

# KRILL

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DAVID BROOKES

## ALSO BY DAVID BROOKES

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Krill

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Half Discovered Wings

## **PART ONE: THE FROZEN MOON**

When the sun shone just right, the glare from the gigantic bulk of Jupiter was minimised; the planet hung dark and near invisible above, almost close enough to touch, dizzyingly huge; and if you knew where to look and how to angle your scope, there was Earth, looking like another star just behind the red pinprick of Mars. Home.

Leuk Nayokpuk tried to ignore Jupiter as best he could. It was a challenge, attempting to give the cold shoulder to something over 140 thousand kilometres in diameter, which was close and large enough to always be visible no matter where on its little moon one stood. Even there, in Europa's cold, thin atmosphere with the gulf of space between them, Leuk still got the impression that the breeze blowing through his hair was a throw-off from the Big J itself, whipped up during one of its massive, century-long storms, and cast out through the vacuum.

Leuk was fishing in Europa's water. The moon was a near-perfect sphere of ice. As far as the team had discovered, its core was quite possibly liquid as well, but – astonishingly for an ice moon – made of molten rock rather than water. There was quite possibly not a single lump of stone anywhere on or inside Europa.

But there was plenty of water, in which Leuk fished. The rod was made of titanium, and five metres long; its line was steel cable a centimetre thick. Anything less would be frozen to a state so brittle that it would snap as soon as the old man pulled to retrieve his catch. His brown, paper-skinned hands clung to the titanium, protected from the cold by the thermal webbing he wore like a wire-boned catsuit beneath his coats. Its power source, clipped to his belt, also bled electricity into the energy field that protected him, invisibly,

from the harmful atmosphere. Microscopic nanites worked ceaselessly to bring oxygen in through the energy field, passing the molecules down the line into Leuk's mouth and lungs.

The thermal webbing, being new, was itchy. His old skin hadn't grown accustomed to it yet; it was why he was outside, making it work overtime so that he could properly break it in. Once he had done, the thing would function perfectly for another ten years. It was the third time he'd worn new thermal webbing since his arrival on Europa. Thirty years.

Nothing biting, he thought. Of course, there was nothing in these oceans that he hadn't put there himself.

The balmy, peaceful morning was broken by whooping and hollering from behind. The Operations Centre – the prefabricated building where the small science team ate, slept and did everything else – was buried deep down in the ice. Its elevator let the team out just behind where Leuk now sat; today it was letting out Chris and Waldo, the team's bright young pair of promising minds.

'Boo-ya!' cried Chris, flinging an object onto the ice and stamping on it.

Waldo did the same, yelling in glee. He hefted a large sledgehammer high above his head, and brought it down sharply on the object.

The two lads had just received their new webbing. The wire "bones" were hollow, micro-fibrous conduits for a crystal-based fluid. When the webbing arrived, it was filled with the solid crystal, and completely stiff; only when the crystal was broken did it release its slow-burning heat, melting into liquid and providing a decade's worth of heat at a steady thirty degrees Celsius – just enough to keep warm.

The boys had just been told the fantastic news that the best way to break the solid crystal was to take it outside and smash it with something heavy.

*They're enjoying themselves, Leuk said to himself. Let them.*

Chris gave it four or five heavy blows before he heard the first definite *crunch*, and then lifted up the webbing and shook it. It flopped in the air, thoroughly broken. His friend and colleague watched and shivered and Chris put it on, feet first and then stretching it up to his neck. The sleeves were narrow and sticky, but he got his hands through and clapped them together. He was warm almost instantly, and laughed as the bitterness of the European air evaporated from his bloodstream.

Waldo was following suit. His real name – William – had been replaced by the unofficial moniker long ago due to his love for a pair of mechanical arms he wore to augment his own. The waldoes – bulky, stainless steel gloves that fastened around the back of his shoulders – were a tool so useful during manned excavations that he had elected to wear them continually after the first month. The left arm was a wrench-shaped claw equipped with a retractable shovel “thumb” and standard grasping/clamping capabilities. He used it to dig and pick up his pints. The right arm was an intricate thicket of manipulators, hand-shaped with each finger able to unfold and become two, and each of those able to do the same ... The manufacturer’s guarantee had promised that the lasers, lamps and drills would work perfectly for the first forty years after purchase – but the manufacturer probably hadn’t accounted for the harsh atmosphere of Europa.

William “Waldo” Mitchell ordered his artificial arms to scrunch his webbing like a paper towel, and then carefully dressed himself. His energy field protected him from the worst of the cold, but that would only last for a few seconds. Finally Waldo revelled in the renewed warmth the catsuit granted him.

‘Enjoying the morning, Mr N?’ Chris called over, performing his warm-up routine barefoot on the ice.

‘I am fishing,’ Leuk said simply, and smiled his wrinkly smile.

‘Not many fish over here,’ Waldo commented, pulling on a pair of regular trousers over his webbing. ‘Not much at all, ‘cept what we brought.’

‘I am not fishing for sponges or coral, Master Mitchell. I am fishing for fish.’

The boys looked at each other. Leuk knew as well as they did that there were no fish in the deep, freezing European ocean. The team had been stationed there fifty years to determine just that, and had quickly surmised that there was nothing living down there. They had scanned, searched and excavated every crack and cavern on the soft, slushy “seabed” – and unless there was something out there could withstand the pressure of ninety billion tons and a thousand degrees, there was nothing beneath that slush either. No animal life, marine or otherwise; no flora of any kind. The oceans were wholly barren.

‘Heads up, anyhow,’ Chris said, scratching his face. He lost the two smallest fingers on his right hand to frostbite not too long ago. ‘Expedition this afternoon at one. We’re sending another probe down under the Pwyll crater – takin’ the hover. Karlson says you’re to come along too.’

Leuk nodded in acknowledgement. It had been over three weeks since the last probe had been pushed under the ice, and the US mandate stated that the oceans were to be scanned for life periodically on a monthly basis. The best the team expected was a stray amoeba or – dare they hope? – a multi-cellular organism. They had, of course, found nothing but silt and compressed chunks of sodium chloride.

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‘Krill,’ said Karlson’s pale face on the screen. ‘I’m in Hydroponics.’

