

# Demiurge



BY LINUS COHEN

*“The terraforming of a world is an event with history that goes back thousands of years. Back to the Interplanetary, or even the Information Ages, the idea has been dreamt of, and tried countless times. In the present era, it has been a success. The terraforming of a planet is no longer something that requires huge material expense. It is now something that can be done regularly and cheaply. Terraformed worlds are no longer a product, they are now a service.”*

– Yann Qesin, *A Study of Historical Planetary Engineering*, Ken Ferjik EGI Press, 8242 AT

Laefalia Ghinsa purposefully strode across the exquisitely carpeted floor of the observation deck of Cleo Station, the orbiting behemoth that would control the terraforming of the planet that filled nearly all of the observation window, Lachesis II or Thalia, for short. She was there with about two hundred others of various clades, all from the Tirafilia Habitat Cluster. There was a local seraiph of Nest Mountain, Tirafilia's godling. Laefalia was the only one of her family to be there physically. However, her father, Harven, was there in holographic form, his movements being projected via nanogauge wormhole link all the way from Kami Habitat, four light-years away. Even so, there was still around a two second delay when talking to him. He had said earlier that her aunt Relvia might make an appearance as well. She was dressed in a flowing blue silk dress, made from a nanofab template she had done four days of Known Net diving to find. She had liked it so much that she had added it to her personal data library. The special event that was about to occur was the beginning of the terraforming of Thalia from its EoGaian status to a EuGaian paradise. The project was being run by Asen, one of Nest Mountain's angels. The terraforming was expected to take ten years, which would have it finishing in the middle of 8399 AT. Truly a monumental project.

A hushed silence fell over the conversation as the perfectly modulated voice of Asen filled the room. The sound appeared to be coming from both everywhere and nowhere at once. E spoke in a voice that was as inscrutable as a fractal. The lights dimmed.

"The terraforming of Thalia has been meticulously planned for over two decades. Now, on this day the fourteenth of June, eight thousand, three hundred and eighty-six After Tranquility(Normalised Tirafilia Time)we shall see it put into action for the first time. The two hundred of you chosen will have a chance to observe the project for all its ten-year duration."

"Thalia is at present cocooned in an atmosphere of methane, carbon dioxide, water vapour, hydrogen and helium. It has a molten interior, and plate tectonics. It has large liquid water oceans. Atmospheric pressure is 1517 millibars on average. It is hit by large asteroids three times more often than Old Earth in SolSys. Its oceans are blooming with simple prokaryotic life. A classic member of the EoGaian subtype."

"We shall change all that. Bionano replicator swarms will convert the atmosphere. Excess gas will be sequestered underground. Comets, brought in from the Kuiper Belt, will replenish the atmosphere with volatiles. We shall release Sagan algae into the atmosphere. And, after a while, it will begin to look a lot like Old Earth."

"No sense in wasting time. We start now."

Deep in the core of the computing networks of Cleo Station, a signal was sent through ever more complex components, until it reached the transmitter. On the surface of Thalia, soft-landed packages let loose their cargo of bionano and Sagan algae. Nearby, expert system-run machinery began sequestering methane underground in super-compressed microspherules. Out in the Kuiper Belt, a second nanogauge wormhole link sent the signal to other machines, which began herding comets into the proper orbits, and attaching the correct tracking and detonation devices to them. A great cheer went up from the crowd, the lights came back on, and conversation resumed. Laefalia noticed her father standing next to her.

"Are you sure you won't get lonely?" he said.

"No way. After all, I can talk to you or Aunt Relvia or anyone, anytime I want. Besides, I'll spend most of my time with my mind slowed down, to make the terraforming operation go faster."

"Really? Oh, well. Make sure you actually get to see Thalia. Bring back some holopictures. That reminds me, did you remember to book passage back to Tirafilia?"

"Come on, you know I wouldn't forget *that!* Yes, I have the booking. I'm going home on the *Etherwhale*, Pitch Drive, run by Tirafilia Spaceliners."

"Good. Ok, I have to go now, but everyone at home sends their congratulations on being invited. Goodbye!"

"Bye!"

