



CHILDREN OF RUIN

'This is really smart
science fiction'
Peter F. Hamilton

ADRIAN TCHAIKOVSKY

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MACMILLAN

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FUTURE: WHERE TWO OR THREE SHALL GATHER

EPILOGUE

To Paul

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*'If you can look into the seeds of time,
And say which grain will grow and which will not . . .'*

William Shakespeare, *Macbeth*

PAST 1
JUST ANOTHER GENESIS

So many stories start with a waking. Disra Senkovi had been asleep for decades. Something like a lifetime passed back home while he slumbered; a fraction of a lifetime passed around his oblivious form, the timespan squeezed down the relativity gradient by his proximity to the speed of light. For him, though, there was no time, nothing but the oblivion of the cold-sleep chamber. They knew how to build them back in those days.

Senkovi chose the manner of his waking. Some of his colleagues – those he thought of as less imaginative – would let themselves be fed crucial mission information, news from home, metrics from the ship, so they could spring from cold sleep with a mind full of data, ready to leap to their stations and steal a march on the day. Ludicrous, given the work they had ahead of them would take decades. Senkovi had always been unimpressed by most of his colleagues.

Instead, paradoxically, he woke himself with a dream.

He hung in the water of a warm, clean Coral Sea that hadn't existed in that virgin state since long before his birth. The sun filtered down through the waters like an embarrassment of sapphires. Below him, his best-guess reconstruction of the vanished Great Barrier Reef extended in multicoloured profusion, reds, purples and greens as far as the eye could see, like an alien city. Life whirled about the coral metropolis in a riot of motion, swimming, jetting, drifting, crawling. He turned gently, casting a benign and godlike gaze over his creation, half-sleeping, half-knowing, so that he felt the joy of having brought this into being yet not the pain of knowing the original had long predeceased him.

At last, one of his special friends signalled its presence, squirming its malleable body from a crevice within the rocks and undulating cautiously towards him. Eyes like and unlike his own regarded him with the sort of ersatz wisdom nature otherwise gave only to owls. It – determining the gender of an octopus was not a task easily performed at this remove – reached an arm towards him, Adam to his divinity, and he let his hand drift outwards slowly to accept that touch.

It was a good dream. He'd programmed it himself, creating a complex sequence of mental stimulation that drew on his specific memories and jumbled them into something semi-novel. It was still dream like, unreal, but that was what he was aiming for, so, fine. He also had to hack the ship computers with considerable ingenuity to make it happen, given that encounters with marine fauna were not on the *à-la-carte* menu when choosing a wake-up sequence. The hard part had not been inserting the neurological sequence into the ship's database but erasing all sign of his meddling. By then he'd been in and out of the mission systems quite a lot without anyone noticing, though. Senkovi had come to the conclusion that the Terraform Initiative back home was very, very lax in its digital security, and then shrugged idly and carried on with his own personal tinkering. What, after all, was the worst that could happen?

Amongst his travels within the virtual architecture of the mission protocols, Disra Senkovi had also come face to face with Disra Senkovi, or at least the crew profile and assessment record of that name. While extreme technical expertise was a given with all crew, he was interested to see the results of his personality assessments. There were two main poles, for a multi-decade mission like this, and they pulled in opposite directions. One related to how well a crewmember could cope working in isolation for long periods of time, and how they might tolerate being severed from the great mass of humanity and the course of human history. He aced that one. The other related to working in close confinement alongside other human beings you simply could not escape from, and he was dismayed to see how close he had come to rejection on that ground alone. Senkovi felt himself an affable, outgoing man. From the age of nine he had been working on constructing pseudointelligences to have conversations with, and hadn't he – more than anyone else in the crew – surrounded himself with pets back home? What better indication of a warm and loving human nature was there? He'd owned nineteen aquariums, three large enough to dive in. Many of the aquatic denizens were like close personal friends to

him. How could anyone think him antisocial, let alone make all those unfair and hurtful comments?

He was being tongue-in-cheek, of course. They meant human friends, and that had never been his strong suit. Still, he had a few, and he worked well in a task-focused environment where everyone was fixed on a common goal. And when it came to R&R, well, if he wasn't the life and soul of the party, at least he didn't step on anybody else's toes. And there was, in his humble opinion, not a human being alive who enjoyed jokes more than he did; it was just that nobody else found his funny.

Anyway, his general social inoffensiveness was just sufficient, when added to his undeniable competence, to get him on the crew, and then some combination of evaluations and computer subroutines kicked him up to be head of the Terraforming team, one below Overall Command, because if you had a slightly deranged genius on the team it was probably better to let him cox than row. That was the actual comment of the psychologist who recommended the promotion and Senkovi, having got into that file as well, treasured the perceived compliment.

But they needed him awake now. In that unreal ocean he strained, but the touch of the tentacle never quite reached his finger, and all his pets were long dead and gone on an Earth more than thirty light years away.

Disra Senkovi opened his eyes, aware that his beatific smile had crossed over from his dream and was still on his face. He felt refreshed and ready to start his day. A quick interrogation of the ship systems assured him they had arrived, their long cold journey done, the deceleration over. He sat up, stretching (more for the form of it than from any need, but he was used to doing all sorts of things because *people do them*, as a sop to the sensibilities of his fellows). He was neither alone in his sleeping compartment, nor surrounded by the bustle of a woken crew. Instead, his performance had an audience of one: Yusuf Baltiel, Overall Command.

'Boss,' Senkovi acknowledged. The lack of context to Baltiel watching him wake was disconcerting. Senkovi liked to have a handle on cause and effect and was usually smart enough to avoid surprises. He queried the ship again and found a weight of data embargoed, blocked from him, blocked from everyone except Baltiel himself. *That's not good.*

'I need a second opinion,' Baltiel told him.

'Let me guess, the planet's not there?' It had been the joke with the very first exoprobes – sometimes the data said there was an Earth-type planet but the indicators were just a bunch of other factors conspiring to give that impression. Of course, a probe had actually been shot out here, accelerating far faster than a manned ship could manage, checked that an actual terraformable planet was present and reported back. They wouldn't just send a manned mission off on a whim, now, would they? Senkovi really didn't want to have to turn around and go home.

'There's a planet.' Only now did Senkovi notice the curious tension to Baltiel, a man generally in complete command of himself. He was practically vibrating like a plucked string. 'There's a planet,' he repeated. 'But there's a problem. I'm keeping it hush, for now, but it's too big for me to make the call. I need you to see.'

Because of the embargo – which Senkovi felt was a childish way to go about things – they actually had to walk to Overall Command to see the *thing* Baltiel was so agitated about. Everyone else was still peacefully on ice. Who, then, was all this cloak and dagger supposed to thwart? He kept throwing queries at the system to find out what he could and couldn't know, because the computer wasn't able to tell him what was off limits until he hit a nerve and it clammed up on him. Actual walking from one place to another was, in Senkovi's book, something the future should have done away with long before, and his legs were having difficulty with the rotational gravity so that he bandy-kneed his way around the edge of the crew ring behind Baltiel's brisk stride. Baltiel was blocking transmission back home, he discovered uneasily, despite the fact that any urgent cry for help Senkovi might make would take thirty years and change to arrive. It wasn't like he'd be able to hold a murderous Baltiel off for that long, or indeed at all.

‘Just tell me, boss,’ he complained to the man’s back.

Baltiel stopped, turned. There was a kind of fervour in his face that made Senkovi flinch. *He’s found God*, was his instant thought, which was all sorts of extra not good, especially considering the most recent news from home. He had idly sifted through the updates while walking – all of it was decades out of date, but it looked like Earth had gone through a spot of trouble a while back, with anti-science terrorism and all sorts. *Makes you glad you’re in space, man*.