The face disappeared, leaving Leuk staring at a grey rectangle on the lobby wall, at the entrance to the Operations Centre. The Centre was embedded nine kilometres beneath the ice, fingering through the moon’s crust like a meerkat’s estate, tunnels and walkways and round, bulbous annexes pushing beneath the surface through the ice’s natural cracks and

passageways. As the pressure beneath the freezing sea swelled and shrank in its natural cycle, the ice above was flexed into sheets and splinters, forming sharp channels and wormholes kilometres long. The Centre's components had been dropped through from the surface and assembled piece by piece, developing like fat inside arteries.

It had been Karlson who had sponsored the Centre in its initial stages. The man's massively lucrative business empire had provided funds for the equipment, the space travel expenses, the crew, the research costs ... Leuk often wondered why the man himself had come along on the expedition. When the whole project was estimated to last another forty years minimum, with the option for a return trip only once a decade, Leuk found Karlson's insistence in the matter strange, if not downright suspicious.

As the old man made his way towards the Hydroponics laboratory, the speakers mounted on the ceiling announced fortnight-old news headlines, beamed directly from Earth by radio.

He stopped walking just outside the residential quarters. A woman with shoulder-length, tightly braided hair greeted him, clasping one of his hands in both of hers. It was Doctor Branard.

'Hello, Leuk,' she said, giving him one of her best, indifferent smiles. 'Has the great Director Karlson summoned you?'

'That's right.'

'Be warned: he's in one of his moods.'

Imogene Branard was a tanned, warm-faced woman of twenty-seven, and had been for the past six years. She had designed the 'age retardant enhancers' that suspended her youth, working as part of a small group of medications specialists in Toronto. Her sharp mind, which had won her numerous qualifications across several fields, had stumbled across the radiation-based enhancement therapy during a project focussing on the treatment of

severe burns. Although her face and body remained unlined and moderately toned, Leuk had always felt that he could see her age through her expressionless mask of a face, in her eyes and the way she moved. Her inner body and mind would wither with time like anyone else's, and Branard knew it; that she would look good during this internal degeneration was a small consolation. The woman appeared vibrant, warm and content, but her motives for running the scientific operation on Europa were rooted in her own self-desire to create a legacy for herself. It made her appear cold.

'I'd give him a few minutes,' she advised, stroking a braid behind her ear. Her eyebrows were lowered in a scowl. 'Maybe you could look over the notes for today's expedition. Mitchell should have told you that you were coming along.'

He nodded, but ignored her advice. By the time the sound of her heels had echoed into silence, he proceeded to Hydroponics and met with Karlson as agreed.

The air of the lab was steamy, making for light-headed breathing. Leuk walked between aisles of green foliage, the chloroplast-swollen leaves of water-grown plants. Hundreds of tiny cuttings were being specially reared for the arctic environment, and left to grow within transparent plasti-plex containers, their white roots pressed against invisible barriers. Leuk had known from the beginning that flora grown in such ways would be stunted, and destined for quick decay on Europa's unsympathetic surface. He had never said anything, even to Doctor Branard, who was the green-fingered mother of the Operations Centre.

'Krill,' Karlson said, his voice coming from somewhere behind the thick veil of steam. He stepped into view, his hands in his pockets, and repeated his favourite nickname for Leuk. 'Krill, you took your time.'

'I ran into the doctor.'

‘Yeah, we spoke,’ said Karlson, gesturing to the far wall. There was a pair of ruptured plasti-plex trays lying in pieces on the floor: the result of one of the frequently violent “conversations” between the Centre’s founder and its leader.

Doctor Branard and Karlson had a curious relationship, one minute tearing out each others’ throats, the next holed up in one of the residential quarters for nights. Once, Leuk had found Karlson outside, on the ice. His ass cheeks had been frozen to the ground, his protective energy field switched off.

‘Help me up,’ he’d ordered.

‘What are you doing?’

‘Help me up. Have you seen that bitch Branard? Where is she? Careful, my cheeks are stuck!’

‘I haven’t seen her,’ Leuk had said.

‘When you do, tell her that’s the last time. Clever bitch did this on purpose, got me down here like a prick, glued to the ice.’ The skin came free with a rip. ‘*Jesus!* I should’ve known. She never goes on top.’

It had been one of the many amusing incidents involving Karlson, ones which Leuk’s conscience prevented him from talking about. Each one had served to reduce Karlson’s credibility with Leuk, and it made the man’s violent mood swings seem a little less frightening.

‘You wanted to see me,’ Leuk said, touching one of the plants.

‘I did. I understand you’ve been informed about our visit to the Pwyll crater this afternoon.’

Leuk nodded.

‘I just wanted to let you know that I don’t approve of your being there.’



Karlson's face dripped with sweat and moisture from the air. His pale face, which was a stark contrast to his blacker-than-black slick of hair, wore its usual expression of calm world-weariness. Leuk drank in the disapproval without a word; he was used to it.

'To be fair, you don't really have a place on this team, do you? We already have four great minds on this rock,' he said, referring to himself, Branard, and the two youths, 'and it's not as though you're heavy with qualifications now, is it? If I was to be brutally truthful – and I am being, here – I'd say you were only tossed into the mix here just to add a touch of colour.'

It was a backhanded allusion to Leuk's Inuit ethnicity, and Leuk knew it. Leuk had been born and raised on the tundra, but he wasn't sheltered and he wasn't stupid. He had been fully aware of the world's intolerance for the physiologically different when he'd first fallen into the urban net of Canada, and later North America. It was one of society's maladies that had never quite been cured, only treated until the symptoms diminished. And now, the purist philosophies of Karlson and his vast enterprise were rearing their ugly heads.

'Of course,' the entrepreneur continued, 'you've been here much longer than I have. You know the surrounding area at a radius of twenty miles.'

'Thirty,' Leuk corrected.

'Of course,' Karlson conceded. 'Thirty mile radius. You've got a map of Pwyll in your head to the standard of most satellite images. It's no wonder that Branard wants you on this excavation.'

Leuk looked up sharply. 'Excavation? I thought this was a standard expedition.'

Karlson pursed his lips, making Leuk smile inwardly. Even the figurehead of a massive international business empire – a man whose first language is rhetoric – lets slip sometimes.

‘We’re going to make another core of the ice,’ Karlson explained reluctantly. ‘The last one we did was only three hundred metres. I want us to reach down to five this time.’