The holographic image of Harven winked out of existence. Having settled into Cleo Station, Laefalia went to find her room.

## October 26, 8395A.T. (NTT)

The silver needle of the surface-orbit transport Clejin Six shot through the green-blue sky of Thalia at half a kilometre per second. The SOT was making its way from the surface back up to Cleo Station, and was now about two kilometres above the ground. In the SOT's pressurised and ufogged interior, Laefalia sat in one of the many biomorphic chairs, looking out the quartzoid window. The event she wished to witness was the distribution of comet TSS889, the most recent celestial immigrant from the Kuiper belt. To avoid any damage to the SOTs, the designated detonation sites were always at least ninety degrees longitude displaced from the SOT landing and launching area. However, if they were high enough, and Cleo Station was in stationary orbit 37,000 kilometres up, they would be able to see it regardless. The comet was not expected to be detonated for at least two hours, but Laefalia could clearly see it outside her window, even against the glare of Lachesis. The immaterial fuzzy disc would steadily grow larger until the detonation point was reached, by which time Laefalia and everyone else in the SOT would be nearly 10,000 kilometres up. To pass the time, she decided to converse with her AI friend inside the operation, Maia. Her mind implants opened up a comms channel.

“Maia?”

It was a disconcerting feeling, talking to someone and yet not making a sound. Even though she had grown up with non-aural comms transfer, she could never quite get used to it, like some distant racial memory of the first Homo Sapiens, two million years ago, who had first come down from the trees and began building. Two thousand millenia later, this was the result.

Yes, Laefalia?

“Anything interesting up at the operation? I'm looking at the next comet right now.”

*Oh yes, TSS889. After that we only have about four more to go, depending on the volatile content. 889 will be on the night side, so 890 will be on the day side to even up the distribution. We're going to detonate 889 a bit higher this time, at about 500ks. We had a hell of a job reconfiguring the shaped amat-fusion charges. They all need to detonate at exactly the same time, plus or minus point one nanoseconds. And with the lightspeed delay, it just gets impossible. If we didn't have Asen running the whole operation, we'd be really screwed.*

Detonating comets was a new volatile-delivery process for terraforming. It was much more efficient than the Interplanetary Age tactic of simply crashing the comets into the planet. With detonating comets, one had to affix specialized high-yield shaped warheads to the comet in positions calculated to shatter the comet into millions of fragments, each one heading towards the planet. Since the detonating was done when rather close to the planet, the fragments could spread out over an entire hemisphere. When they entered the atmosphere, they vapourised before hitting the ground, so that there was no business with craters or global freezing. It also efficiently distributed the volatiles over the entire planet, so it took much less time for the materials to diffuse through the atmosphere. The downside of this was it required very precise control over the comet and exact knowledge of its interior.

“You know, Maia, the strangest thing about standing on the surface is the horizon. It curves the *wrong way!*”

*One of the downsides of growing up on a hab. Whenever you go somewhere, you look up and expect to see the ground. You must learn that on a planet, the curve hides, and does not reveal.*

“You know I hate it when you go neo-zen on me like that.”

*Hardly. It is but the truth. If I wanted to go neo-zen on you, I would ramble on about being one with the planet. Or I could see if Asen could give you some Pozen to ponder. You don't want that. It would make your brain melt just from the heat produced by contemplating such things.*

“Sounds nasty. I think I'll pass on that one. I'd like to keep my brain functioning at optimum

capacity, especially when I'm using my artcase.”

*Ahh, the famous artcase. Tell me about it.*

“It's a remnant from when Lysiocroft's was still run by modosophonts, and foglets were much larger. Its only value is sentimental. I must remind myself to get a new one when I get back to Tirafalia. I've heard that Lysio's now make very good ones. As for my artwork, it's composed of...renderings of different clades. A sample, if you will, of the diversity of life in the universe.”

*Har har. Now who's going neo-zen on the other?*

At that Laefalia laughed, and ordered a small glass of rice wine from the SOT's nanofab.

*Anyway, I'll have to finish the conversation as I have a comet to destroy. Talk to you later!*

“Bye!”