‘I need you to see.’ It wasn’t just mystery for the sake of it. Baltiel had drawn himself up to deliver the revelation, and failed.

A hundred more rubbery steps and they arrived at Overall Command, where the large screens displayed solar and planetary data and a visual representation of the destination system they had at last achieved, known as Tess 834 after the long-ago Earth-orbiting satellite that had first picked it out of the firmament.

Senkovi started with the big stuff, making sure the star wasn’t about to go nova, looking for major disruptions or absences among Tesses 834b, c and d, the three colossal gas giants that filled out the waist of the virtual orrery and had the privilege of the first few letters because their mass had them detected first by Earth’s instruments. Two of them were not much shy of Jupiter for size, one of them quite a bit bigger. *Nice meteor screen for our inner worlds*, he thought. ‘E’ and ‘f’ were further out, rock-and-ice monsters carving lonely paths in the reaches where the system’s sun was little more than one more star among many. Of inner worlds there were three, one of them virtually rolling through the star’s upper atmosphere, the other two close neighbours in the broad habitable zone but as different as siblings could be. Senkovi pulled up more data, still looking for the problem. The outermost of the pair, Tess 834g, was a little smaller than Earth, shining with an icy albedo through a thin atmosphere shorn of greenhouse gases. Any heat thrown its way just bounced right back off and was lost to space; Goldilocks zone or no, any fair-haired visitor was going to find her porridge inedibly frozen save at high summer around the equator. The other, their target Tess 834h, was warmer than Earth, slightly larger, its atmosphere muggy and heat-retaining, jealously hoarding everything the sun threw its way. There was a moon large enough for its gravity to make tides and keep its spin axis stable, and initial scans showed the presence of most elements human life would find useful. All in all, it would be a good match for human habitation once they’d let the terraformers loose on it. They could install a working ecology with a minimum of fuss and then maybe someday people could come and live on it. Or else that crazy lady Kern would arrive and do unspeakable things in the name of science. A lot of the terraforming team were frustrated with their glorious champion and leader Avrana Kern because her priorities did not seem to actually match the mission statement, while Senkovi was frustrated with her because she was doing all the fun stuff he would have preferred to do.

‘This all looks . . .’ *Good*, except it all looked a bit too good, now he mentioned it. Oxygen content on Tess 834h in particular was higher than he would expect. ‘Ah . . . what am I . . .?’

‘This was one of the late surveys,’ Baltiel said over his shoulder. ‘By then they were very focused. They’d given up looking for the other stuff. The left-field stuff.’ *The real stuff*. He hadn’t said it but Senkovi heard the ghost of the thought in the other man’s words.

The ship had performed its own survey as it closed in with the Tess 834 system, its instruments far in advance of the old exoprobes, drawing up a detailed picture of the terraforming challenge ahead. The ship itself had not blinked at the data, nor considered that it was making a discovery. Just like the exoprobe, it could only see what it was looking for. Senkovi was having a similar difficulty. He even pulled up the best visual image of the planet, taken by the ship as it zipped past on its way to brake around the red-orange sun. A single brown megacontinent, a great ink-coloured sea, spiralling wisps of cloud. ‘This looks ideal terraforming territory, to be honest . . .’

But Baltiel just said nothing, and eventually every sound in the room, every shuffle and rustle, fell into the cavernous void of his silence as he waited for Senkovi to flip the data like an optical illusion, to see the other side of the story. And eventually Senkovi stopped looking at the readings like the exoprobe and read them like a human being, and he fell still and silent, too.

They had come as far from Earth as any human ever had, travelled for a generation, left behind a planet fragmenting into political disarray to gift this distant desert orb with life. But they were too late. Life was already there.

The terraforming vessel had been named the *Aegean*, which everyone except Senkovi and Baltiel assumed was just one more name from the long electronic list that some computer kept for giving ships inoffensive monikers. Senkovi happened to have hacked the vulnerable part of the data chain and changed the *Maratha* to the *Aegean* because he preferred it, but no point letting that become public knowledge, not with so much on everybody's minds.

The *Aegean* had a crew of thirteen, and every one of them was awake now. The ship's datasphere was busy with eleven men and women trying to work out what was going on. Senkovi's preference would be to either just post the information up or not tell them at all, but Baltiel was a showman at heart, and moreover he was about to propose a rather radical departure from their mission. Senkovi, forewarned, was already working on his own counter-proposals, because he had come out here for a reason and didn't much like people messing with his routines, even routines planned out decades in advance.

He and Baltiel had been busy, prior to waking the others. The *Aegean* was in stable orbit around Tess 834h, although the data embargo extended to the viewscreens that otherwise would have given a window-like view of the world below. The two early risers had fabricated a long-range in-atmosphere scout remote for a special mission. Honestly, the most complex part had been thoroughly disinfecting the thing. There were Earth microbes that could survive vacuum and the burn of re-entry, and a century of space industry had created a bizarre new habitat that bacteria and fungi had evolved to inhabit. It wasn't usually a concern of terraformers, whose job was, after all, to seed new planets with as much new life as possible. Baltiel was taking no chances, though. There was a living world out there and the last thing he wanted was to unleash some microbial apocalypse.

So they had printed the thing off, built it from the ground up in sterile conditions, coated it with foam and then vented it out into space, its rubbery armour ablating away until the pristine remote was all that was left, untouched by human hands.

Then they had sent it into the planet's atmosphere to take a look. Senkovi's imagination was full of algal pools, bacterial mats, stromatolites. The history of life on Earth was one of a long age of primitive single cells, alone or clinging together in makeshift, unorganized colonies. Complex life was merely the recent froth over a great vat of prokaryotes feeding and dividing and dying. That was what they expected to find: a scum of undifferentiated life clinging to the coastlines of that one great continent.

Then the remote had gone low enough to start recording images, and they had watched and watched, revising their impressions, glancing at one another. Senkovi had twined his fingers at the implications for his work; Baltiel had been stock still, a man given a destiny.

They put the remote into its own orbit and told the ship to wake the others, and here they were, gathered together so Baltiel could draw aside the curtain and show them the magic.

'You're probably wondering if I've gone mad,' he addressed them. In fact he had been keeping tabs on just what enquiries they had made of the ship's systems, using Overall Command access to eavesdrop on the conversations flitting between their implants. Some of them did indeed think he'd suffered some breakdown as a result of the cold-sleep process, even though that was supposedly impossible with the modern units. Others had been picking up the news from Earth, sifting through all the signals that had chased after the *Aegean* and coming to the uncomfortable conclusion that the Earth – as it had been thirty-one years ago – was in the grip of war in all but name. Was Baltiel about to declare for one side or another? Was he about to accuse some of them of being anti-science quislings? The conflict brewing back home – the conflict that *had* been brewing way back when, anyway – went further than science versus conservatism, but as they were all scientists their takes on it were naturally skewed.

A number of them had tried to circumvent his embargo, either to glean more information or, in the case of Doctor Erma Lante, to send a report home. Senkovi, now Baltiel's willing co-

conspirator, had been able to thwart them all for the same reasons that poachers make the best gamekeepers. And what Lante felt a report home would accomplish, at this remove, was anybody's guess. They were their own little state with thirteen citizens, cut off from human progress, marooned on a desert island in a sea the size of the universe.

'Just watch,' Baltiel told them, when he had gathered them all in one of the *Aegean's* briefing rooms, and called up his selected excerpts from the remote's travelogue.

Coming down from a cloudy, mackerel-striped sky, below was a great reddish-brown bowl, crossed by a couple of mountain chains like half-buried lines of vertebrae, sutures holding the megacontinent together. This was the hot, dry heart of the tropical latitudes, the drone coursing steadily over a dust bowl the size of Asia. At this remove, without magnification, it seemed almost featureless. The point of view dropped, though, as the remote made its controlled descent. Data on altitude, temperature and the like flickered in constantly shifting footnotes.

