

CHAPTER I

Breaking the Rainbow

That year there were no rainbows. They'd left the Earth. Men made them leave.

Well, hardly any. A few bows lingered, uncertain. Brave lights blessed the holy isles. But the rest? Men forced them away. Men blocked the soft hidden infrared; men ripped Earth's protective veil, to bask in the ravaging ultraviolet.

In the long-ago days when Earth was Eden and fat children played under warm wet clouds, the arcs of Grace shone abundantly. Under tropical skies low rainbows came gently curving in the late evenings, as promises after thunder, or unexpectedly in the early mornings, showering souls with blessings under the dawn sun.

In the Mediterranean lands, in cool weather when gentle rains fell long on soft ground, little bows fluttered like winter butterflies, momentary fragments of wing, chords of beauty. Arching over Jerusalem and Rome, and the distant Cape of Good Hope, these winter bows were friends in the east, in clearing skies of evening, or morning angels of life, bringing rain from the west.

Further north, in the moister lands, the bows were commonplace, winter and summer, unremarked delights in rain opposite sun, messengers of hope in time of dark cloud.

Near the Poles, where the world is glittering hard, and the sun is everywhere or nowhere, solar haloes came as often as sparkles danced on the sea. Occasionally they hung playfully upside down in the cirrus, great smiles in the heavens. In the long winter night they sometimes circled the glimmering moon. Mostly, the bows lived in ice crystals close by the sun. They stood beside the fire, two great curving pillars of gold, visible splendour flanking the great unseeable light, a trinity of glory. Turn, and sometimes far on the opposite horizon was the sharp anthelion spire of white; watching Lucifer.

A planet with bright rainbows is a planet fit for life. But that year Earth had no home for them. The angelic rainbows went unseen. Men changed the air, the air in which they lived and moved and had their being. Men made them hide.

Men broke them, broke the Rainbow Covenant, God's free gift of Grace.

But Grace remains, in every sparkle of light, each rainbow diamond. The host of the Lord encamps around the dwellings of the just. Our guardian angels watch, in time and beyond time, to record, to protect.

Here is the record of one such guardian, a rainbow of Grace.

Spitsbergen

Ash breathed out and her breath hung in the air, changing it, making it warm. "Speak to the Earth and it shall teach thee," she thought, from the twelfth chapter of Job. "I wonder what it will say to my breath?"

She shivered, drew up the string round her parka hood so that only her eyes sneaked out. She stood on a metal grating welded over the roof of the air-monitoring cabin. Far below, a thousand feet down, the tiny huts and aerials of the research station glinted. To the south, behind her, curving to the horizon was the snow-plateau, a lovely bright dome of ice. Eastwards, the great glacier swept down to the head of the bay. Flanking the ice river were mountains, the dragon's teeth of Spitsbergen, each fierce peak a jutting triangle of rock.

Beside her to the west, the atmospheric monitoring cabin hugged into its own sharp summit. She could see the cable car pylon standing on its separate concrete pillar; clinging to the peak. Below and beyond, the sweep of King's Bay widened to the Atlantic Ocean. Beyond that lay Greenland, a few hundred miles away – the Atlantic here shrunk to a mere channel, but profound: in the gap lay the extraordinary hole in the Earth's crust that is the Molloy Deep.

She turned northwards, looking over the sheer cliff below her. The little jetty stood out into the bay. Blue icebergs drifted in the dark open water. In places plates of white ice made a crazy pavement on the sea surface. Across the still water of the sound she could see far over the northern hills: it seemed she could almost reach to grasp the Pole, hiding over the horizon where the fire of the new sun lay flat across the north, bright and potent in the midnight air, just before Easter.

Her mountain shimmered. Flakes of snowy confetti fell on the lacy veil of white that capped the summit over the warm brown features of the vertical cliff faces. Brows of dark rock lined the bays of snow, like eyes. Around the base of the peak the snow spread out a wide skirt, full and soft. Something old – the gentle rocks; something new – the tinsel-bright glisten of the research station; something borrowed – the warmth of the waters in the inlet, bringing in the Atlantic heat from the far tropics; something blue there, the Arctic, the northern Mediterranean – the wide polar sky, pastel blue, lightest soft blue, not the deep azure of the tropics but the thin fragile sky of the North.

Enough of the sublime – it was time to get on with the job. She leaned out over the railing to grapple with the air-inlet funnel. She hated the task, yet the adrenalin was fun. Out and out over the sky she leaned, stretching with her thin-gloved right hand, while her thick-mittened left gripped tight to the icy railing.