‘We nearly had a cave-in when we hit three hundred metres. The ice is too fractured to drill that deeply, not from the surface.’

‘That’s why we’re going to the impact crater,’ said Karlson. ‘The crust there is riddled with preexisting holes and tunnels. We’re going spelunking. And then we’re going to dig until we hit water.’

Leuk almost choked. The ice at the Pwyll crater, where a meteor hit the moon sometime in its recent past, was thinner than in most places. The shallow pool where Leuk had fished that morning was overflow from the ocean through twenty kilometres of almost-solid ice; the ocean itself was almost completely inaccessible, safe within its shell, and although the team had been there over three decades – its members changing from time to time due to disinterest, semi-madness or, in one case, death – they had only managed to aquaform the moon via molecular displacement.

That was the Centre’s primary goal – to establish a liveable foundation for a larger human colony on Europa – but so far it had, in the eyes of the general public at least, failed. Minor displacement bolts through the ice, in which energy fields ripped microscopic organic matter apart and fed it through the crust’s system of cracks until it hit the ocean floor, had managed to plant a few sea sponges and coral clusters, but little else. The scientific community knew that this was a massive achievement; it also knew that the Centre’s true objective – forced upon it by none other than the Karlson business empire – was to discover and, if possible, capture, clone and export any native life form.

It was distressing for Leuk to imagine the team forcing open that much unstable ice just to “hit wet”, as it was often put by Chris Abnett, their youngest colleague. There was little to gain and much to lose by such ambition.

‘We’ve already scanned the entire ocean,’ Leuk pointed out unnecessarily.

‘It’s not the same as seeing it,’ Karlson countered. ‘Besides which, the scans aren’t 100 percent accurate. We could have missed something.’

Leuk disagreed. The scans were accurate to above 99 percent, and had been repeated many times over the preceding few decades. Improvement in technology had not yielded any new information, and Leuk was positive that it never would. On top of which, the scans hadn’t even been compromised by the crust’s layer: by changing frequencies they could look right through it as if it wasn’t there, in the same way an X-ray sees through flesh.

Karlson sifted through the leaves of one of the moisture-rich plants. He peered calmly at the water droplets on his fingers, before sucking them dry. As he lowered his head, Leuk caught a flash of yellow light from the man’s scalp – the metal headset Karlson wore so that he could contact his senior staff no matter where he was on Earth, or otherwise. It punched subspace molecules in very particular – and private – patterns, transmitting a type of vibratory Morse code beneath space to similar instruments back home. They translated his thoughts and sifted through the meaningless mental clutter, screening the mess for orders and updates before sending it to the relevant parties.

Karlson wasn’t aware of the extent of Leuk’s knowledge on the matter. Leuk had casually gleaned all the information regarding their generous benefactor from other team members long ago, including the disturbing facts about his corporation’s senior staff: every one of them, all two hundred or so individuals around the globe, had agreed to a minor procedure involving the implantation of Karlson’s cloned brain tissue and a certain degree of genetic modification. It meant that on the top floor of every Karlson Enterprises headquarters, there was a little bit of Richard Karlson II waiting to receive pseudo-psychic orders from their wonderful Director. It upset Leuk to know that any man, in the pursuit of personal growth, could spread himself so thin.

‘I wanted to tell you in person,’ Karlson said, rubbing his moist fingers together, ‘that you’re coming along too this time. If Branard insists you come along then I want to see that you’re worth the money I’m spending up here. Wrap up warm, okay?’

Leuk pressed his lips together. ‘Okay,’ he said.

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## **PART TWO: THE EXPEDITION**

“Waldo” Mitchell had come prepared. His mechanical arms had been modified specifically for the trip. For now, they clung to the side of the hovercraft just for safety’s sake, like everyone else’s. However, should the need arise, they would segment, reconfigure and unfurl into scoops, lasers, drills, and any other excavation equipment Leuk could think of.

It was fascinating watching the young man at work. His self-designed manipulators were at the pinnacle of the technological mountain, even way out there. Ten years ago, the blond, muscular youth had opted to climb aboard a shuttle and rocket over to one of Jupiter’s more interesting moons. The tools had been state of the art then. He continued to modify the instruments to increasingly modern specifications.

Beside him, jolting in his seat by the craft’s uneven passage over the ice, sat Chris Abnett, who was absently holding one hand in the other, where his fingers used to be. With every journey across the ice he displayed the same uninhibited anxiety. Everybody noticed, especially Doctor Branard, who was attuned to such things. Scientifically cold though she may be, the good doctor was a woman in body and mind, and a mother at heart. She had a child waiting back home, who would be a decade older by the time she returned on the next shuttle when her contract expired. She saw Chris’ discomfort and resisted the urge to reach out and embrace him. It would have been the human thing to do, but some scientists and doctors have never been fully human, not on the outside where it counts, where a professional manner takes front seat to empathy, and where the empirical side of the brain was beefier and a colder shade of grey.

Waldo touched Chris’ arm with his flesh-and-blood fingers, the titanium shovel folded back against his wrist. Chris didn’t respond outwardly, but a mildly uncomfortable

smile flickered on his face to show that he was grateful for the concern. Waldo had always looked after Chris, from the moment they'd taken the shuttle together and Chris had gotten fiercely travel sick. Waldo had been there as the boy knelt, throwing up, holding back his unfashionably long hair, his glasses high on his head.

Chris was one of the other members of the team who still called Leuk "Krill", on account of his being the most "insignificant" member of the team. Those were Karlson's words, not Chris'. It was a cruel nickname and one that had already stuck before Chris and Waldo had arrived. Unfortunately, despite Chris' genius, his capacity for unwitting *faux pas* was staggeringly high. Waldo steered him through the worst of it, and only Doctor Branard ever took offence.

Branard and Karlson, the senior two members in this team of five, sat on opposite ends of the hovercraft. Branard was at the helm, reinforcing as always her position of leader. Karlson sat at the back with his arms folded, looking for all the world like a child in a strop.

Karlson resented Branard's superiority. The two had resorted to shouting matches on occasion, out of sight of the others but often within earshot. Leuk could have been swimming in the depths with several kilometres of frozen landmass between he and them, and he *still* would have been in earshot. Branard's tactic was to put him in his place as quickly and as loudly as possible, throwing even the most irrelevant or dishonest insult in the hope of touching a nerve and compelling Karlson to silence. The man himself often adopted an infuriating veneer of calm and reason, subtly chipping away at the doctor's confidence and patience. Leuk would have employed neither tactic; but then, he was only "Krill" after all. Even Branard called him "Krill" when she wasn't thinking.