For a moment it could have been old Mars down there, save for the lack of craters. The world was a desert: terrible, inhospitable. Ripe for humanity to build a new Eden.

The remote dropped lower, skimming on towards this world's north and east. Ahead there was a line of darkness where night began and the footage was catching up on it. The view shifted, magnified, jerking to the right – this was Baltiel's post-flight editing, a little clumsy because he was a dreamer but not necessarily an artist. There were lakes in the desert, though of what was unclear. They leapt at the eye from the dull brown expanse, yellow, ferrous red, the blue-green of copper compounds, often concentric rings of one unlikely, toxic-looking colour within another and then another. They looked like waste pools from some factory about to be shut down by the environmental lobby, their shores crusted with glittering crystals. The sight was beautiful, yet a poster child for something inimical to human life. The display recorded a temperature of sixty-one degrees centigrade.

The remote descended further. There was no sound, and indeed the only sound would have been the wind and the rattle of grit and the roar of the machine's airscoops as it fought to stop itself overheating. Someone had been drawing in the dirt around the pools, and drawing in the poisonous water, too. There were complex radial designs, like dark snowflakes that branched and branched and met each other. Baltiel believed these were something like bacterial colonies; Senkovi said they could just as easily be inorganic. But these were the least exciting of the images he wanted the crew to see; a showman, after all.

However, he had guessed his audience might be getting slightly restless after looking at an alien desert for almost thirty minutes. The remote's view switched again, looking off towards the marching teeth of one of the mountain ranges, magnifying, zooming until there was a dot there, moving past the face of that red rock. Even with the remote giving them its all, it was hard to see what they were looking at. Something pale moved in the air and the human eye tried to recast it as a bird, a machine. The remote was closing as fast as it could, chasing the thing down. Now it resembled nothing so much as a filmy plastic bag caught on the wind, dipping and rising.

Where the desert met the mountains, the winds were strong; they'd had the run of the place, after all, and now these rising shelves of rock came to thwart them. The remote recorded gusting clouds of brown-red grit, dust devils, a great complex of thermals whirling upwards and carrying all sorts of fine debris into the higher atmosphere.

The camera had lost sight of the plastic bag; now it veered back into view, far closer. The remote was rising, above the peaks now, looking down. The thing – the indisputably living thing – lazily undulated its way along the line of the mountains.

'We think it's more than ten metres across,' Baltiel's voice broke in, because the remote gave little indication of scale.

It was like a jellyfish, a thing of absurdly thin layers, radial in layout, riding the winds and trailing filaments barely visible save where they shimmered in the sunlight. Following it for a long time, Baltiel pointed out that it was not simply airborne flotsam at the mercy of the elements. Some structure within it constantly trimmed its shape and dimensions as though a crew of sailors was taking in and letting out sails. The mood in the audience was that perhaps

Baltiel was seeing what he wanted to see, but everyone was seeing a gigantic airborne cnidarian. Everyone saw the alien. Whatever they thought of Baltiel's individual conclusions, the mood of the audience was forever changed, as were they.

They were the first humans to set eyes on something that had evolved on another world and owed nothing to Earth.

'This is nothing,' Baltiel told them, and switched to the next item in his extra-terrestrial playlist.

This was one of his favourites, for pure artistry. The remote drifted through a night sky, and below the land seemed barren, rugged yet flat; this was more of the desert, but temperate uplands, a plateau approximately the size (and, by pure chance, shape) of Texas. The planet's moon was a crescent sliver in the sky. The remote's cameras did their best to amplify the light. The ground below had a curious texture to it, whorled with knotted clusters like closed fists, each sitting in a span of empty space away from its neighbours.

The timing was utter serendipity; the remote (under Baltiel's guidance) was still trying to work out what it was looking at when dawn crested the edge of the world and threw out its red light. As day brightened over the plateau, the fists unclenched spirally, throwing out five branching arms whose inner surfaces were dark like pools – not the green of chlorophyll nor any other colour, they seemed more like solar cells than plants, and yet surely they were drinking in the sunlight in some exchange analogous to photosynthesis. And to do what? Their world was bounded by the plateau-top that they carpeted. Or perhaps this sessile form was merely the adult and their larvae rode the winds to be captured and consumed by vast jellyfish . . . Perhaps, perhaps, and here the best guesses of Baltiel or any of them were just spitting into the hurricane of the unknown.

Now the remote drifted over the sea, but that was a medium it was unsuited for and the water was almost completely opaque. There was something wallowing just below the surface, though – some huge round thing like a pale shadow glimmering within the inky ocean. Unable to make out more of it, the remote coasted on. Now they saw little nodules bobbing on the waves – 'little' meaning larger than human size, but the dark ocean was so vast that anything was dwarfed in comparison. They were translucent, veined. Baltiel thought they were immature sky-jellyfish. Perhaps, perhaps.

He showed them the poles, too – there was no land, no ice, but instead a weird sargassum of tendrils and coils and flowers, extending for hundreds of square kilometres. Everything was organized in hubs and spokes, a bizarre tessellating pattern when seen from above. The tangle seemed living but inanimate, and yet there was a constant sense of motion from beneath.

By now nobody queried the computer or tried to get round the embargo. He had them, and who can blame them? And yet he had saved the best until last.

This last sequence was where the sea met the land, shielded from the baked interior by mountains that broke the moist air and shook it down for all the rain it had to offer. Here they were on the high latitudes, still hot by Earth standards but a breath of cool air compared to the murderous tropics. The remote's eye-view soared over a flat landscape of pools and creeks and mud, a salt marsh as far as its view could take it.

Everywhere there was life opening petals or leaves or some other alien organs to the sun, digging down roots to drag the sea-borne minerals from the salt-saturated ground. Or perhaps doing something else, some alien process without an Earth equivalent. Everything was low and stunted; the biology of this world had not produced anything that could keep a tall tree standing. Everything was blackish, with iridescent hints of blue-green or rust-red. The remote drifted lower, lenses hunting movement. Something flitted past between it and the ground, something winged and definitely not a jellyfish, pale and swift, moving quite unlike a bird, a series of staccato lunges through the air. In its wake, movement began on the ground again, the narrative of prey and aerial predator impossible to resist. There were things like spiny stones rocking into motion, making slow progress as they grazed the edge of the pools.

Baltiel ended his presentation there. They'd seen enough to know how much more there must be to see. Oh, perhaps one or two were harbouring some sneaking disappointment, brought up on a certain kind of story. Because when you went to an alien world and met the aliens, the aliens were supposed to be able to greet you. Advance science as far as you like, the human mind continued to place itself at the centre of the universe. If not to create intelligence, what was it all *for*? Where were the cities, the spaceports, even the abandoned ruins of an elder civilization? And yet this was all the alien life ever discovered that the human eye could make out unaided. A miracle that it had broken out of bacteria-analogues in the first place; a miracle that the result was something they could even recognize as 'life'.

Then Baltiel called up their mission statement which was, of course (and entirely incidentally), to destroy all this and replace it with something more like home.

Senkovi watched the reactions of the crew with interest. There was no guarantee that they would see things from Baltiel's perspective. *After all, like the old films say, we came thirty-one light years from Earth to terraform planets and chew gum, and we're all out of gum.* Actually, there was gum, or at least the means to manufacture it, but that wasn't the point.

What, after all, was the 'type' for a terraformer? They were hardy frontiers-people, surely, tough engineers come out to carve a home for themselves in the far reaches of humanity's sphere of influence, like the railroad builders of old. Except that was bunk, of course. Nobody here was eking out a desperate, dangerous living to send back pennies for their families. Nor were they the colonists, destined to tough it out under an alien sky until either they or the planet surrendered to the other. When the accelerated terraforming procedures took, the terraformers themselves would be on the first ship out, leaving the planet virgin for someone else to live on. Unless they grew so in love with their handiwork that they decided to stay, against all policy and orders. And, speaking of that . . .