As she leaned, she felt a ripple of vibration in her feet. She glanced down. The roof grating under her boots was shaking, snowflakes falling from it. The movement stopped. She leaned further. The air inlet funnel was only just within her reach, far out from the rail. It had been installed by the Norwegian air chemistry institute's giant Viking, whose arms were as long as a Cambridge punt pole. Yes! She had it. She clasped the cold metal and began to work her fingers round the funnel to clear the ice block.

That's when the Earth struck.

She lost her footing. Her feet slipped on the icy steel in the first great shake. As her legs scabbled up the rails to regain balance, the bigger pulses came. She tipped, her back on the rail. The shaking got worse.

Her handhold on the rail slid, turned, was gone.

She hung, hung in space, over the cliff, a hundred feet sheer, then a thousand feet down.

Her right hand tightened, grasping the funnel cone, gripping for her life. Absurdly, she saw, far below, a startled Arctic hare bounding across the cliff-edge, snow-white against snow, escaping as the snow began to avalanche.

The hare saved her, made her think. The hare didn't lose its footing on heights. The cabin was shaking more, but it was strong steel. The funnel was mounted on an armoured airhose, tough, reinforced.

"You're a scientist, Ash, THINK!" she screamed to herself. She swung her loose heavy gloved left hand round and grabbed the

funnel, closer to the apex of the cone, just as the other hand was slipping off.

Yes, the Viking had attached the funnel properly. He always did. It would hold her hundred and ten pounds.

She was swinging now, two hands on the funnel and hose, arcing over the cliff.

Now came noise. Rumbling, crashing, groaning.

Then human noise.

Feet pounding on the ladder steps. Wild hair. The Viking. He'd seen her. In seconds he was over the rail, right leg twisted round a bar, leaning out with his huge arm. He gathered in the tough air hose pipe gently, like an elephant softly using its trunk to rein in a calf. Then he lunged. She felt her tough tool belt hauled by his vast paw. He lifted her like that, belt first, over the railing, then lost his grip and dropped her face down on the icy metal.

"Still breathing?" he asked, when he'd climbed back to safety and she'd sat up.

"Thanks. Could have given me a softer landing. Vikings! Always dumping poor women on the deck. What happened?"

"Earthquake I think. Big one. Very big. That first warning ripple – must have been the P wave. You know – the first fast wave. I figured maybe something was coming. You sure fixed that funnel good. I bet the shake cleared every crystal of ice in the inlet."

They clambered down the ladder and pulled open the heavy insulated door of the cabin. Norwegians build well – there seemed to be no damage to the steel frame. The cabin was mounted on deep concrete piles. Paper had fallen from the shelves, but the power was on and the gas chromatographs were ticking gently. They spent the next twenty minutes meticulously checking each instrument. Every gas line needed to be followed, every computer put through its paces. All was well; they turned to pick up the loose issues of the *Journal of Geophysical Research* that had fallen from the top shelf.

Tidy. She sighed and sat down at last, then poured coffee from her thermos. It spilled on the worktop. Her hands were still shaking. She snapped open her laptop and plugged into the net – Ny-Alesund is perhaps the only place on Earth where wi-fi and all stray wireless signals are banned pollutants. After ages of wheel-spin, the screen settled. She stared at the picture: her husband and children, glowing with life. Both children were grinning ear-to-ear, wee Morag leaning forward tickling her

father's ear with long straws, while Andrew looked down. Tim was deep in a peat trench, back bowed under a huge load of peat cuttings, kilt swinging in the breeze.

They'd met in grad school in Vancouver, both new master's students at the Friday induction party to mark the new academic year. She'd collapsed in fits of giggles at seeing the kilt. Two days later they'd met again in church.

She still asked herself what the rough Scots rower and rugger player had seen in a then-featherweight South African. There was no answer, except that they'd been married three months later, that Christmas, a chaotic African affair of kudu roast, bagpipes and outrageously expensive airline tickets. Andrew was born the next December, wee Morag two years later, just after they'd migrated to Cambridge.

It took her six years to finish her doctoral thesis, working part-time. They had survived, barely, on his postdoc salary until, with the kids in school, he'd got his toes on the bottom rung of the academic ladder. She'd found a part-time job in the air lab. With family help, they'd found the down payment on a tiny house, 14 ft across, in a Victorian terrace. Now she was bottle-blonde and, though very fit, her heels left a slightly deeper dent. The kids were with their Scottish grandparents, while she and Tim did spring fieldwork on opposite ends of the planet. Tim had fallen in love with her Africa, she with his Atlantic winds.

She expanded the picture, zooming on each kid's face in turn.

Then the nerves hit again.

"Where'd you leave the can?"

"Behind the ammonia monitoring system. Where else?"