Laefalia passed the rest of the time until the detonation with a little Known Net diving, one of her favourite pastimes for when she didn't have an artcase with her. After hunting through digital forests of wormhole traffic statistics, newsfeeds from the NoCoZo, and 3d maps of every city on Nova Terra, it was time for the detonation. Her personal organizer uplink sent a notice to the cognitive area of her brain, causing her to look out the window. There was the comet, about to be detonated over the night side of the planet. Since it was sheltered from the sun and the solar wind by Thalia itself, the million-kilometre-long tail had all but disappeared. Her optical implant magnified the image, thus showing the comet for what it was; a billion-tonne block of coal-black ice. Even if it had been in Lachesis' glare, it would have been incredibly dark, after billenia of accumulating volatiles and being battered by the solar wind comets were one of the darkest natural objects known to mindkind. In her mind a clock was counting down to zero, the detonation point coming ever closer. She could see the glow of the braking thrusters as they slowed the comet from five hundred kilometres per second down to the more manageable forty kps, the tremendous force fracturing the comet internally, readying it for the detonation. And then-the comet exploded. The light of the blast was so bright, it momentarily overwhelmed Laefalia's vision system, leaving her in a universe of blinding light. After her optical implant had adjusted, it showed that the comet had split into thousands-no, millions of pieces, all of them spreading out at incredible velocities. So, a few seconds after the detonation, the night side of Thalia became flecked with white plasma trails, as the ice fragments slammed into the atmosphere, and were no more.

Deep in the inner system, comet TSS890 shot over the corona of Lachesis at five hundred kilometres per second, the furious plasma wind blasting away chunks of its surface as the blinding glare of the star beneath it infused the coldness of interstellar space with the heat of solar fire. But there was something else there. A small ship, merely thirty metres across, was hidden inside the comet's tail. The heavily shielded spherical ship, its amat thrusters firing gently, edged its way towards the comet. The ship connected with the comet, and stuck there, gently displacing some snow into orbit around the comet. Inside the ship, in the very core of its computer, a zero was changed into a one. The minute programming change filtered up through ever-higher levels of computing, until the signal was transmitted through the ship, to a small spherical device on the outside. A few seconds past. Then, with no warning, the sphere exploded, unleashing an incredibly powerful shell of electromagnetic energy that would have been detected from Thalia if it had been on the correct side of the sun. But it was not, and the explosion went unnoticed. The ever-expanding wave of energy momentarily disrupted the course of the huge tongues of plasma below, displacing them from their normal paths. It also deactivated all the equipment on the comet, the arming mechanisms, the tracking beacons, deceleration engines, everything, even though the equipment had been buried deep inside the comet to protect from the solar wind. The comet was now practically invisible, but for the tail. Apparently satisfied, the spacecraft activated its shielded propulsion system, left the comet behind, and smashed headlong into the photosphere. It would not be needed anymore.

Up on Cleo Station, in eir virchspace nest, Asen pondered the information shown in a twelve-dimensional data display in front of em. According to the feeds from all over the system, the comet's transponders had stopped working. Just like that. The comet could still be detected, all the optical feeds showed its familiar tail. E tried to open up a feed from the observation devices on the surface of the comet. They didn't work. E tried to get a response from the bomb's arming devices. They didn't work either. This scared em. After a few picoseconds pondering the implications of this, e realised the unthinkable. If the operation couldn't arm the warheads, then TSS890 would slam straight into Thalia, setting the terraforming operation back by months. Then e realised. Not by months, but by years. TSS890 was over forty kilometres across, four times as large as Cleo Station, and unless it was slowed down, moving at five hundred kps. Thalia might never recover from the impact. Throughout its five billion year history, Thalia had only been hit by as much energy as this in its very early life. If it hit the ocean, which was more likely, seeing as Thalia was 70% ocean, it would vapourise a column of water nearly 1000 kilometres wide. Even on the other side of the planet from the impact, there would be a 1590 millibar overpressure. The massive wave caused by the huge displacement of water would destroy entire continents. This event could not be allowed to happen. Immediately e set eir subroutines into action. The message spread like wildfire across Cleo Station's labyrinthine internal network, before finding its way to the priority message hub. From there it was sent to everyone, even the ground crews via centimeter-band beams.