A tremor rattled the hovercraft. The corrugated flap of the air cushion beneath the seats rippled as it struggled to adjust to the unexpected vibrations, listing slightly. Waldo and

Leuk leant back to avoid slipping out of their safety webbing as Chris, tilting backwards with the angle of the craft, gripped tightly to the edge of his seat.

‘What the fuck is this?’ Karlson snapped, hunkering slightly at the stern. His voice rattled with the quivering vehicle.

‘Having some trouble,’ Branard called over her shoulder. Leuk saw her hands, tightly gripping the steering column as she struggled to regain control of the craft. ‘Hold tight!’

The craft hit something on its starboard side, smashing them ninety degrees. Chris, his frozen hair whipping painfully about his face, reached to find safe purchase as he found himself almost on his back, his skull ten inches away from the rushing ice; something click-snapped through the air and glittering metal appendages clipped onto Chris’ shirt. Waldo smiled down at his colleague, arm outstretched and manipulators clamped safely to his best friend. Chris managed a breathless grin and held tightly onto Waldo’s powerful arm.

The craft was turning in a fast arc, scraping against the jagged ground. A sound like thunder filled Leuk’s ears, and in a sudden updraft of air came a torrent of fresh, blue water. It launched forty feet into the air and then crested, crashing down beside the craft and drenching them with frosty spume. The ice was rupturing. It cracked again, and there was that sound of thunder beneath them, and water spurted out of the chasm and launched upwards in a geyser, sending a fine azure mist over the ice that began to freeze almost instantly.

The hovercraft aquaplaned as it thumped back into place, horizontal once more, yet still out of control, with a clutch of frightened, confused people lying slackly inside. Twin wings of sparkling water rose and seemed to twist as the craft spun around in a dizzying helix. The geyser, now twenty metres behind them and blotting out the distant, crushed-ice sculptures of the mountain range to the South, frothed with jets of white. Somewhere within the tails and folds of rushing water Leuk caught a glimpse of a dark shape, perhaps a trick of

light created by sunlight thrown from the massive face of Jupiter; the shape writhed, wormlike amidst the blue-white sprays, and vanished.

The geyser began to settle, and the overflowed water became lumpy with slush, rocking the craft as it slipped beneath its air cushion. The crew relaxed their grips as the craft slowed and scudded across the ice; the noise of the rupturing water died quickly down, and all became silent again.

‘What,’ said Branard, ‘the *hell* ... just happened?’

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The air was thick. Karlson sat on the side of the exhausted hovercraft, throwing vibratory signals through subspace. He was letting his ‘others’ know what had happened, alerting both the custodians of his business empire and the military founders of the European enterprise of the development:

Something had happened on this God forsaken chunk of ice, and it might mean something big.

‘Tidal currents,’ Chris Abnett was saying. ‘Convection bringing a sudden draught of water to the surface, hitting a weakened section of the crust.’

‘That’s unlikely,’ Waldo pointed out. He was refastening a panel in the craft’s dash after inspecting it for damage. ‘We’ve been looking at this place for two centuries and there’s not been anything as ... violent as that.’

‘But we know that there’s a regular overflow that seeps up and restores the ice. That’s why there are so few craters. And all these scars on the surface.’

‘You’re talking about a surge in the core of the moon,’ Branard said, dismissing the notion. She spoke almost with disdain. ‘Why would there be an influx in the core temperature? And why would the ice be weak enough to rupture, when it’s several



kilometres thick all round? And how come we or the former members of this team have been here fifty years and never seen anything like this?’

‘Alright,’ Chris murmured, ‘I was only thinking aloud.’

Leuk peered across the flat terrain of the ice. It reminded him tremendously of his junior years far north of Canada, on the tundra where life was all fish and seal blubber, sunrise and snowfall. He didn’t miss the simple life – he was a scientist, after all, and American trained – but he missed having a true home, and his heart ached to see his two grandchildren again, whom he had not spoken to or seen in the thirty years he’d been at the Centre.

Jupiter loomed, a dominating presence watching over them with a gigantic, stormy eye.

‘There’s no use in being so aggressive,’ Karlson was saying to Branard, half-concentrating.

‘I’m not being aggressive about anything. We’re all trying to get to the bottom of this – and you aren’t helping, sitting there sending your reports.’

‘There’s more to this Centre than aquaforming.’

‘And there’s less to you than you like to think there is,’ she replied sharply. She was testing the yoke on the craft, and its air cushion swelled and sank on each side, tilting them all momentarily.

Karlson turned. He had been surveying the landscape with a mild curiosity, reassessing the familiar environs. Something had changed, he thought, to have allowed the water to burst forth like that.

He opened his mouth to speak, but Waldo cut in.

‘Doctor, come over here please.’

‘What’s the matter?’

Chris, slumped against the side of the hover, glanced at her and attempted a smile, but his situation wouldn't allow it; his body was trembling violently. His lips, pressed together into a shallow M shape, were quickly transposing from pink to a blotchy bruise-colour.

'The spray got under his suit,' Waldo explained levelly. He turned to the doctor. 'But that's only a guess.'

Branard took Chris' hand and pressed it between both her palms. The skin felt thick and taught.

'Freezing,' she said, and proceeded to examine Chris' pupils.

'It's not the spray.'

Both the doctor and Waldo faced Leuk. 'Then what is it?'

'It's the webbing. The solution hasn't broken properly. Look...'

The veins in the thermal webbing were lumpy and strained. The rubber-plastic compound was stretched and aneurismal. Chunks of undissolved crystal were making the suit embolic.

'We've got to get him back to the Centre,' Waldo said. 'Come on.'

'Wait a second – we're on an expedition here,' Branard snapped, but even before she had completed the sentence she knew that it was the wrong thing to say, that the man was more important than the mandate, and that her conscience wouldn't permit taking the youth any further. She relented almost instantly.

'Alright, let's turn around,' she said. 'There's thermofoil in the compartment beneath Karlson. Karlson, get up.'