"Don't look." There wasn't any plumbing in the air-monitoring cabin. It had an ultra-strict bring it in and you bring it out rule. Nothing must affect the atmospheric measurements, not even human emissions. "Leave the air as you find it." No gases. No toilet. No yellow snow outside. She knelt by the rack of humming instruments, reached under, and found the chamber pot. She could hear the Viking chuckle. Next she fished out the old rubber bedtime hot-bottle a Kiwi scientist had left years before. Bedroom heating is poor in New Zealand. Then she found the funnel. Some lab tasks need care.

She tossed the tissues and hot bottle in the down bag, replaced the chamber pot, and nipped out the side door to rub her hands in clean snow. Hand wiping at least was allowed by the green code: it didn't emit volatiles. As she knelt down there was another quake, an aftershock. But this time it was much gentler, a ripple.

She laughed. Far away on a cliff face she could see a small avalanche start and descend; presumably snow loosened by the first shake, now tipped over. It was lovely to watch the powder rise. Seconds later the noise reached her – bigger than she'd thought. The distance had deceived her.

When she came back in, the Viking was hunched over his laptop, plugged to the internet socket. He was a great hairy sixty-something man, with huge hands capable of minute adjustment to a complex piece of equipment. He was tapping out a web address with one vast finger. The other hand held the phone. He grunted. Then another grunt and he put down the phone.

“Some damage down at the station. Concrete cracked in the new building. Old wood buildings did better, though – strained but unbroken. The satellite comms dish was shifted too. They've switched in the back-up microwave radio link to Longyearbyen.”

The Viking forgot about the quake. He was back to his job, fretting about a huge plume of dirty air swirling around the Arctic, full of chlorofluorocarbons. Where did the CFC pollution come from? Someone was letting an awful lot of CFC get into the air. The winds were unusually coherent. They were coming from central Siberia, and before that North Korea or China. He muttered “There's still a criminal trade in the stuff. Smuggled all over the world. Lots of people with old equipment need it. Could be an illegal factory. Maybe they were dumping gas to escape an investigation?”

Ash wasn't impressed with his forensics “Maybe. Or else there could be a giant pile of old fridges someone has bulldozed into a landfill. Recycled from Europe no doubt, at a vast fee.”

He grumbled and then gave up. They'd probably never catch the source. But it was big, really big.

Ash left him to it. While she waited for an instrument to complete a measurement cycle, she caught up with the local news from Cambridge. It was good. On the front page was a photo of one of Africa's up-and-coming entrepreneurs, Hokoyo Imbwa. He was very handsome – Ash enlarged the image furtively. He was standing outside a famous college building. He'd generously donated a scholarship for bright students from poor nations in tropical Africa. Ash was filled with a warm feeling. There was hope for her home, with new goodness like Imbwa emerging.

Suddenly the Viking whistled.

“Hey, look at this.”

She leant over his shoulder to peer at the screen, smelling the week of unwash. It was fun to argue with a legend, but maybe a yard further away would help. He was so big that, even standing on tip-toes behind his seated bulk, she could barely see past the shoulders and the forest of hair. The Viking was an aquaphobe. He only liked water when it was at least 5% ethanol or 500 milligrams caffeine to the mugful. It certainly put hairs on his chest, and on his head, a shiny, high albedo Pole ringed by vast boreal forests.

The Viking had emailed a friend at the Norwegian seismic array near Oslo. Seismic P waves travel at 8km a second. There were plenty of close stations that had already heard the waves – Greenland, Iceland, and the Norwegian array. Now they had a preliminary solution. Later the big US computer systems would correct it. She looked at the message.

The Viking was gesticulating. “Over in east Greenland. Right next to us, few hundred kilometres away, say two, three hundred miles across the Atlantic. Initial calculation is magnitude 9.3. That’s big, very big, very, very big. Bigger than the Indonesian quake, Boxing day, after Christmas 2004.”

They peered at the map. The quake had been shallow, 10km deep or so, just to the west of them. It was what geologists call a normal fault – Greenland going up, the Atlantic margin going down.

The Viking sat back. “The Earth moves.”

Ash whistled. She looked out of the window, over the peerless silent whiteness. It seemed eternal again.

Down below, she saw a truck from the research station making its way on the snow road to the cable hut just beneath them. The phone rang. The engineer was in the cable car hut at the bottom of the line. For the next hour they tested the cable car for quake damage, running it up and down the thousand foot climb twice, peering at all the bits of the winding gear and the wheels, while the engineer checked out the motors at the bottom. Everything seemed fine. The down bag with the hot bottle went on the second run. The engineer wasn’t happy.