Deeper in the mind of Asen, more interesting patterns of thought were emerging. E was the one who had battled so hard against Nest Mountain's bureaucratic higher angels, who finally gave in and let em run the terraforming operation with eir comet-detonating plan. That was why it was taking so little time. If e had followed their original plan for the terraforming of Thalia, e would still be here in fifty, maybe a hundred years. If there was going to be an accident on eir operation, it would be all the better for them. A vindication, perhaps, of their conservative attitude based on the saying:

"Nothing shall be tried for the first time."

It was lucky that there were only a few of them, and they did not exert too much influence over Nest Mountain emself. Otherwise nothing would get done.

Only a million kilometres away from Cleo Station, a stealthed ship approached Thalia. The ship had no navigational beacons, and employed very powerful nanotech stealth systems that prevented detection via conventional means. The ship fired its retrograde thrusters, slowing it to a halt. Then it delivered its electronic payload. The sentient virus rode on a wave of ultraviolet light, which was then picked up by Cleo Station's comms network. It wormed its way through encryption systems and system processing cores, until it came to the the main link of Asen's core to the network. The virus plunged into the core, disabling Asen's processes, consuming system resources at such a rate that e was shunted into dormant mode to keep from suffering incredible processing slowdown. And that was it. The transapient operator of the entire terraforming project was inactive and likely to remain as such, until the virus was deactivated.

In the control virch, chaos reigned. While the others frantically wondered what the hell they could do now, Maia in Cometary Operations had a more serious problem. She was solely responsible for making the comets do what they were supposed to do, namely follow the right orbits and then explode. But now she was facing a situation that was not entirely unprecedented. In her virch-room she explored different possibilities for deflecting or destroying the comet. Since TSS890 had gone close to Lachesis, it would have a weaker internal structure than usual. If only she could get the comet to just *graze* the atmosphere but not so much as to cause impact, that could dump at least some volatiles in, ensuring that getting rid of the comet wouldn't be a complete waste. She just needed some materials. And a ship.

In the Lower Lounge Level, Laefalia nervously sipped her rice wine. The news had shocked her, and by the looks on the faces of the other guests, not only her. A comet's beacons all failing at once? Asen mysteriously disappearing? The control virch in chaos? The ufog failing? Things like this just didn't happen naturally. She was concentrating so much on this chain of events that she didn't notice the slight jolt of a ship docking at the Hub.

The bionts ran out of the airlock, all of them wearing matching body armour. In total, there were about twenty of them, armed with high-powered close-range weapons. They had ultraviolet lasers and kinetic rifles. Ultratech weapons. Their armoured headpieces with reinforced sapphiroid face masks concealed their faces, except for one. Obviously the leader of the group, he was a little taller than the others. He appeared to be a neb, as did all the others. With a quick hand motion, he split his team into five groups, and sent them all off in different directions. He took three nebs and headed towards the main communication hub.

As Laefalia walked back to her room, she heard the voice of the group's leader come out of the omnidirectional speakers that filled the entire station.

"Good evening."

Laefalia couldn't place the voice, it was speaking in an inflection system she had never heard before. Biopolity, maybe?

"I am Zheast, and I am the leader of the Jeyun."

A hushed silence appeared to fall over the entire station. The Jeyun were the most feared caretakerist anti-vec extremist group within a hundred light-years of Tirafilia. Their main targets were vec populations, and...terraforming operations. Laefalia was scared. She had heard the stories of the Taigon Incident of 8091, when the Jeyun had flooded two continents with molten lava, just to reverse the near-complete terraforming.

"As you know," continued Zheast, "your controlling AI Asen has been deactivated with a sentient virus bequeathed to us by our patron transapient, May Eir Code Be Forever Feared. The comet TSS890 has also had all its systems deactivated. Your external communications net has been taken down. We have placed a high-yield antimatter-fusion weapon on board this station, which shall detonate in seventy-two standard hours unless a disarming code is sent from my neural uplink. The code shall only be transmitted when the demands of the Jeyun are met."