'I don't need telling,' he told her patiently.

'No, I mean get out of the craft. You're carrying on.'

'I hope, with all my heart and for the sake of this enterprise, that you're joking.'

'I'm not.'

Branard's face was stolid enough to convince them all. Waldo was looking up as he unfolded the foil blanket, in order to gauge the reaction of the others; clearly, Leuk thought, he didn't agree with the leader's decision either.

'Imogene,' Karlson said, systematically checking his webbing with a barely restrained rage, 'I understand that this is your last month with the Centre. And I also understand that, at least to your eyes, this venture has achieved nothing but the most basic of our objectives. But I will not—' Here he looked up, and his blue eyes seemed to flash, 'will *not* – obey ridiculous orders such as that after this fucking *ill* portent.'

Chris emitted a weak-willed cheer.

Branard attempted to stare Karlson down, but he wasn't to be cowed.

'Shall I draw attention to your neuroses?' he asked. His voice, had Leuk been listening with his eyes closed, portrayed a person with unflinching self-control. Karlson's hands, however, were curled into fists and quivering. 'I could mention that obsession with your personal legacy, if you like. Explain to the others, although they already know, I'm sure, about how you—'

'I could give you an order as commander of this "venture",' Branard snapped. 'Which I am. Right now. And I could also *draw attention* to the fact that while ever you're transmitting with that headset of yours, anything that passes through your mind will be included along with the rest of your mental waste. So, as far as our government overseers are concerned, if you *don't* go where I tell you, it'll amount to a court martial offence and you'll probably be put to trail, and likely lose all control over your business assets.'

Leuk restrained a smile; he felt a massive "so there" hanging on the cold breeze that blew around them all. Branard had Karlson's number, and he knew it. The thickness in the air dropped almost immediately as Karlson grudgingly relinquished the connection between he and his colleagues.

“God help you, Imogene,” he said lowly. He was already tightening the minute straps on his thermal webbing and yanking another foil blanket out of the compartment. Branard ignored the insinuated threat.

“We need to get moving,” said Waldo. He looked pale, kneeling over Chris’ supine form. With the manipulators folded back, he could clasp his friend’s hands in his own without the titanium appendages getting in the way.

Chris didn’t look well. The discolouration of his lips had now spread to his skin. His face was a pallid grey-yellow, the moisture drawn in by his body in order to protect itself from the biting winds. He, like everyone else, wore an energy field that followed every contour of his body, and was sophisticated enough to even dip into his pores. It was this piece of technology – astonishing by Earth standards, but something the Centre’s team had lived with since their arrival half a century ago – that was keeping him alive, shielding him not only from the damaging air and radiation but now from the balmy temperatures. Even so, without the warm embrace of the thermal webbing, it was not enough.

‘Come on,’ Waldo urged.

‘You’re coming with me,’ Karlson said sharply. ‘You as well, Krill.’

‘I’m going back with Chris,’ Waldo told him.

He stood up; although being one of the most intelligent and compassionate men Leuk had ever met, he was also young, brash and – at times – overconfident. Waldo took two strides towards Karlson and stood so that their chests were almost touching, favouring a physical threat over an intellectual joust.

Karlson stared at him for a moment, but didn’t back down. He said, ‘I won’t be bullied. I paid for everything from your bed to your food, to the paper you wipe your ass with. I fund this entire operation, and I say that you’re coming with me. Doctor Branard is

not the only one with a stake in this excavation. One injured man isn't worth delaying a delicate operation.'

'So I take it this thing's all set up then, is it? All the equipment, all the plans and safety measures—'

'Have been taken care of. Just because today was the first you've heard of this doesn't mean the idea just popped into my head in the shower this morning.'

Waldo looked at Branard. The commander was the only one of them, apart from Karlson, who would know in advance of the other staff. 'Is this true?'

She nodded.

'And am I needed there?'

'We need someone to take care of the hardware out there,' she admitted quietly. 'Don't worry, William. I'll take good care of Chris. And I'm taking the craft, so I'll get him home quickly and safely.'

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Three men crossed the Arctic plains on foot. A compass/altimeter in Waldo's arm-mounted wrist display showed them the direction, leading them further across the white plain and towards the Pwyll crater.

The landscape idled by. The ice looked bluer than the sky. A flat, uninteresting horizon was broken only by the occasional points of distant mountains, pale incisors beneath the vast, revolving body of Jupiter. The planet's dozen layers of atmosphere moved at independent speeds, caught in strata of wind too fast to be home to anything but the gasses the mass was made of.

Leuk thumped his old fist against his thermal webbing. It was a trick he taught the others when they'd arrived, to stir up the liquid compound so that it would produce more heat. It was one of those things one couldn't quite measure, whether or not it worked.

‘I’m getting tired of this,’ Karlson said, pulling his feet through two feet of fresh slush. It rarely snowed on Europa; the atmosphere merely churned up loose ice and deposited it somewhere else. ‘All this shit that bitch keeps dealing out. Like she owns the place.’

‘Without order...’ Waldo said, wisely. *In lieu* of a leader the Centre wouldn’t last long, not when the only place for disgruntled staff to sulk was a white plateau at less than 260 degrees below.

‘Fuck order.’

‘I’m only saying. You can’t expect to bully her into letting you do what you want.’

‘Watch your mouth,’ snapped Karlson, his eyes fixed straight ahead. ‘I can arrange for your shuttle to crash on the trip home, you know.’

Waldo shot him a look. It was the sort of glance that would have cut a red line down the cheek of anyone else, but Karlson wasn’t easily intimidated. He was not particularly impressive physically – especially compared to Waldo’s youthful bulk – but he radiated good health. It wasn’t surprising; he could buy everything from manicures and plastic surgery to genetic modification and bone reconfiguration. He shared that inexhaustible wealth with his senior staff, who had already undergone similar treatment to allow the safe transplant of Karlson’s cloned brain tissue, and although they retained a certain sense of individual self, they were all essentially Karlson. They had his money, his privileges, his looks. A lot of them were reputed to have spontaneously adopted his tastes and mannerisms.

Karlson was transmitting again. Leuk felt that peculiar thickening of the air and the distinct cloy at the back of his mind that always happened when Karlson was sharing his thoughts. Since the accident during the first leg of the journey he had been transmitting almost non-stop.

