The kind of thing that sends some people thrashing and fitting on their couches. You, it has sent into nowhere. No thing. A mind without a body. He cannot tell if he has flesh perception or machine sense: everything in every direction looks the same and therefore robs him of dimension. An uncle driven blind by cataracts once told him the horror of blindness. It is not not seeing. It is everything white.

A mind, with no senses, no connection to the outside world. He could be lying on his couch at the Ambedkarcorporada , in a hospital, at home. A mind with only its own thoughts for company. A thought to make the heart kick coldly in the chest. At least, he can still feel. And if he can feel...

“Hello?” Ashwin ventures. He can hear himself. His own voice, inside, and outside. “Hello? Can anyone hear me?”

Does he hear an echo, or is it the resonance of his own skull? If he does, is it in another voice, another accent?

“Hello?”

Hello.

And the white: is it moving, are there shapes within it, like figures in a fog?

Ashwin is sure now; the fog boils like milk and he can sense up and down, forward, back. Dimensions. Gravity. Slowly he becomes aware that he has a body, his own body, his home flesh. There is a surface under his feet, and there is a human shape walking toward him through the white fog. A white man in a white fog, an old man, dressed for cold, with a compass in his hand. He steps into clear focus and frowns at Ashwin.

“Who the hell are you?” he says.

A milky blue box on a living-room table. A photonic array tumbling over Terra Tyrrhena. Calculations made in billions of parallel universes. Each computer contains the other, and

millions more besides. The machines that are building Mars have more than just the viewpoint of gods. They have something of the power. Quantum computing, quantum engineering. If calculations can be made in multiple universes, one of which supplies the perfect solution, how much simpler to cut out the application of that answer and cut straight to the result? It's mere extension of theory into practice to take those solutions out of the abstract into the real world. Model a thousand, a million, a billion quantum Mars; a slew of possibilities from Barsoom at one end of the probability spread to tripod fighting machines and delicate crystal cities at the other. Humped along the



bell-shaped curve in the middle, the likelier, possible Marses. Simple school algebra will give you the best likely solution. Output, and let that be your reality. Terraforming by quantum leap. Nudges along the path to inhabitability. More than terraforming. Whole-universe-forming. The quantum machines, the AIs that have, in the private mindspaces where humans cannot go, given themselves the names and natures of angels, have always understood that reality is a construct of language. They know what the shamans knew; that words, whether in primal chant or machine code, have power over the physical universe. And somewhere in that polyverse, lies that answer that

makes the theory real, and, by the gods whose power they have usurped, the machines are going to have a go at it. But what kind of Mars? Whose dreams will frame it? An old cosmonaut, left on the pad like a jilted bride, who casually asked a foolish prophetic question of a plastic box. A young construction worker, who is shown the glory every day and every night has it taken away from him, whose mind is sent spinning across space by quantum computers. These, certainly, and others besides, millions of others, brought to this place that is white with the light of millions of universes, to speak their dreams and tell their stories.

“Well, I could as well argue you’re

my illusion,” Antti Selkokari said to the young Indian man standing before him barefoot in an incongruous paper coverall. “After all, I can understand you and you can understand me, And where does that happen except in dreams? And you’re hardly dressed for the cold. You’d be dead after ten minutes in that, where I come from.”

“And what about you?” Ashwin Mehta argued. “An old man with a compass? Very allegorical.”

“All right, then,” Antti said. “We’ll agree that each is a figment of the other’s imagination. So, then, who imagined all these?”

Figures were advancing through the white fog on all sides. Men, women,

children, all ages and races and stations, walking patiently, silently. Between them, Antti and Ashwin saw other figures emerging from indeterminacy. Beyond them, yet others. The two lost men stood at the center of a great congregation of people.

“Who are you?” Antti demanded, more bold than Ashwin in the face of a faceless mass. “Where is this place? What do you want?”

A woman stepped forward. She was small, dressed in a simple shift frock, barefoot, her hair badly cut, urchin crop. She had soft black eyes and when she spoke, both men heard her in their own tongues, with an American accent. She said, “In answer to your questions: first;

my folk don't really do names—we're AIs—but if you want to call me something, call me Catherine. It's as good as any. Second: that entirely depends on you, all, but at the moment it might help to think of yourselves as individuals accidentally caught up in an experimental superimposed quantum state. Or a convocation, if that helps. Third: your stories. Your visions. Your hopes. Your Marses.”

Silence across the white plain. The shabby little woman turned to the great mass of people.

“Hey! It's your world. You all have a say in it. Say nothing, and that bit goes unsaid. Your works build it, your stories tell it. Listen: quantum reality is

information, pure and simple. Language defines what's real: it's the same for AIs as it is for humans. Deep down, everything is a story. We're all tales. Tell me. Tell me your stories. We've got a world to build, and build it right.”

Against reason, Antti found words bubbling up in his throat. They were not demands for explanations that made sense, to be shown the way home. They were heart words, old memories and passions surging up like water from a deep aquifer struck by a well. It was a story of Mars, and the story of his own life.