In the research station below, Prof Dr Frau Consuela, the Viking’s Bride, otherwise Connie, was waiting for them. She was a trim, kempt, warmly kind and highly respected American botanist in her mid 50s. Strangely she, the American, had kidnapped his Viking boat, thirty-five years ago, commanding the Norwegian grad student to paddle his pride and joy of a canoe to hard-to-get-at plants on islets in northern lakes. Eventually she

had hauled him home, screaming and protesting. He still wore his favourite Canadian voyageurs check flannel shirts from his days in Quetico Park. He wore each one a month, resisting all hints.

All was well. They ran a final quick check on the instruments. Everything was perfect. She and the Viking picked up their laptop packs and some air sample bags and loaded them into the car. They climbed in and pulled the door closed. He pressed the start button. A second later the cable car jerked and swung out over the drop, dipped, and started its silent descent.

She noticed the hare was back, far below her, bounding across the snow.

They moved out, over the abyss, moving in stillness. They were silent, as always; the loveliness was too great for talking.

Then suddenly she noticed the cable wire shivering, a perfect, elegant wave-shake spreading from the pylon. It entranced her.

To the west, the ground came alive. The snow was boiling. She could see the front of the violence shimmering. It moved, speeding towards her. She first saw it a couple of miles away. It only took half a second or so to reach to the ground below them. Snow foamed and leapt, a maelstrom of white.

The Viking bellowed, "Look!"

But he was late. The shaking had already hit them.

Shaking.

Violent. The line jerked up. Thirty feet up. Then whipping down, thirty feet below their first height. Sixty feet in all.

Then up. Down. Up. On, and on. The shaking seemed endless. For ten seconds, fifteen, she could see the snow below rippling, bursting into the air, wave after wave breaking in the shaking. Then the snow grew more still, began to settle. But in the cable car they kept shaking, smaller shakes now, but still ten feet up and down. They could see the undulation moving up and down the cable car rope. She blessed the Swiss builders who had made it so robust.

Slowly, slowly the rope calmed, the waves lessened, stopped.

Down below she could see the motor hut and the engineer's truck. The roof had collapsed. Through the gaps she could see the winding gear. Something was wrong. The cable wheel was still in place, but a beam had fallen on the motor.

The Viking was looking too.

"He'll wind us down by hand?"

He looked carefully at the hut.

“Nope. That beam’s jammed down across the works. They’ll need to get heavy gear to move it. We’ll be frozen long before it’s fixed.”

He paused.

Then he said, very quietly. “And look.”

She stared. Through a gap in the fallen roof she could see a colour of fabric and a leg. The engineer was there, lying, unmoving.

The Viking grunted. “Hope he’s alive. It’ll be hours before the people at the station think of us. There’ll be damage at the station too. We’ll be forgotten.”

“How do we get out?”

“This way.”

The Viking stood tall and opened the emergency hatch in the ceiling of the cable car. He pulled in a drop down ladder, then opened the safety box on the roof. Inside was a heavy coil of nylon rope.

“Can you abseil?”

“No. Never learned.”

“Ah. Never mind. It is good to have a weight on the rope.”

He took the rope and paid out a few feet. Then he tied the rope round himself and looped it carefully to a strong handle in the car. He tied the other end of the rope coil carefully around her waist. He opened the door.

“Ready? Going to drop you. Second time today. You’re making it a habit. Don’t jump. Good thing I have my thick gloves on.”

She climbed out and eased herself off the doorsill, holding the pillar. He gently lifted her until she was hanging out in space, two hundred feet up. Then she went down, as he paid out the rope. Fast, but not too fast. Ten feet a second she guessed. His huge hands were easily able to control the rope.

Half a minute and she was in the snow. He dropped her the last ten feet – his hands must have tired. But the snow was soft and she landed safely, falling over on her back. Above she could see he was clambering out of the cable car to start abseiling down. She yelled encouragement and began to untie herself.

He was about a hundred feet down the rope, hanging from the cabin, still far above the snow, when it happened.

An aftershock. Slowly, slowly, she could see the mountain crumble above her. Snow shook from the roof of the air-monitoring cabin, the roof she’d fallen from, and the cliffs

beside. The white falls seemed small, pretty. But on the peak above, a huge jutting rock creaked, moved. The tear in the rock face widened, the edge of the crack creeping, detaching the mass of rock. The rock was moving, inches at first, then feet. Suddenly it slipped down the cliff.

The monstrous mass of stone slammed into the housing that held the concrete anchor at the head of the cable. The line shook and turned. As the noise reached her, a wave of slackness shot along the taut cable.