Leuk looked back to his time on Earth. It had been a long, exhausting period. He was the best marine biologist on the planet at one stage, and had won prizes and awards, and once

– like Karlson – owned his own enterprise. It had been short-lived, soon enveloped by larger corporate edifices and taken out of his hands. He was old, now. He had been middle-aged when he'd left for Europa. Now he was frail and fatigued and he no longer trusted the technology that was supposed to keep him alive. The energy fields were meant to protect his organics from the harsh radiation that blew over the surface of the moon, but he often distrusted their efficiency, looking at how the people there had deteriorated during their stay. Maybe the radiation was leaking in. Maybe, faster than the natural rate, they were all dying.

Back home Leuk had children and grandchildren. The former had been reduced to one, an angry son who had “returned” to the simple life in the snowy wastes after learning of his heritage. He had blamed Leuk for forcing him to confront the evils of the supposedly civilized world: The wife of Leuk's son had been murdered by drug users for the contents of a purse.

The grandchildren were Leuk's world. Forget the soft, white landscape of Quebec. Forget anything but their vigour and zeal and seemingly innate defences against the many temptations amongst which they lived. He longed to see the twins again, who were now fully grown adults, who (probably) had families of their own, and who (hopefully) missed their favourite grandpa, who last time they met had bought them Happy Meals with milkshakes.

The team was in sight of the crater. It had no lip, and was invisible from the ground; only when they were within a mile could they see that part of the ground was missing, a huge, circular depression in the ice. It was half a mile deep, and had once been deeper. Most likely it was the result of a meteorite impact, one of the few pieces of evidence that Europa had ever encountered any such objects. Most meteorites punched through the ice and sprung water, which rose to the surface and repaired the damage, leaving nothing but a silver, glasslike scar.

At the centre of the depression was amassed a mess of excavation equipment, the detritus from an attempt that had been aborted earlier in the year. The drill had punctured

only so far before causing an instability within the crater that had reached dangerous levels; the plug had been pulled, and the equipment covered, strapped up and left there with a low-yield energy barrier protecting it from the worst of the weather.

Leuk, Karlson and Waldo approached the downward slope. It rolled away from them, concave and slippery, reflecting the grey-white sky. Leuk pressed a button and two-inch spikes extended from his boots. The others did the same, and they descended.

They could see and hear a water geyser, spurting lethargically about halfway to the horizon.

‘Two in one day,’ murmured Waldo. He was mainly concentrating on his descent, walking almost sideways down the steep decline.

‘Just keep moving,’ Karlson replied. The air around him was thrumming. It was beginning to make Leuk feel ill in his stomach.

The descent into the crater unsettled Leuk. The last time they had been here, Chris had suffered his “incident” ... No doubt Waldo was thinking about that too.

Leuk rubbed his arms. He was beginning to feel cold. Being away from the warmth of the vehicle for this long was making his webbing redundant. Any longer out here and his body would lose more heat than the webbing was providing, and *then* he’d be in trouble.

Only two more weeks until the shuttle home was due.

Pwyll rumbled. Leuk’s boots slipped, but he didn’t fall. The grips tore chips of ice loose and sent them skidding down the faultless slope. Karlson looked up, disturbed from whatever message he was accessing through his hidden headset. Waldo, who had been mid-step, wobbled on his left leg and fell backwards; his boot was embedded in the ice and didn’t break free, and the sharp sound of ligament popping around bone filled Leuk’s ears. The worst kind of sprain was the kind you could hear.



Waldo yelled and tugged his grip spikes free of the ground, and rubbed the joint with his gloved hands. The straps on his boots were fastened tight around his ankle and calf, and so the sprain was minor but still painful. He gritted his teeth.

‘What the hell’s going on with this place?’

‘Nothing we can’t deal with,’ muttered Karlson. ‘Get a hustle on. We need to get that equipment started up if we want to sleep warm tonight.’

The equipment was mechanical, and pathetic. It seemed like a joke to expect something that operated on electronic hydraulics and a system of pistons and pulleys to work properly out here, even under the protective dome of an energy shield. The thing broke down more often than it was used, which was why Waldo earned as high a wage as the rest of them.

‘Oh my god,’ he said, pulling back the tarpaulin and taking a look at the equipment’s innards. ‘I thought we fixed the arms before we left last time.’

Karlson began accessing the control consoles. ‘It’s your job to fix things. You tell *me* what we did.’

‘We missed something,’ Waldo muttered. He slid a box of tools towards him and began adjusting his manipulators. ‘This might take a while.’

‘How long?’

‘Half an hour.’

‘Wonderful.’ Karlson unrolled some touchscreens that had been left in warm storage. He fixed them to the consoles and to access data from the previous expedition. The console bleeped, and then something broke from the rear of the metal cabinet, and the whole site around the excavation pit ruptured into splinters, and a fast, cold spray drenched the three team members.

Something dark and tall wavered beside the machines. It was wet and muscular, eel-like and half-invisible from within the spray. It lurched against the equipment and mangled

the support struts that fixed them into the ice. Tubing and long, foot-wide screws bent at right angles with an animalistic squeal. The thing bent in the cold air – a living creature, Leuk knew, something living amongst them, alive and perhaps thinking, certainly reacting, like an insect reacts to stimuli but has no cognitive functions; like a mouse chased by an owl, ducking into the first dark, damp place it finds without thought or reason. Instinctive and, Leuk was sure, not in the least bit malign, merely subsisting within the frozen crust of the gas giant's moon.

His rational mind knew this, but his instincts still told him that this thing was enormous and vicious, a thing to be afraid of...

The dark mass swept towards Waldo like a wide, black tongue, missing him by a foot as he kicked himself back and out of harm's way. As the creature lurched from side to side, it left behind smooth, mirror-like arcs that reflected the grey sky and the rushing spume.

The frozen rim of the excavation hole crunched as the creature shifted its weight, forcing itself forwards and further out from the centre of the crater. It seized, then thrashed, shattering polished sheets of ice and landing with a fierce crash on top of the console Karlson had been using. The console burst apart, spilling circuits and cables like guts, and when the muscular worm dragged itself backwards it pulled the wreckage with it for a few feet, scattering the various components amidst fragments of metal and plastic.

Karlson was fumbling with a weapon that he'd pulled from the standard emergency equipment. They never had need for it before, and it clicked as Karlson pulled the trigger; it was unloaded and useless.