He told of the night with the crisp of autumn first on the air when his father lit a bonfire on the beach and his children,

following the sparks up into the night sky, had seen one that did not fly and fade. “That is no spark,” he remembered his father saying. “That is another world. Its name is Mars.”

Another world! As complete and self-contained and full as this. A childhood of frequent illnesses was self-educated with old People’s Encyclopedias . Short on the rest of the world, but long on the wonders of astronomy. Sitting up late, late to listen to the beep on the radio that was Sputnik calling Earth. Again, that hot summer day when his father came running from the house to call him in from football to see the pictures of the capitalists walking on the Moon.

“That was when I decided I wanted to

be a cosmonaut,” Antti said. “The Americans had put their flag on the Moon, but Mars, Red Mars; that was always ours.”

As he spoke, he became aware of the young man Ashwin’s voice, telling his own story: a strange and mighty one, of a world very alien to his own, and all the other voices on this featureless white plain, telling their tales and dreams of that little red light in the night.

Antti told them of the Air Force, when it had been a thing of pride and honor, and the passion and energy of young men who drive themselves toward a single ambition. The trials, the tests, the skills, the physical rigors and disciplines, the sacramental hours alone in the training



jet, up on the lonely edge of the world, only the stars above him. The tensor mathematics would have finished him had he not found the humility to go home to his father, a schoolteacher, and ask his help.

“And cosmonaut training!”

It was only after that Kazakhstan morning, when ATOM 12 died, that Antti Selkokari realized his entire life and energy had been focused on that red dot in the sky, like a laser sight. As he told of the hours in the centrifuge, the constant medical testing—his childhood sickness a permanent dread—the team-building exercises, the Kamchatka survival course, the hours in the underwater tank, the hours and hours in

the mock-ups and simulators, doing it over and over and over and over until they could do it blindfolded; the hours and hours and hours at the desks in front of the blackboards, working it out again and again and again. The crew interviews; how he thought his heart would stop when the letter came with the crest of the space agency, yet his fingers had no hesitation ripping it open. He still could not remember what it said beyond the key words. Glad. Successful. Mars. Novy Mir. Report. He told about Milena. How overjoyed she had been, how proud! A cosmonaut's wife! They celebrated with Cuban cigars and good vodka. A party member's daughter could get the good stuff. She came at him fast

and hot that night: there was a child to be conceived. A keep-safe, in case. Space was big. Radiation hard. Mars far and cold. Unflinching how it had all fallen apart, afterward. The failure had not been his, but it is a sin women do not forgive. That morning, always coming back to that morning. The cold; clear Kazakhstan light; the jokes in the back of the truck that died one by one as they drew nearer to the great white rocket. The frosting he had noticed on the rippled white skin as they rode up the elevator, helmets under their arms. The cameraman crouching beside the gantry, their nonchalant waves. Hi, we're going to Mars! Vorontsev, Nitin, Rozdevshensky, Selkokari. The startled

birds flapping across the steppe. The hatch dogging, screwing the umbilical into the LSU. The startled grunt on the intercom as Mission Commander Rozdevshensky was told something they could not hear and he could not quite believe. The dogs turning. The ray of golden morning light. Barsamian's hand reaching in: come now, quick now, get unfastened there and come with me. The ride down in the elevator. The ride no one had ever thought to take. The van bouncing over the rutted dirt road to the control bunker, and the word from Kirilenko that the thing was poisoned, had always been poisoned, was nothing but a tool in Politburo maneuvers.

From his trip to Mars, Antti Selkokari

brought back a Kazakh rug and a fabric badge with the names of the crew of Novy Mir . He brought them home to the wooden house by the Baltic that had been his father's and, since his death, was now his, his alone. A party official invited himself for tea to tell Cosmonaut Selkokari Mars was dead, no one was going now or ever, never to mention Mars; forget Mars, but even then their authority was on the wane and Antti had nodded and signed the forms and consents and that night gone out on the pale sand beach to look up at that red dot in the sky. First loves are enduring loves.

As he spoke, Antti became aware that the other voices telling their tales of

their Marses were fading; the figures, though still pressed close as far as he could see into the white, were becoming less distinct. They became whispers, shadows, until all that remained with any clarity was the Indian youth, confessing his hopes and dreams for the world he was building, a world for all the dispossessed; with trains! Trains! Antti smiled. The construction worker smiled back and, like the cat in that English children's story he never liked, faded too, the white of the smile lingering. Back to his future, his universe, his incomplete solution to Mars. Now Antti was alone with the ragged little woman, the saint, the angel, the artificial intelligence.

“Will this do?” he asked. “It’s all I have.”

“This will do very well,” she said, turned, and was gone, too. Antti was alone in the featureless white, and, as if held in abeyance, the cold rushed in.

Time, he knew, had restarted somewhere. And space. Space! The compass. He flipped it open. The needle quivered, then settled firmly on north. Antti tapped it. No lie. As if in confirmation, he heard a dog barking, muffled, but closing with every yap. It came bowling out of the white, breath steaming, curling up in itself, wagging its tail furiously in its delight to have found him. It made to jump up, Antti stepped back.