'This has given me something of a quandary,' Baltiel was saying, showing his working even though he'd already found his answer to the sum. 'This is an unprecedented situation. Our mission briefing doesn't cover it.' A grimace, more calling up of records on their mind's-eye displays or the ship's screens for them to peruse. 'The very first terraforming expeditions did – the in-solar ones, and the first ever out-system mission. Everyone was hopped up about extraterrestrial life. And they didn't find even a microbe, and they were spending a whole lot of money and resources. And so it fell by the wayside for later missions. Nobody puts it in the manual any more. And it's not as if we can call Earth for clarification and then wait sixty-two years for their thoughts on the matter. The decision's ours.' By which, of course, he meant 'mine'.

Senkovi considered that they could actually just go back to sleep for six decades and change, and have the ship wake them when Earth had made up its mind, but that smacked of a slavish devotion to authority that he'd never espoused. He was surprised at this crusading flame in Baltiel, though, who was apparently a less orthodox character than Senkovi had taken him for.

'I hope you'll support me in the command decision I'm making here. We can't just go to work on this planet,' Baltiel told them all. 'It would be a crime, a genocide of something we may never find again in the lifespan of our species.' And he was preaching to the choir, mostly. What made a terraformer? Apparently, a willingness not to terraform if there was something more interesting around, as though they'd all come down with ADHD. Seeing him frown, Baltiel sent over a direct message: *Do you blame them?*

No. And I'm broadly supportive of your decision . . . Senkovi threw back, letting the 'but' hang there, unspoken.

And there were a handful who would obviously rather be terraforming – they'd come out here to do a job, and though they weren't unmoved by the marvels they'd been shown, they weren't ready to just sit on their hands.

'I propose we change our mission,' Baltiel told everyone. 'Our suite of technology here is designed to cope with a wide range of investigatory tasks as well as the actual rewriting of planets, after all. We have a duty to study what we've found here, to report on it for Earth. We

won't be the last here. This planet will become the jewel of the galaxy for scientists. But we can be first, and do a good job of laying the groundwork. We can be in the history books, all of us.'

'All of us' meaning 'me', but probably there would be other names in footnotes, or immortalized as geographical features. *Mount Senkovi . . . or maybe not. Sounds like an instruction to a taxidermist.*

And again, Baltiel had most of them, but a few more were unhappy with this turn of events now. They were, after all, experts chosen for a particular task, and this wasn't it. Senkovi counted four: Maylem, Han, Lortisse, Poullister. The other seven were right with Baltiel about what they should be doing.

Senkovi decided this was his moment and flagged up a request to speak. Baltiel gave him the side-eye and asked for a little more context than that, and in return Senkovi just data-dumped the entire plan on him. *Let's see if he's as clever as he thinks he is.*

Baltiel blinked twice – that momentary pause was all the others saw – and then nodded briskly. 'Mr Senkovi, you have the floor.'

Senkovi blinked too, licked dry lips, preferring to be the scorer than the scoree when points were being dished out. All eyes on him, he coughed to buy a little time, then said, 'It's not like they'd just leave us alone, after all.' He didn't have Baltiel's grandiloquence. It was all he could do not to mumble into his chest. 'You know what they were calling the terraforming initiative, when we left Earth orbit? The Forever Project. Because this is it. This is when the human race becomes immortal, you get me? We're off Earth. We're *making* new homes amongst the stars, whether the stars want us or not. We have godlike power. People will come here, expecting to find a home. They'll be properly impressed by the jellyfish and the moving rocks and thing-what, but then they'll start asking awkward questions like, "Which house is mine, then?" I mean, you know people. We all do. Moan, moan, demand, demand, "We came thirty light years and you're showing us pictures of tidal marshland." He essayed a small smile, saw a couple of people return it. Baltiel was expressionless, waiting. *How the hell did he digest all of that? Did he get the ship to parse it for him? Did he hack my files and read it before the meeting?*

'But Yusuf's right,' he went on, making a nervous, fidgety gesture in Baltiel's direction. 'We can't do the mission, not like we're s'posed to. But we can do it anyway. Look.' And he began bringing up his diagrams and data, which he could hide behind enough that his voice gained strength as he soldiered on. 'The next planet out, Tess 834g – it's mostly an iceball, right on the very limit of the liquid water zone, but it's geologically active, and terraforming 101 says we can precision-bomb the faultlines to set it all off at once and then it won't be an iceball for long, and the gas we get out of that will kill off the albedo, and after that it'll be warm enough for the water to stay water. And there's a little land. Just a little. And there'll be more once the ice has slimmed down to liquid.'

'Not much more,' Han pointed out. 'I get 2.1 per cent of total surface area, all small island chains.' She threw her own scratch calculations into the communal virtual display for everyone to look at. Lea Han was the oldest of them, Baltiel's senior by two years, and her maths was faultless at very short notice. *Nobody was heckling the other guy*, Senkovi thought, but Han was at least playing the game.

'So the colonists live on boats,' he suggested. 'It's that or they go live alongside your aliens, and how's that going to go in three or four generations? You think everyone's going to be a responsible neighbour?'

'That's a very pessimistic appraisal of the human spirit,' objected someone – Senkovi chased down the name and got 'Sparke', and an assessment record that spoke of reliable competence without brilliance.

'One I happen to agree with.' Baltiel killed off the topic effortlessly. 'We don't know what the political milieu will be, amongst any colonists.' And people's faces showed that the old news they'd had from Earth was front and centre in most minds. Any new arrivals could be a wave of ideological maniacs, come to practice their mania out of the reach of their foes on Earth. 'We don't know what their priorities will be,' Baltiel went on. 'Mine is to conserve what we've discovered here, and to study it. I will be taking an independent module from the *Aegean* to remain in orbit around 834h. I'm looking for volunteers for that team. Mr Senkovi has my

support to attempt a terraforming of Tess 834g, and he'll retain the lion's share of the ship's resources to do so. He will, likewise, be looking for volunteers, and I can guarantee that, when we do finally get word to or from Earth, it'll be his team that has a future in the terraforming business.'

Still not as interesting as studying flying medusae, though, Senkovi concluded, but he couldn't say Baltiel hadn't given him a fair crack of the whip. For himself, he was already considering the technical challenges of bringing the ice-world to life.

In the end he got Maylem, Poullister and Han, with Lortisse defying Senkovi's assessment of him to join Team Alien. Three co-workers was, by his estimation, probably two more than he really needed. The machines would be doing the heavy lifting, after all.

'One question,' bright Sparke piped up, just as everything had been decided. 'What if you find life under the ice on 834g?'

Senkovi shrugged. 'Then, unless it has radio capacity and is a very quick learner, it's probably fucked,' he said.

There might have been life. That was what he had to live with. Actually, there might still be life. Initial probes on Damascus (Senkovi had taken the liberty of installing his pet name like a squatter and daring Baltiel to evict) had picked up complex chemistry along deep-sea vents, but precious little beyond. The water column itself was barren. That chemistry was still there in places, and in fact two decades of colossally accelerated volcanism had perhaps even benefited it, spreading its habitat across the sea floor. Was it life? Results were inconclusive. Whatever was going on there seemed to be more about clay matrices than cell membranes, and relied on a toxic balance of chemicals that would be anathema to natives both of Earth and Tess 834h – which Senkovi had privately named ‘Nod’, because it was notionally east (or at least sunward) of the Eden that he himself was creating.