The thing lashed towards Karlson, missing him by an inch and throwing him bodily off the ground with the force of its impact. Then it curled, looking more and more like a gruesome tongue, and scooped Karlson down towards the pit.

Waldo was quicker to act than Leuk. He lunged forwards and slid down the incline, using his energy field as a friction-free sled. Spinning, he caught the heel of his own boot against the fractured ground and dug in, grinding to a halt immediately beside the geyser and its occupant, grabbing hold of Karlson's jacket.

The fabric wasn't holding.

'Cut your field,' Waldo yelled. 'I can't get a grip!'

Karlson nodded frantically, and a minute flash of light around his body signalled the dissipation of the energy field. Waldo made to get a better grip on Karlson's arm, but something held him back, an image in his mind's eye, and Leuk saw it in the foreground of his imagination as a true memory, the horror behind what the team called the "incident"—

The last time they visited Pwyll, the equipment hadn't held out. It shook the ice-formed foundations of the ground beneath them and caused a cave-in around the machinery; that time, Chris had been the one to fall, young Chris with his hair tied back in a style so out of fashion it embarrassed even Leuk, and his glasses hanging to his face by his ear, and Waldo reaching out instinctively to take hold of his friend's hand, misjudging the strength of his titanium manipulators, and cleanly severing Chris' two smallest fingers, the ones he told everyone that had been claimed by the cold. Blood froze on the ice.

Now, Waldo hesitated, and Karlson screamed, and Waldo shucked his guilt and his painful worry and reached out, twelve pencil-thin manipulators curling hard and cold around Karlson's outstretched hand as the long, black creature disappeared down into the pit. Waldo pulled Karlson up and swung him onto the ice, in time for the ground to give way beneath him.

Waldo was gone in an instant, enveloped by water and darkness.

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### **PART THREE: THE EYE**

Karlson twisted in the silence. Leuk heard his breath as well as saw it; Karlson hadn't switched his field back on yet, and the thermal webbing was struggling to keep up with his rapidly-falling body temperature. Karlson peered down the pit, his hands and knees flat against the cold ground. His mind and flesh were in shock, his joints frozen. Blood dripped from inside his sleeve where Waldo's sharp manipulators had punctured his skin.

Leuk approached the hole with a chill in him. He'd never witnessed death before, not in all his long years. It was, he supposed numbly, a loss of equilibrium; he'd never seen a person being born, either. The notion, which came unbidden to his mind, stuck around and confused him as he neared the pit, the epicentre of the deep crater.

Karlson rolled over onto his back. His white fingers were clutching his stomach, and blood ran along them in slow, crystallising rivulets. 'Fucking Krill,' he gurgled, like it was Leuk's fault that he was hurting.

Leuk looked down the pit. He wondered if Waldo was down there, somewhere between here and where the crust turned to liquid about twenty kilometres down, hanging onto the tunnel wall with his metal hands, a few dozen drills and picks embedded there so that some time, after hours of tortuous climbing, he might resurface.

There was darkness down the pit, and little more. The light reached about ten feet down, filtering through the semi-transparent ice in rays of blue and lagoon-green. And below that: an infinitude of shadow that kept going until it hit wet.

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He tugged the headset free of Karlson's hair.

‘What are you doing?’ Karlson murmured. He feebly lifted a hand, which Leuk gently pushed away.

‘I am not hurting you,’ said Leuk. ‘I am just borrowing this for a while.’

That, he knew without thinking, was a lie. By the time he returned to Karlson, the man would be long dead. The microcells that powered his energy field had been shattered; Leuk could see yellow-white froth fizzing out of his webbing. Normally they would be protected by the field itself, but having switched it off in order to be saved he had only made himself more vulnerable. There was nothing Leuk could do; the thermal webbing would do its job for two hours, perhaps more, but without the energy field not only would Karlson’s body and blood freeze irreparably, but the radiation from Jupiter and its moon would poison him.

‘Leave that alone,’ Karlson grunted. ‘It’s attuned to me. You can’t speak to anybody back home.’

‘I’m sure that you have already done that, sir,’ said Leuk, deactivating his field. He placed the thin headset on his own skull and then reactivated his microcells. The headset fit poorly atop his bony head.

‘Call that cow Branard.’

‘I’ll try to reach her,’ he promised, and clipped the radio to his belt.

‘Where do you think you’re going?’ Karlson attempting to sit up. He gasped as pain flared up in his side. Leuk guessed that his ribs were broken. The worst-case scenario was that he had internal bleeding – that monster had hit him spectacularly hard.

‘Over there,’ Leuk replied. He pointed towards the horizon, where the orange-brown circle of Jupiter filled the sky.

‘Any chance at *all* you could stop being fucking stupid and throw me that thermofoil? And I don’t see you using that radio.’

‘I will call on the way. I must get going.’

‘Hey!’ Karlson screamed after him. ‘Hey! Get back here, you old faggot, I’m still talking to you. Hey!’

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Much later. The wind had just become audible. It never blew hard on Europa, and was certainly never abrasive enough to grate the ice or sift the “snow”. The ice fragments crunched underfoot, compacting beneath Leuk’s little form.

Little. Large. They were, as everyone knew, relative; if the ocean was a metaphor for the Operations Centre and all its crew, then Leuk really was Krill – he was small fry. On Europa, he was even smaller. Against the shifting rings of Jupiter’s surface, that ever-moving tapestry against which even the moon looked insubstantial, he was smaller still. Infinitesimally small, practically nothing at all.

Karlson, Leuk had surmised, wanted to be large. He was a man whose duplicated brain matter occupied the skulls of hundreds of genetically-modified subordinates. They had unwound and re-stitched their blood-coding to become akin to him, so that they could think, act and, essentially, *be* him. This was Karlson’s way of being everywhere at the same time. He had become more than a man; he was Legion. He was larger than one life. The modifications were primarily for the purposes of the subspace communication; the likeness of thought patterns made receiving and decoding their exchanges substantially easier. Of course, *substantially* – and existentially – Karlson was spread very thin. In reality he was less than a man because of it, his ultimate goal unravelling the more he worked towards accomplishing it.