“Enough of that!” It cringed. “Here! Hutttt! Heel!”

Too much to expect of such a creature, but it did draw close, looking up at him, and together they followed the way the compass said to home, man and mongrel.

Before the train has even come to a halt the roof-riders are swinging down over the doors and windows, hitting the platform at a run, some slipping and falling, some hitting into people waiting for the train out. Racing to beat the crowd. Racing to get home. Work. Home. Sleep. Work. Every other evening, Ashwin would have been among the first of the first. Tonight, he waits for the roof to empty around him. He looks up at the fragmented station



dome. The memories of the time that was not a time in that other place that was not a place are less clear now. In time they will fade. All such encounters with the numinous, the miraculous must. It is written. Quantum interference, they said in the medical center. A random superposition of states. Less than a second, no permanent damage done. But in that second, he had flat-lined. Brain-dead. Mind...elsewhere. Elsewhen. The corporada doctors ran their diagnostics and did their tests and pronounced him fit to work and travel. It would have cost too much money to have pronounced him anything else.

New passengers are scrambling up as Ashwin climbs down from the train. He

passes through the ceaseless, changeless bustle of the station in a state of beatification.

I've seen you all, over there, in the new world. I told them about you, what you needed, what you dreamed. It may be your future, it may be someone else's future, but I spoke for you. And somebody listened. In the square a great crowd has gathered, all attention turned to the street where the holy woman has buried herself alive. The kids have got off their scooters and are peering, questing over the heads, What's happening, what's going on? The band is playing like a pack of maniacs and over the general hubbub Ashwin can hear the sadhus proclaiming loudly that a

miracle has taken place, a miracle, a sign for corrupt, materialist days. This woman! This holy woman! For five days she has mortified the flesh in the earth, she has practiced the fiercest of asceticisms, she has come forth and she has achieved samadhi .

From the top of the station steps, Ashwin catches sight of her. She is smaller than he had imagined and, despite five days fasting in the earth, plumper. Her hair is wound in a long greasy pigtail, and a circle of sadhus surrounds her, proclaiming her virtues to the crowd, who thrust out their hands to be touched, to take some of her spirituality. But something stops her. Something turns her head. She looks up.

She seeks out Ashwin on the far side of the crowd. Their eyes lock.

I saw you, there, Ashwin thinks. And you saw me. We know each other. We know what we have done .

Self-mortification as a quantum state? What are the physics of the soul?

He nods. The holy woman smiles, then goes back to her adoration. Ashwin skirts the crowd, then the smell stops him. It has been a long, strange day of hard work. he could eat the beard of the sadhu . He might trouble the datarajah for another of his chapatis, he thinks.

The thing ate like a pig. Worse, for a pig, despite its lack of grace, has some utility. He had put his life on the line out there on the ice (and beyond, something

whispers) and it hadn't even the grace to look up from its food bowl.

Displacement, Antti thought. It's the boy you are really annoyed with. He went straight to the dog, not to you. What did you expect? But you cannot be angry with our grandson. So curse his dog, and watch it scatter its food that looks and smells like shit over the kitchen floor. Paavo had that look he got when he wanted to lecture his father again for his stupidity. Antti knew that he would say it was a bad example to Yuri, going out on the ice alone, not leaving a note, a message—why, he even has a GPS

tracker in the car—trusting your life to some ancient compass. All for Yuri's benefit, but it would be son to father.

Strange, the nuances of parents. Everything mediated through the children.

Nursing his mug of coffee—shot through with the last of the night's good Polish vodka—Antti excused himself from the kitchen table.

“If that thing has to pee, take it out on a bit of string,” he admonished Yuri.

He hesitated at the door to his study. All that Mars, shut inside. Hallucination? People did go crazy in whiteout. Wintermad. And he knew he had been closer to hypothermia out there than he liked to think. But it had seemed so real, so true. He had told those people things he had not even told his own son, certainly not the woman who

had been his wife. Things he had only alluded to with his truest family; the brethren of rocketeers and Areologists and Mars dreamers.

He opened the door, peeked in. There, in the corner, a glimpse of another world: a ragbag place that held the dreams of everyone who had ever looked up into the autumn sky and wondered at that little red fast traveler. Ten thousand cities under a glass roof. SkyWheels and moon rings and terraforming machines and reality shaping angels and airship legions and trains the size of ocean liners. And more, so much more; more wonders. As many wonders and incongruities as only a real world can hold. And people. Of course,

people. People make it a world. Their stories, their words, their never-ceasing definition of its reality. Without them, it is just a planet. Dead. He looked again and it was just badges and models and toy spaceships hanging from the ceiling on fishing line. He closed the door. He would take his coffee in the living room. He could poke some life into the embers of the other night; there was wood, he might coax up a blaze. He settled in his chair, watched curls of red creep across the charcoals, almost alive. The quantum computer still stood open on the table. Antti turned it to him. His wish, his prophecy, burned on the screen. WHAT WILL HAPPEN TO MY DREAM OF MARS? He closed the blue plastic lid



and settled down to have his coffee.