He had downplayed the possible biochemistry aspect in his reports to Baltiel, while simultaneously knowing that the man would not be fooled. It created a convenient fiction between them that they could show to later auditors. Baltiel was sharper than Senkovi had initially thought. After his big presentation about 834g, Senkovi had asked the man, ‘How did you get through all that fast enough to make the decision?’ and Baltiel had just said, ‘I’ve seen your appraisals and tolerances. You wouldn’t stake your career on a bad bet. All I needed to see was that you were staying the hell off my planet.’ And he had smiled blandly, and Senkovi had learned a lot about his boss from that expression. An inclination to play God was part and parcel of wanting to go out and terraform other worlds, but good practice was to at least play nicely with the rest of the pantheon. Senkovi had met Avrana Kern once – it had been hard to avoid her – and *there* was a woman who was her own Zeus, Odin and Yahweh all in one. Baltiel’s role had only ever been intended as a subordinate Vulcan, but now he had found a new lease of divinity, a project Kern could not reach across the abyss to dictate.

All very wearying, Senkovi thought. He had been out of storage for six months, this time round, because after a couple of years of targeted bombardment the primary volcanic phase was reaching completion and he and his people needed to set the next set of wheels in motion. Han was skimming drones over the surface of Damascus right now, mapping the new borders of the ice, which was confined to around a quarter of the surface and split between the poles. Still pretty damn cold by Earth standards, but the greenhouse gases were building nicely and they’d installed a set of solar collectors to funnel even more heat in.

The atmosphere of Damascus was fairly dense and mostly inert. The vast quantities of water had gifted the place with a little oxygen even without anything actively metabolizing it, which was a huge timesaving for Senkovi, as it allowed him to install more complex oxygenators which needed a bit of the O₂ already present to bootstrap them. He was about to turn the seas green, clogging them with the sort of algal slick that would horrify a beachful of tourists. That would set the oxygen meter creeping upwards, but, of course, that in itself would be robbing the planet of heat-retaining CO₂, meaning the whole volcanism and greenhouse gassery would need to be kicked up a notch, and the equilibrium of the atmosphere kept balanced like a spun plate that couldn’t be allowed to so much as wobble for year upon year. And then there would come some more waiting, and he’d sleep out most of it. Except the current bout of watch-and-wait had tested his patience enough to set him on some side-projects, and now they were sufficiently advanced that he was contemplating spending another year of his life on *them* rather than saving it for the actual terraforming.

He glanced at his companion, who had come out to stare through the glass at him. ‘Hungry, yet?’ he asked, but he didn’t think so. Paul was just curious. Curiosity was something Senkovi had bred into him, building on his work back on Earth. Really this had been no more than a hobby, no more out of order than Han’s painting or Poullister’s tedious logic puzzles. Except it had turned into a sufficient sink of mission resources that Senkovi had begun to think of ways to make it work for him.

Just about on time, Baltiel checked in, the signal coming at a staggered delay from the relay satellite orbiting Nod. Senkovi judged the time apt for revelation and opened a visual channel.

Baltiel had been taking things slowly on Nod. They were still flying carefully disinfected drones over the planet, trying to inventory the biomes and their contents, sleeping on ice while the systems generated hypothetical taxonomies. Senkovi looked it over every month or so, impressed with the man's restraint. He knew that boots on the ground was the plan, in a hermetically-sealed biodome. Baltiel would be the first man to walk with aliens, but only with a heavy-duty hazard suit between him and them, for everyone's protection.

'Hola, boss.' Senkovi composed his best smile. 'We're seeding now. Algal spring comes to Damascus.'

'I saw.' Because obviously Baltiel returned the courtesy and checked Senkovi's working on a regular basis. 'You're ahead of schedule, even.'

'You're behind,' Senkovi couldn't stop himself saying. To his surprise, Baltiel grimaced.

'I . . .'

And of course some of the given reasons for the man dragging his feet had been that he wanted Senkovi's operation established and stable, so that the crew remaining on the *Aegean* could charge over to mount a rescue if something went wrong, or vice versa. Senkovi had already dismantled that logic, and decided there were deeper and more personal bonds holding Baltiel back. The man's face now confirmed it.

'You want to make a good first impression,' Senkovi completed. 'And you only get the one chance.'

'That's it.' A gentler smile than any expression Senkovi had seen on Baltiel's face before. 'We're going down there. It's all planned. But I check and check again. I've had samples in the lab up here exposed to every microbe in the human body, to every Earth molecule.'

'And vice versa I hope.'

'It should be safe,' Baltiel said, surely for his own benefit as much as anyone's. 'There's some negative interaction at the molecular level, and there's more arsenic down there than we'd normally like. But biological interaction? None. They don't have our DNA, our cell chemistry, any of it. Nothing's going to get killed by the common cold. Nobody's going to catch the Martian flu. And we'll still be suited up, sealed away.' He sounded like someone looking for a second opinion, so Senkovi nodded amiably.

'I've given your proposal the once-over. I don't see any gaps.' He might have said more, but Paul chose that point to detach from the corner of his tank and come forward to goggle out at the screen.

'What the hell is that?' Baltiel demanded.

'Yusuf, meet Paul. Say hi, Paul.'

Understandably, Paul said nothing.

'What is it?'

Senkovi frowned. 'He's a Pacific striped octopus.' He sent over a data dump of files on cephalopods of all kinds in case Baltiel was criminally underinformed on the subject.

'But you must be way off seeding complex life.' Baltiel's brief eye-twitch showed him searching through the mission plan.

'Well yes, but—'

'Disra, is this a *pet*? Have you been using mission resources to breed domestic . . . octopodes?' Another brief twitch and Senkovi knew his superior had been looking up the plural and settled on the most awkward-sounding one.

Time for the long con. 'It's like this. We have an unprecedented level of underwater work on this project. Because, obviously, the planet is almost all underwater. Now while we have drones and remotes and the like, it won't be enough if we want to keep to schedule.'

'So you won't be ahead of schedule for long?'

Senkovi decided he could throw his past self under the bus for the benefit of his future self. 'Sure. I was optimistic. However, I've got a solution. Paul can help.'

Baltiel raised an eyebrow, a reaction sent over minutes between planets, but Senkovi felt it was worth waiting for.

‘Do you know the work Califi and Rus were doing for Doctor Kern?’

Baltiel’s eyebrow ratcheted up further, because right now everyone knew about that work – certainly everyone back on Earth had an opinion about it thirty-one years ago, and the most recently received opinions were extremely vocal. It had been a *cause celebre* for the reactionaries, a justification for terrorism, bombed out labs and brutalized monkeys. ‘The viral work,’ he said flatly.

‘It wasn’t finished when we set out, not quite, but I have a lot of their research. I was even co-author for one of the papers.’ Senkovi was not looking Baltiel in the eye now, his attention shifting to Paul instead. ‘I mean, I’m not talking actual *uplift*, not like they did it, but a little tweaking, a little acceleration’ – *not to mention improving lifespan and post-egg laying survival but I’m not saying that because you’d want to know why* – ‘so that when the sea is sufficiently habitable we could have a workforce to help us . . .?’

Baltiel said nothing for a long time, enough that Senkovi checked twice to ensure the link was still open. *What’s he going to do? He’s on a different planet. He has his own obsessions. Is he calling Han to tell her to replace me? So I bred a better octopus. Is that so wrong?*

‘Submit a proper plan, at least, before you start meddling with them.’ The words jolted Senkovi into eye contact again and for a moment the two of them just stared at each other across the thousands of kilometres. *We are both off our briefs*, Senkovi realized. *We’re rebel angels, and by the time God – meaning Avrana Kern – realizes what we’re up to, it’ll be too late.*

‘I will,’ he promised, blithely sidestepping the fact that he’d already started. From his tank, Paul watched him with one slit-pupiled eye, tentacles curling in elaborate arabesques.