At that moment, someone on board must have fired up their uplink to the omni-directional speaker network, because the next thing Laefalia heard was a different voice saying,

"What are your demands?"

Zheast replied,

"We have two demands. The first is that all terraforming on Thalia must be halted, and reversed if possible. The second is that after this, we require a guarantee on the part of the Tirafilia System Authority and Nest Mountain that we shall not be obstructed or attacked as we leave the system. You have 72 hours to comply. That is all."

A dead silence filled the station, from hub to rim. It was so quiet Laefalia thought for a second that she could hear the distant hum of the atmosphere regulators.

At that exact moment, Maia was making preparations to leave Cleo Station. She had a plan to stop TSS890 from hitting Thalia, and she was pretty sure Asen would have thought of it in her last microseconds before being shunted into dormancy. She would catch up to the comet in the single most powerful ship available to her at the time, the *Armand Yu*, previously a decommissioned Diametric Drive warship, now a private transport for visiting transapients and presently in use by Asen. Well, not quite. The astoundingly risky and insane plan she had thought of required that she use a Diametric Drive craft, due to the spacetime distortions created by the engines. In its essence the plan was quite simple. She would catch up with the comet, use maneuvering thrusters to move the ship as close as possible to the comet while the Drive was idling, and then power-spike the drive, thus creating a destructive gravitational wave train that would shatter the comet into billions of pieces and propel them off to the side of Thalia, rendering it completely harmless. There was only one catch, and that was that the virtual copy of her on the ship would die. It didn't matter that much. She had backups.

In her room, Laefalia sat at the information console looking idly over shipping records in New Daffy, a detailed analysis of the composition of the Muuhhome atmosphere and 3D visual feeds from her home, Kami Habitat in Tirafilia.

"All of four light-years away, and not being attacked by extremists. Sounds brilliant." she said aloud to herself, her voice sounding odd because of the distinct lack of ufog in her room. At that moment she received an encrypted comms link to Maia.

“Maia?”

*Justly so. Tell me, if you could, would you go stop TSS890 from hitting Thalia?*

“Yes, of course.”

*Excellent. I am inviting you to send a copy of you, a Self, on board a ship I am taking to the comet. From there I shall render it harmless.*

“Ahh, you're being cryptic again. Let me guess. You're going to destroy the ship in the process, correct? How do you think the hyperturing operator is going to feel about that?”

*Laefalia, I've already convinced em to do this. E makes backups nearly as often as I do, and e's over two thousand years old. E's died over fifty times. E is okay with it.*

“Really? I can hardly believe that another being in this universe makes backups as often as you. Don't you hold all those records back in Tirafilia, for the Most Consciousness Backups of Any Modosophont? Ok, ok, I'm sending you a Self now.”

A few seconds later, Laefalia's mind implants copied every last bit of information in her brain, cross-referenced it into a working consciousness, and sent it on its way to the computronium banks of the *Armand Yu*. Laefalia mapped the inputs of that copy onto her own sensory network, allowing her to be...a copy of herself. Strange.

At the Cleo Station comms hub, Zheast floated in zero-G as he watched the optical feeds showing the approach of TSS890. A subordinate entered the room.

“Commander?”

“Yes?”

“The sensors say a ship is leaving the station. It's the Diametric Drive one, *Armand Yu*. I thought it best to inform you.”

“What? Get me an optical feed!”

On the main holoscreen, a feed from one of the exterior cameras came up. True to the information, the *Armand Yu* had undocked and was leaving the station.

“What should we do, Commander?”

“Get teams Alpha and Gamma into our ship. Destroy the *Armand Yu*.”

In the virchspace computronium banks of the *Armand Yu*, Laefalia and Maia immersed themselves in the exterior-sim virch, comprised of an interpolation of all the exterior sensors.

“So what's the plan?” Laefalia asked.

“We take the ship very close to the comet, and the power-spike the engines, which will destroy the asteroid along with, er, the ship.”

“So we're going to die?”

“Pretty much.”