The headset was cold against Leuk’s scalp. Inside Karlson’s field it would have been protected from the freezing temperatures, but between taking it from Karlson and admitting it

into his own field, it had been blast-chilled. Now its copper tendrils hurt hit his head and behind his ears.

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He travelled. Ahead lay the landmark he had been picturing in his mind's eye since the crash of the hovercraft. It was a modest mountain formed by two huge tectonic plates pushing against one another. The ice on the surface was unbroken, the movement taking place far below with the shifting tides of water urged into motion by the rise and fall of temperatures within the moon's liquid mantle. The plates ground together, pushing the dense, compacted ice against itself until it rose into a humble mountain that was perpetually growing, and doing so at such a relaxed pace that it had enough time to refreeze itself solid. Even with the impurities of the water, the mountain was semi-translucent, like a hunk of frosted glass, and light when the sun was behind it shone through, creating the illusion of a vast ice sculpture created around a huge, bright bulb.

He thought about home, and about his grandchildren. Leuk had been aching to see them these last few months. Thirty years was a long time to spend away from one's family, but when one man is raised as Inuit and another as a Westerner, relationships don't come easy ... He had spoken to them on occasion since he left, and sent them images and FM capture, but it wasn't the same as sitting with them, painting like they used to when they were young, or teaching them to fish in the Quebec icefields, or telling them stories by lamplight as they drifted to sleep. Soon, Leuk told himself, he would see them again. The shuttle would take him home, take them all home except for Waldo and, perhaps, Karlson, who was back at the crater without protection, his blood turning to ice.

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The ice was thin here, frighteningly so. It was like walking over a frozen lake. Leuk had that exciting anxiety from how, at any time, the ice could break and he might go plunging into deathly cold water.

He'd been out this far only once before, during his early years. There wasn't much for a marine biologist to do on a moon populated only by imported coral sponges and GM krill. He'd filled his time with exploration and discovered the slopes, which rose like crystalline spikes straight out of the ice. When he had found them, they had been an anomaly, a landmark on an otherwise featureless planet. Now they were even more of an abnormality. The ice was too thin; grooves and scratches deep into the semi-clear ground gave the appearance of purposeful erosion, not from above or from below, but from within.

Nobody had thought enough about Europa. It was an ice moon and it had a liquid outer core, and was perhaps even liquid right in the centre. Where there's water, there could be life. Let's look in the water.

They had found nothing. In thirty years, the team had scoured every pit and gully on the ocean floor and discovered no life. Doctor Branard and Karlson had all but given up on this secondary objective. But they hadn't searched the ice itself, the crust almost twenty kilometres thick. A lot of room for something to exist without being discovered.

Movement from below. Shadows swam in the bitter-cold water beneath Leuk's boots. They were shapes that were long and smooth, and they moved like sandsnakes with a coiling, sideways dance. The scientist side of his mind categorised them as the platyhelminthe family, alongside flatworms. The dark grey creatures that he'd seen rising from the geysers were like worms, like tendrils. They might be large versions of simple, mindless creatures, but they were alive.

He didn't sense any malice. They were not intentionally dangerous. His thoughts turned to Chris, who might die of cold as a result of the crash. He thought of Karlson, whose



energy field no longer protected him from the radiation coming from the immense presence of Jupiter.

Leuk peered up at the gas giant and tried to discern whether or not he could actually see those eight-hundred-kilometres-an-hour winds moving.

He touched Karlson's headset, and activated it.

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The planet Jupiter radiates twice as much energy as it receives from the Sun. It is a scientific curiosity that has never been fully satisfied; the most logical conclusion is that it has its own source of heat, buried in the probably-liquid core. It is possible that the heat it exudes is a remainder from its dramatic creation, the fierce coalition of potent gases twisted by a whirlwind of gravity, pressed into an eternal body that hangs, the largest of nine, alongside the eye of its yellow star.

Previously Leuk only had a passing interest in the planet. It was beautiful and daunting and deadly, but as far as he was concerned that was nothing astronomically special about it. When he had learned of Jupiter's indefinable heat source, he had become intrigued, and then perhaps obsessed; he sat in his small, heated room in the Operations Centre, staring out of the window. Most nights the window was a rectangle completely filled by gold and crimson bands, glowing in the centre of his vision and at the front of his imagination, a portal into the great depths of a globe of gas, into a mystery as deep as the conduit between eye and soul.

Leuk spoke. The headset converted his thoughts into thumps, and subspace carried half-translated, half-transmuted words and feelings. It propelled brain patterns into the ether below normal space, in all directions.

He was in a tunnel of ice fifty feet each way. The mountain was around and above him, light bouncing off a thousand flat, reflective surfaces like cut glass, a naturally formed

hall of mirrors. The ice was shot through with orange light from above, the blue of shallow ocean from below, and the light filtered through in beams across the slow, shifting forms of the creatures.

They had emerged from the ice somewhere out of sight, and were now drifting surreally along the smooth panels of ice that compromised the tunnel walls. “Krill” walked amongst them, studying their rubbery, seal-like hides, spotted with bristles and patches of scale. Their foremost ends had little pits of mouths ringed with flexible teeth made of cartilage; Krill surmised that they lived off the ice, scraping away and devouring slush, drawing from it oxygen and meagre sustenance. Possible they fed off the aquaformed portions of the moon’s seabed, drawing energy from the alien flora the team had implanted there.

Through the rays of light they passed, at one time coloured with Jupiter’s reflected light and at another in shadow, half obscured by splinters of ice.

Krill advanced with them, wary of his proximity to them and mindful of Karlson’s unfortunate fate. He could think of no motive for one of the flukes to attack, and was cautious of their size and strength, their slick, muscular bulks.

The tunnel funnelled outwards and became a cavern, its translucent walls thinner there. The light was stronger as the refractive walls brought it from the outside. Above, there was no ceiling; the ice jutted outwards in all directions, but didn’t form a complete canopy. There was a jagged gap that provided a view of the gas giant’s surface; no sky could be seen, not a star; the stripes and spot were bright, too close, vast and threatening and godlike. Its presence pressed down on Krill like a physical weight; the headset thrummed against the bone beneath his scalp. He sent out words and phrases, and thought of that remarkable, frightening heat cocooned within sheets of violent wind, hidden and inaccessible, and

wondered if, perhaps, there was more to the giant than the inanimate gaze of its terrible, beautiful eye.

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