Terraforming gave them all time to think. Yes, they were hurrying the planet's changes along at a ludicrous rate, compared to geological time: from iceball to ocean within a small slice of a human lifetime. Still, humans had evolved to live with days and months and seasons. The waiting was hard. Nobody wanted to just fall back into cold sleep the moment the opportunity arose, telling the *Aegean* to wake them in a decade. They wanted to see the world below them start to germinate before they closed their eyes. And so they practised art, music, read the ship's stored library front to back, played procedurally generated strategy games advertised never to repeat themselves. And almost everyone became obsessive, now and then. The Earth link was what got most of them. Poullister, Han, Maylem, they had all spent time trying to discuss what was happening back home. People were fighting. There were localized war zones – mostly the traditional sort where the big players' soldiers got to go play in the back yards of their neighbours, to minimize the property damage of friendly allies. Proxy wars, and keeping it clean so far, but everyone knew that there were stocks of chemical and biological agents just sitting around waiting for someone to lose patience with polite and limited wars. And the news was old, of course, over three decades. They were out here on the edge of humanity's sphere of influence, their ability to communicate with home crippled by the insuperable laws of relativity.

Senkovi had heard Poullister and Maylem in full-blown argument – one of those pointless rows where both of them were effectively arguing the same case, where the argument itself was the point, not the winning of it. He hadn't realized, before then, just how riled up everyone was about Earth and the growing conflict they were hearing about, a generation late. And probably it was all settled now, peace and harmony, but that old demon relativity brought an end to any difference in acceleration between good news and bad, truth and rumour. None of it could get to them faster than the light of their home world's distant sun, leaving them to endlessly speculate about how bad things might have got.

Senkovi himself kept out of the discussion and kept out of their way. He was already obsessive, a trait he had proudly smuggled onto the *Aegean* long before it had become *de rigueur*, and he was using the waiting time to indulge in his own personal schemes.

When Han came to see him – this was months after his brittle détente with Baltiel over Paul – her first comment was, 'You're supposed to be in the freezer by now.'

'Don't wanna,' Senkovi told her, sticking out his bottom lip because he'd learned that with some people a veneer of feigned childishness could transform his peculiarities from obnoxiously antisocial to charming. 'Busy.'

'Busy keeping us out of here,' she noted. 'This was Payload Bay Seven, wasn't it? Only none of this looks like payload, Disra.'

'It is payload. Of a sort.' He was already being defensive, and he'd hoped to keep that in reserve when charmingly childish wore thin. 'I filed a plan with Baltiel. He's all over this like a rash, believe me.'

'Disra, I saw the plan you filed. It was . . . thin. And you must have pushed past its parameters an age ago. Preliminary testing, it said.'

'And it went very well, so I made an executive decision. Baltiel will back me.'

Han was a tall, slender woman who looked as though she should be an aesthete, all impromptu haiku and abstract paintings. In fact her paintings were all of robots, fantastical, impractical metal humanoids lit by industrial fires or explosions, as though she had a window onto a world where cybernetics had gone in very different directions. On top of that, perhaps despite that, she was the best engineer on the terraforming team, a genius mathematician and a pilot. And all of that, Senkovi had thought, should have been enough to keep her busy and not send her snooping around here. He felt like a boy caught doing something untoward after

lights out, sitting on the floor of Bay Seven with a half-gutted virtual console, lit by the azure radiance of the big tank he'd had constructed.

Han put a hand to the transparent plastic, seeing the occupants detach from the fake coral and rocks he'd given them, drifting towards her fingers to see if they would give any entertainment value. 'I'm guessing you're not sending them planetside any time soon,' she noted. 'Unless you've engineered the fuck out of them to not need oxygen or Earth-style temperatures or pH.'

'As it happens they aren't ready for deployment, no,' Senkovi told her shortly, wishing she'd just go away and, if possible, forget everything she was currently looking at. 'I'm still very much in the R&D phase of the project, as you must know if you've read—'

'Why squid?'

'Not *squid*. Octopi. Octopuses if you want to be a slave to the dictionary. And why not? What's wrong with them?'

Han glanced down at him. 'You've got a genetic library that's a good slice of Earth biodiversity, Disra. You've got the kit here to hatch out anything, un-extinct it. Poullister was talking about making a dog.'

Disra, not much of a dog person, shrugged. 'Why not? I mean, what would you do? Let me guess, you had a cat, back home? Fish?' He decided Han probably had owned a cat, or had wanted to own a cat but hadn't lived somewhere she could get a pet permit. Maybe she'd had a robot cat, one of those good little machines that purred and sat on your lap and then its ears fell off the moment its warranty expired.

'I'd make a tiger,' Han said.

Senkovi was speechless for a long time, enough that his console began lighting up with frustrated red error messages as his fellow game player got annoyed with his inaction. 'Huh,' he managed eventually.

Han grinned down at him – it was the first time he had ever seen her smile, perhaps. He suddenly found his opinion of her completely revised. She wanted to recreate a tiger, here on the *Aegean*, where the narrow corridors and enclosed workspaces would lead to an interesting work-life balance for the humans having to share the ship with a large carnivore. And, of course, she'd never go ahead and actually *do* it. Senkovi was frankly the only person on the ship who would just live the dream and to hell with the opinions or even permissions of others. But the thought was there and Senkovi decided he liked Han a lot better for it.

'I had a tiger when I was a kid,' she said candidly, and he wondered if that meant a stuffed toy, or if she came from an income bracket considerably above even his own rather privileged one. 'But you, you've got a whole load of these . . . octopi. And no tigers.'

'Ah well, the key failing with tigers is that their performance drops off sharply when you get them to mend coolant pipes a kilometre below the surface of the ocean.'

Han stared at him for long enough to make him uncomfortable, then the grin was back. 'That's not what this is about,' she pointed out.

Senkovi thought about keeping up the presence but decided she was too sharp for it. 'Oh, well, it is. I mean, that's the end goal. But I had an octopus when I was a kid.' Rather more than one, but the narrative was simpler that way. Then his console beeped sharply at him and he hurriedly made a move to keep it quiet.

Too late, though, for Han was crouching down beside him. 'Who are you playing against? Is that Poullister? He can't play worth a damn.' The console was displaying a tile-laying game, a little idealized landscape half-constructed from squares, linking roads, rivers, cities. And it was a mess, pieces all over, roads spiralling to nowhere, the spiky walls of towns clustering like sea urchins.

'It's . . . Not Poullister, no.'

Han's eyes were following where the cables from the console led. And yes, he could have just run the whole thing in virtual space on the *Aegean*'s system, and that was the logical next step. Right now he was trying to keep his games private, because the others would mock.

Han wasn't mocking, though. He could see the wheels of her mind turning. 'You're . . .'

'Paul,' Senkovi explained. 'Well, Paul 5. He's the most successfully modified. He likes the console and experiencing virtual space. I'd thought . . . well, there are *humans* who never really take to a virtuality, but the octopi are all about manipulating space. There's no tactile element for them yet, and I thought that would be the sticking point, but they get it very quickly, Paul 5 especially. So I'm trying some simple games. With debatable success. He makes moves, and he's understood the limits the game places on when he can move and what moves can be made, but as far as strategy or points or winning, that seems to be outside his range at the moment.'

'Tell him he doesn't get fed if he loses,' Han suggested, staring into the tank.

Senkovi had tried that. Pavlovian motivation wasn't terribly useful for training an octopus. Once they were fed, food became a lesser motivator than curiosity. Also, when Senkovi had contrived to communicate that the game hid a shrimp inside it somehow, Paul 2 had broken the game trying to take it apart.

'We're going to need this space back for payload sooner rather than later,' Han remarked eventually, even somewhat regretfully.