The Jeyuni ship undocked from Cleo Station without a sound, and was now moving towards the *Armand Yu* under heavy stealth. All of a sudden, a powerful UV laser beam flashed out from one of its weapons pods, heading straight towards the *Armand Yu*. 33 microseconds later, the beam

impacted the *Armand Yu's* ice shield, vaporising thirty cubic metres in a single shot. Inside the virchspace, Laefalia watched with amazement as a whole thirty degrees of solid angle dropped out of the virch.

“So it has begun. They're firing at us.” said Maia. “We have no weapons. We need to take evasive action.”

As soon as she had finished saying the words, the virchspace seemed to blur, and before she knew it, Cleo Station had shrunk to a mere dot against the interminable void. Less than four minutes later, they were forty-four million kilometres away.

Maia brought up a holoscreen in the virch.

“We are going to be following this path.” she said, motioning to a yellow line drawn on the holoscreen that intersected with a red line Laefalia took to be the comet's orbit. Now, it's still pretty close to the sun, so be prepared to turn down the sensitivity on your vision mapping.”

Less than a day later, the *Armand Yu* was low over Lachesis, the blinding glare filling a whole one hundred and eighty degrees of vision. The exterior hull must have been at over five thousand kelvins, but the transapienttech shielding was holding impressively. Inside the virchspace Laefalia has her optical sensitivity mapping turned down so low that all she could see was the slightly curving glowing plain below her and the huge tongues of plasma rushing up from the surface.

“Laefalia?” said Maia. As she did so, Lachesis beneath disappeared, replaced by an infinite black plain. To compensate for the sudden loss of light, Laefalia's optical mapping turned up the sensitivity again. What she saw amazed her. There were stars, everywhere. The entire sky was filled with stars, some blue, like Mimosa, some red, like Capella, but all of them humming with the buzz of civilisation. She could spot her home, Tirafilia, a few degrees of arc down from Iota Piscium. But the brightest object in the sky was not a star. As her optical input zoomed in at the point of light low over the 'horizon', she could see the distinct shape of TSS890. It was getting closer.

Another day passed, another day of tensely waiting for news from Cleo Station, another day of getting ever closer to the comet. Subsisting on no food but computing substrate caused, among other things, immense, incurable boredom that had driven several AIs insane. It was often said that the only reason the grand godlike AIs run civilizations is because it gives them something to do. The higher up the toposophic ladder one ascends, the more one gets insanely bored. This is one of the many reasons postulated for why so many high-S-level entities become demiurges, as a way to escape from the boredom that, at times, can encompass eir entire being. The news from Laefalia's physical self back on Cleo Station was the same as usual. All the guest were locked in their rooms, nervously hoping something would be done. The Jeyun had still not found out that Laefalia had sent a Self onto the Diametric Drive vessel they had so recently failed in destroying. So now, after two days of superfast travel, Maia and Laefalia were finally about to dock with the comet. Not land on it of course, the gravity was far too weak for that. As the ship made the final preparations to dock, Laefalia and Maia both saw that the comet was a creature of ice, of the dim void between worlds, and not the heart of a system, infused with the glow of a benevolent sun. They were continuously bombarded with microcometoids, and due to the virtual nature of the exterior sim, sometimes they went right through their manifestations, with amusing results. Pulling in low over the surface, Laefalia held her non-existent breath as she felt a simulation of the dull 'clunk' noise produced when the two objects connected.

Maia started talking to her, for what was going to be the last time ever for this Self.

“Are you ready to die?”

“Like hell I am.”

At that exact moment, a pulse of digital information rippled through the *Armand Yu's* interior network at the speed of light, passing through logic circuits too complex for the modosophont mind to imagine. The pulse was self-organizing, as if sentient, and tore through the boolean gates, heading for the reactor control systems. It found them, and issued the last command those systems would ever receive. A greater amount of energy than had ever before gone to the Drive, entered the negative matter assembly. And then all hell broke loose.

The gravitational wave train was so incredibly powerful that it would have been detected at forty light-years distance. The stresses it induced in the comet were so powerful that the comet was ripped into billions of pieces, expanding outwards in a direction that was, as calculated, away from Thalia.