He saw it too. Above she could see him unloop, rope in hands and feet only, sliding, faster, faster, deliberately scorching his hands to get down.

He almost made it. Then the cable car began to fall. Below it, the Viking was still sliding down the falling rope.

Thirty feet up. The cable line anchor broke completely loose. The wire detached, came snapping back from the mountain, looping against the car, snaking down, twisting, cracking.

It hit him, flicking past, sending his legs flying.

A grunt of agony. She saw him fall. Above him, the cable car tumbled from the sky, like a leaf in the wind.

Thuds. Thuds. More thuds. First, the Viking, a soft noise, legs pounding snow, toppling, rolling against a small rock outcrop. Then the cable car, piercing through the whiteness, to burst into jagged fragments on the rock beside him. Last, the cable line fell from the sky like a snake from a tree, writhing. Above them the landslide clattered down. Boulders rolled out on the snow. Suddenly it was still. She looked up. High above the air sampling hut was there, untouched, rock fast. But beside it, the cable mount was gone – only the fresh rough bare rock ripped by the landslip.

She ran to the Viking.

He was alive, lying on his back. Both legs were bleeding through the torn snow trousers, red over the pristine snow. Unconscious. Breathing, but weakly. Pulse present. She got behind his head and checked his tongue. Too risky to turn him. She thrust his jaw out into a safe position. Then she checked the wounds as best she could. His head was a mess where he'd hit the rock. She guessed a fractured skull. But maybe it wasn't that bad – just the final topple. The legs were bad, both broken, deep compound fractures. There was a great rip across one thigh, where the wire rope must have lashed him. But his back and neck seemed undamaged.

He moaned. Then consciousness flickered. His legs were hit, then he'd bumped his head. Like hitting a house-fly in flight. Had

there been any resistance, had he been standing on the ground, the wire would have sheared both legs right through. Then she laughed at him. The Viking was like that. Impossible to turn off the mind of a physicist.

Blood was spurting from the ripped thigh. The snow was carmine. She put her thumbs on the pressure point in the groin. The bleeding stopped. But she couldn't hold. Too much else to do. He was still conscious, but fading. She put her booted foot hard on the pressure point, unzipped her parka and pulled off her thin T shirt. The cold hammered her. Parka back on. She tore the shirt in strips. Made a tourniquet. The cold would help. But he'd die unless she got him to help. She checked the back and neck again. She was convinced the spine was unhurt. But she was small, a fraction of his size. She took his elbows and started dragging. His broken head bent and snagged across the snow sastrugi. The snow was soft, but it wasn't good. His consciousness had gone.

She took her parka off again and cradled it around to cushion his head, tying the parka's arms around his chest. If only she had skis. She kept on dragging. He started groaning, muttering. That made her feel better.

A few minutes later she was a hundred yards from the cable car hut. Suddenly she heard an engine and saw a pick-up truck tearing up the snow road. It stopped. Connie jumped out. She was still in her thin nightdress, thick winter eiderdown coat thrown over, boots untied, racing across the snow. Trust her, thought Ash. Quickest thinker. She'd have seen the mountain crumble. She knew we'd be in trouble.

They half-dragged, half-carried the Viking to the truck. The engine was still running. They couldn't lift the injured giant into the cab. Connie threw her coat onto the snow. She was sweating in her thin nightie. They managed to lift him onto the coat and then onto the steel floor of the back of the pick-up. Connie wrapped the coat round him. It didn't meet. She tied it across with the drawstring. At least it would help. Ash's parka went under his head. He'd lost consciousness again. As Connie made him comfortable, Ash felt his wrist. She couldn't find his pulse.

"Go," shouted Ash "I'll ride on the back."

The Viking's wife suddenly stopped.

"No," Connie shouted. "Jens! The engineer."

They ran to the motor hut. The man was pinned down by a side beam of the roof, chest and arm in blood, moaning. He was fully dressed for the cold, but even so he'd be dead soon. They

managed to wedge off the beam and slide him out. There was a roll of large black garbage bags in the hut for trash they brought down the mountain. They scrunched snowballs under the plastic corners of a sheet ripped-open bag and made handles. Ash took the front and Connie the back of the improvised stretcher. They carried him to the other pick-up, his own truck, trying hard not to bend his back. Ash quickly covered him with more garbage bags. He was a lot smaller than the Viking. As always on the station, the key was in the truck's ignition.

Both men looked bad, especially the Viking. She knew the station doctor. He was good. But he'd be busy – how many were injured on the station?

It would take several minutes to get to the doctor, more if the doctor was operating.

“Go now,” shouted Ash.

Connie leapt into her pick-up.

A second later Ash followed with the engineer.

Did prayer work?