'Firstly, this is payload, albeit highly experimental. Secondly, we don't. Look, I've reorganized. We can get by on the other bays. I've even gained us some space.' He sent over his changes, which were in fact just as advertised, to the virtual space their mind's eyes shared. The designers of the *Aegean* had been slacking somewhat, leaning on their large budget. Senkovi had improved on their work to provide the ship with improved economy of space and movement of matériel, the sort of thing that someone might have achieved genuine commendations for. The entire elaborate operation looked good on paper to anyone who didn't suspect he'd gone through it solely because he wanted more space for fishtanks.

After Han had gone, he finished the game and fed his pets, hoping that the rest of the ship wasn't already tittering behind his back about crazy Senkovi and his performing molluscs. The console was already flashing, though, despite Paul being busy dismantling a crab.

It was one of the others, Salome. She had been watching Paul, and now she had used her own newly implanted connection to break into the game system. She had moved as much as she could but now needed him to take his own turn before she could continue playing.

Senkovi suspected he should probably get away from the tanks and go have human contact or something healthy like that. On the other hand, he'd just had an actual conversation, which was quite wearying, and he could hardly disappoint such a keen experimental subject.

He sat down again, dropping a tile into the virtual space and waiting to see what Salome would do.

Siri Skai would be in charge of the orbiting module in Baltiel's absence. She and four others would have relatively little to do except continue to round off the rough edges of the database the computer was assembling on the Nod biosphere (Senkovi's joke name having gradually infiltrated the collective consciousness). Of course, technically Baltiel himself should be staying up top and delegating the ground party, but he was damned if he was going to. *This* was the day he had been waiting for, in and out of sleep over the years since their arrival here. He would not only be on the shuttle down, he would be the first damned human being to set foot on this world. Nobody was taking that from him.

Remotes had been down there for a long time now, setting things up. There was a habitat ready to receive them, filled with an atmosphere not vastly different to that outside – a little lower pressure, a little more oxygen. An Earth-ish atmosphere, though, and the gravity would be real, even if a little stronger than they were used to. He had been living in space, sometimes in rotational gravity, sometimes in none, for too long.

Of course, the plan was purely to run a research mission – the research mission he had invented to replace what they were actually supposed to be up to out on Nod. He shouldn't be thinking about the place as 'home'. It would be a poky little series of interconnected domes, barely more personal space than on the module they'd separated from the *Aegean* and left in orbit when the rest of the ship went off on the road to Damascus.

Senkovi and his damn fool names. But they always seemed to stick. No doubt the colonists would have their own sanitized monikers for both planets when they arrived. Or maybe not. That depended on just how badly things actually went back home. Senkovi said they'd get boatloads of desperate refugees turning up at every terraforming station, clamouring to be housed and fed. The great human diaspora, but not how anyone had envisaged it.

Baltiel had sat down to a meal with all his crew, not long ago – he'd tweaked the rotas especially so that everyone would be awake and ready for the historic launch. The mood had been cautiously optimistic. Earth was very far away, after all, and everyone was sure that things there would sort themselves out. The mysteries of Nod were far more immediate for them.

Skai had even wondered about harvesting something edible from the planet, because Senkovi was a long way from commercial fisheries over on Damascus. Skai was a geologist, though, and tended not to read the monographs of other specialities. Ninety per cent of Nod proteins were indigestible to humans – not immediately poisonous but just inert stuff that would clog up your gut and probably kill you eventually from the levels of arsenic and mercury the planet seemed to thrive on. The remaining ten per cent were not economical to separate out.

Baltiel had expected to be the great expert on the land of Nod by now. Instead he felt as though their accumulated knowledge of the planet was to the mind what the alien flesh would be to the stomach, almost impossible to assimilate. It wasn't that the automated survey had turned up blank, quite the opposite. They had a vast wealth of information about the planet, and no way to readily put it together in any kind of order. He felt like a schoolchild taught history as a list of dates and names of kings, without context to let him draw meaning from the information.

Nodan organisms were organized into cells, just like Earth creatures, although the cells themselves were very different. They were smaller, for one thing, no bigger than an *E. coli* bacterium on average. There was no nucleus, but some manner of transmissible organization, incredibly dense, was implanted in the membrane. Lante, wearing her biochemist hat, was talking about atomic-level information storage, more compact than DNA but perhaps more energy-intensive to produce. Every cell seemed to react to light, even the ones buried deep in the bodies of creatures. Why? Nobody had a good theory. Plenty of the organisms they had looked at appeared to be metabolizing sunlight, some sessile-like plants, others highly mobile, suggesting that their mechanism (as yet unknown but there were some fascinating

suggestions) was far more efficient than plant photosynthesis – and there appeared to be no hard plant/animal divide on Nod.

Almost every organism was radially symmetrical, top and bottom but no front or back, save where evolution had twisted them round to let them flap through the skies dorsal-side first. Oh, and many of them were only partially cellular, with large portions of their bodies composed of a plasticky tissue that seemed almost inanimate and which was manipulated and deformed by contracting fibres – the jellyfish, which comprised a significant phylum of Nodan life, were all sail and hardly any actual ship.

Baltiel wasn't someone whose mind leapt instantly to thoughts of commercial exploitation, but Nod had already shown him forms of information storage, energy conversion and super-strong, super-light materials that Earth technology could not currently replicate. And yet, at the same time, the Nodan ecosystem felt . . . *young*. Aside from some truly colossal medusae-forms nothing on land seemed bigger than a medium-sized dog. There was nothing like a forest (nothing like wood), nothing much like an internal skeleton. Everything sprawled outwards rather than fighting for height. He wondered if this was what Earth would have felt like back in the Devonian era or some such, when life was just encroaching on land.

What might they become? But he would never know, and he had a bitter certainty that human presence in this solar system meant that nobody would, that the future of life on Nod was going to be brutally curtailed.

He had not sent anything home about their discoveries. As far as he knew, everyone had respected his orders on that front. But it wouldn't matter as soon as the next wave of Earthlings arrived, ready to wash away all these fragile marks in the sand prior to building some prime beachfront property on any habitable planet they found. He had daydreamed about putting plague beacons in orbit all over the planet, warning off the future.

So instead he was indulging himself. He and his crew would do what they could to curate this riot of weirdly unambitious-seeming life while they were still able to. There would be a record for later generations, even if there would be nothing else.

He sent a call to Skai over the module's network and she confirmed her readiness, highlighting the green system readouts. He checked to ensure that his ground team had reached the shuttle. Erma Lante (biologist and medic) and Gav Lortisse (geothermal engineer and general technician) were there, and Kalveen Rani (meteorologist and pilot) was just on her way. She had a message pending and he checked it anxiously, expecting something to have arisen to delay his destiny – faults, storms, something. Instead she was recommending he speak to Senkovi. *He had some meteorological data for me to analyse but when it came through it was nonsense. He may be having problems.*

Baltiel felt he had plenty of his own problems, to which he really didn't want to add Senkovi. The man was supposed to be so damned self-sufficient, after all.

He set his feet on the brief path to the shuttle bay and a sudden rush of excitement seized him, like a child about to go on a much-dreamt-of holiday. He'd been living in this tin can for too long; subjectively for years, objectively (meaning by the ship's clock) for decades. Like a child, again, but one who'd been staring at the presents under the tree for a generation, not forbidden to open them but exercising inhuman self-restraint.

Like a child. Nobody on his team would describe him so: he was the man who was always calm, who always had an answer, who could even – miracle of miracles – talk Senkovi up or down or sideways from wherever the man's thought processes had led him. And yet, inside, Baltiel felt a bubbling, innocent glee. The timing of the mission, however well accounted for in the records, was more to do with him having finally exhausted his iron reserves of patience. Today was Christmas and he was about to tear off the wrapping paper.

Still, he was Overall Command, and Senkovi's little fiefdom was still part of Overall, at least nominally, so he had the module signal its other-self, the *Aegean*.