In the last second before detonation, Laefalia had switched her mind substrate to the high-density femtotech inside the ship, slowing the outside world to a crawl. She began to look through her memories, as she often did when she felt the need. Memories of early life on Tirafilia, her First Orbit party, or the time when she had been very young, and could barely remember, but the memory was there. It had been Autumn Cycle on Kami Habitat, and she had been half-asleep in her aunt Relvia's arms, when a touring party went by. Aunt Relvia woke her up and pointed out to her a large Siberoo, a provolve splice of a Siberian Tiger and a Kangaroo, both animals only extant in genebanks and reserves now. The Siberoo seemed to notice, and walked over to her. Relvia looked nervous, but the infant Laefalia looked up only in wonder at the Siberoo's face, and it was at that moment she decided that she wanted to see the universe, and all the wonders and terrors it contained. It was her fondest memory, and she had it backed up at hundreds of different Known Net nodes, so that she could recall it at any time. For the next five years of her life, she had wished to become a siberoo, and had always set her virch character to one. But time went on, Kami orbited around Tirafilia, and she grew both in size and knowledge. Her artistic interests were magnified beyond belief on her seventh birthday, upon receiving her first artcase, the one she still had now. Her first work of art with it was a near-perfect rendering of that very first siberoo that had inspired her so. Laefalia stopped trawling through her digital jungle of recollections, and returned to the present. Then she shifted to realtime, and died.

In a darkened room in a space station one light-minute away, Laefalia smiled to herself and knew that all was well.

## **Epilogue**

*In the bar of the spaceliner Etherwhale, Laefalia Ghinsa ate her strawberry crisps and pondered all that had happened in the past year. After the spectacular destruction of Comet TSS890, a Nest Mountain-authorized security force had been downloaded through the nanogauge wormhole, who then, with the aid of certain guests, had been embodied. The security force had been alerted by distress signals, which had been sent by nearly all the passengers once they had worked out that the Jeyun were, indeed serious in their threat. The sentient virus that had crippled Asen was deactivated with a piece of transapient software brought with the security force. The terraforming was restarted, and finished. And so, Laefalia was sent home, feeling utterly changed in nearly every sense of the word, for she had seen a new world created before her eyes. And that was something special.*

*So, it all turns out for the best, Laefalia thought as she sipped her rice beer. I'll at least have got some of those holopictures. And she had got a new artcase. While she and everyone else was recovering from the shock of the terrorist attack on Thalia, a package had arrived for her on a physical mail freighter. It must have cost a sizable sum just to send it all that way. When she had opened the nanocellulose paper that covered it, she had found a new Lysiocroft's nanomesh artcase. She had thanked her father profusely for it, sometimes getting herself banned from the computer networks for using too much bandwidth. She cherished the artcase as one of her most prized possessions. She had been using it for nearly the entire voyage back. It was in her room right now. Damn. She would need to go and get it. Laefalia decided to wait a while, and sipped her rice beer. Although they were on the sub-nano level, Laefalia thought that she could see the particles of angelnet floating around the room. No, she thought. That was ridiculous. The particles themselves were smaller than the wavelength of light, and her optical implant could only go to micrometre resolution. It was a trick of the mind, the fact that even after eight thousand years of development, the primate brain still believed that if it knew something was there, it should be visible. Laefalia laughed to herself and looked out the window. The huge simulated window at the side of the bar showed the bright, tiny disc of Tiraflia, and orbiting it, the computronium banks of Nest Mountain. And maybe, just maybe, some tiny imperfections in the yellow circle, those were the habs themselves that Tiraflia was famous for. And on one of them, her home.*

*At that exact moment, without any warning, the Etherwhale exploded.*

*Earlier, at Laefalia's house in Kami Habitat, Harven watched through his optical implant the tiny, dim dot that was the Etherwhale, showing through the giant diamondoid roof forty kilometres above him. Relvia and some of his other siblings were inside, preparing her welcoming meal. If only her mother were here to see this, he thought. All of a sudden, the dim dot flared up into a new star, and then disappeared. Harven took a moment to register what happened, and broke down into tears.*