'Hi, boss,' came the delayed response, by which time Baltiel was in the shuttle double-checking Lortisse and Rani as they double-checked each others' pre-flight checks, belt and braces all the way down.

'Siri's chasing up some met data from you,' Baltiel prodded.

'Oh, hum, yes. No, not a priority right now.' By which time everyone on the ground crew had checked everyone else's sums and Siri Skai had confirmed their launch window and the excited child taking up space in Baltiel's head was virtually blocking out everything else. And Senkovi sounded off balance, which should have been a huge worry given how the man kept his insides inside, but surely it couldn't be *now* that things went catastrophically wrong. Not on the very edge of departure.

And yet . . . 'Disra, what's up?'

'We're just having a few system glitches, boss, nothing to worry about.' Senkovi's tone, when it finally came back, was transparent. *He's screwed up somehow and he doesn't want me to check up.* And Baltiel could check up, of course. He could query the *Aegean* with his command access and then, doubtless, cut through all the baffles and screens Senkovi had festooned the problem data with. Or he could just let Senkovi get on with it and deny the man the chance to rain on Baltiel's greatest ever parade.

He made a command decision that, even then, he knew was on the wrong side of cautious. He'd been cautious for twenty years, though. Time for one glorious, reckless act. Cutting the connection, he decided to let Senkovi scoop his own crap without supervision, this one time, and hoped that the man didn't end up finger-painting it all over the walls.

He refused to lose the launch window. He couldn't know, at the time, just what was riding on the decision.

'Skai?'

'When you are.' Skai and the rest of the module crew were already settled in to continue the data gathering. Most of them would be back in cold sleep as soon as the shuttle was safely down. He was surprised there hadn't been more jostling for a place on the ground, but going to live with the jellyfish didn't appeal to everyone.

The shuttle bay was evacuated around them, the air jealously grabbed back before it could be wasted. The bay doors opened, the clamps released and the rotation of the module gently released the shuttle out into space along a perfectly plotted pitch.

Baltiel had chosen the salt marsh biome for his base because it was more hospitable than the searing inland deserts. Not that their suits didn't have temperature control, but the less the technology had to work, the longer it would last without maintenance. Of the land biomes it seemed the most populous, too – where an anthropocentric eye could perhaps see evolution striving to produce something *more*. And that was an illusion, surely. Probably the great fonts of evolutionary activity were elsewhere, and left to their own devices there would have been some great new wave of development from the deep sea, or the floating creatures of the upper atmosphere. *But moot, now. We can only observe the present, before we go on to destroy the future.* The thought made Baltiel so angry, but unless the commander of the next ship along was also a radical conservationist, how could any of this life have long-term prospects? Oh, surely individual species would survive alongside humans, or be relegated to reserves and zoos, but the ecological history of Earth showed how pitiful such measures were. One of the terraforming programme's great triumphs was being able to reconstruct whole Earth ecosystems – systems that didn't exist as anything other than deathbed wounded back on their original planet. Because in a very real way the ecosystem was the basic unit of life: species creating, by their very presence, an environment for other species to work in. *We wrecked it all, back home*, Baltiel thought. *And by the time we understand Nod we'll have wrecked it here as well.* For a moment he'd had a mad dream of an Earth-mimic Damascus and an alien Nod side by side, co-existing. The spiralling bad news from home had ground down that dream into a kind of bleak nihilism. *We will learn what we can and record it. I will be able to say, 'I walked there.'* *They can't take that from me, no matter who comes.* Even the thought of Earth, the political rants, the casualty figures, the spiralling insanity, made his gut clench, but he consciously banished the images and medicated the gut reaction, just like they all were doing these days. *I will not let a little global war ruin my moment. And it's all history anyway, by the time it reaches us.*

The shuttle was falling into its pre-planned descent, Rani keeping a close eye in case she needed to intervene. Lortisse had a presence in the shuttle performance system, but it was

more out of habit than genuine worry. Lante appeared to be dozing, even as they came into contact with the upper atmosphere. Baltiel himself was staring at the images – views of Nod from the module, from the shuttle: a world of brown, black and red, far from the green-blue jewel of a terraformed New Earth.

A transmission came in from the *Aegean* and he looked at it, despite everything. *What now?* But it was gibberish, just strings of alphanumeric characters chopped up to look like language but devoid of meaning.

A practical joke? Because that was something on Senkovi's file, one of his ways of impressing on lesser people just how clever he was, although this didn't seem up to his usual standard. He sent a query back.

They were going for a shallow descent to save wear and tear on the shuttle as much as possible, but also so Baltiel could use the ventral cameras to get a new fly-by view of his domain. Below them was the obsidian expanse of the ocean. *The wine-dark sea.* Too high right now to see anything more, but they would get a good skim over the waves before they crossed past the coast.

'Hey, boss, no, all fine.' *8jsqjg r jg81 ufwytmv-i9r f* 'All under control here. All fine. How's the flight?' *kksn hu9 d i99t k.*

'Disra, what the hell?' Abruptly there was a very uneasy feeling in the pit of Baltiel's stomach because he was getting a lot of ghosting nonsense from the *Aegean* around Senkovi's signal, multiple separate transmissions from the ship that manifested as sudden intrusions of nonsense audio shutting out the man's voice channel.

'It's . . . Look, boss, don't panic. I'm going to have to turn it off and on again.'

I made the wrong call. He was in the Nod orbital's only shuttle and it was committed to the approach now. There was no way he could go and help Senkovi. *Although even if we were still sitting back up there in orbit, it'd take the best part of a year with the positions the planets are in right now.* 'Explain,' he demanded curtly.

'I'm having some system infiltration issues,' came Senkovi's voice, trying and failing to be casual about it. 'I . . . ' *hhs i4 gk; gg 8lubj2* 'I need to restart the ship's systems from scratch, boss. I'm really sorry. It's a bit' *n83.ljsg.n hgikkkd* 'screwed up.'

Baltiel's insides were screwing themselves up, partly in worry, partly furious that somehow Senkovi had managed to piss on his moment of glory. 'Explain,' he repeated, and then, looking at an initial analysis of the nonsense transmissions, 'Are you being *hacked*?'

'No. No, no. Yes.' Senkovi's delayed response sounded as though it was somehow funny, whilst simultaneously being horribly serious. 'Look, I'm sending the others off on the shuttle, just in case things,' *9wks rj i934mmgpppphhhhheeeellohellowhatwhat* 'uh, just in case things go really badly, which they won't, but it's all a bit,' *whatwhat95mg; hooqueryquery* 'you know, kind of . . . I've said that if things go really badly they should skip over to Nod and throw themselves on your mercy. Not their fault. All mine, okay?'

'Disra, just tell me what the hell!' Baltiel had already shouted over the man's babble. The increasingly organized nature of the other signals was prickling the hairs on his neck. *Has he kickstarted the ship into full AI or something?*

'Victim of my own success,' came Senkovi into a sudden silence as the other transmissions cut off. 'I've clamped down on bandwidth but I can't keep them bottled up. I'm taking it all offline. All you need to know. Normal service will resume shortly.'

'That is *not* all I need to know!' Baltiel was trying to interrogate the *Aegean* but, between Senkovi trying to cover himself and whatever chaos was actually going *on* over there, he wasn't getting a coherent picture. On the screens in front of him, the Nodan seascape was lost in the shuttle's rushing progress, and now there was red desert below. According to his diagnostics there were half a dozen net presences in the *Aegean*'s system, weird undirected processes lurching around trying to access ship systems.

He'd thought his demand must have come too late, but Senkovi obviously caught it before flipping the switch. 'All right, boss, here's the lowdown,' came the reply. 'I may have failed to contain my experimental subjects properly.'

'Explain.'