

FAR HORIZON

Jason Stoddard

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Illustrated by Paul Drummond

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An angel danced on the cramped stage, surrounded by smartfog in the shape of luminous clouds.

“My God,” Alex Farrel said.

Adele Yucia frowned at the chimera. “There’s probably no fragment of human genome in it.”

Alex shook his head. He’d expected a clumsy thing, crisscrossed with surgery scars. But the angel was exquisitely made. Brilliant white wings arced above her head, trailing almost to the floor. Her body was covered in fine feathers, rising to a short crest atop her head, and her eyes were sky-blue and huge. She wore a filmy gown, wrapped over small breasts and slim hips.

“I didn’t know that the 80s were back again,” Adele said.

“What?”

“The song. ‘Send Me An Angel’. Trite.”

“I hadn’t noticed,” Alex said. Though he supposed he shouldn’t be surprised. Paul’s Bar was a throwback to the Oversight era, dug deep under the fashionable restaurants on Olympic in South Los Angeles. The walls were lined with lead foil, the floors were made of conductive tile scavenged from a defunct defense contractor, and flyeye-zappers still sputtered in the corners. Still, smartfog displays weren’t cheap, so Paul must be making money with the angel.

Alex leaned closer to the stage. The angel glided closer, its wings dipping gracefully. Alex could see muscles working at its sides.

Adele hugged herself, as if cold. “We shouldn’t be here.”

The angel flitted away down the stage, towards other customers. Alex sighed. “I’m not worried.”

“You should be.”

“Winfinity probably doesn’t even think this is illegal. Especially if they think they can make money on it.”

“Winfinity doesn’t run the country.”

Alex shook his head. “Not yet.”

“What about me? What happens if the nets light up with a reality bite of the CEO of Nanolife at a chimera den?”

“Maybe nothing,” Alex said.

“Maybe the end of my career.”

“Would it be so bad?” Alex said. “We could travel the world together, go to the Moon, buy a piece of Mars.”

Adele turned to look at him, her dark eyes wide and serious. Her lips, set in a thin line, twitched downwards, just once. And it was almost as if he could hear the desperate dry whispers of her thoughts. *If he was serious, I would do it. I would follow him and see if there was any sane place in the universe.*

Alex remembered that they were supposed to be going to an opera that evening, at least before he got the message about Paul’s bar with the little video clip of the angel.

He touched the back of her hand. “I’ll make it up to you,” he said. “I’ll—”

“Unbelievable, isn’t she?” a man said, crouching beside their table. The soft light of the smartfog clouds made his eyes glitter like crystal. His nose, oversized and crooked, gleamed with the sheen of oil. He smelled of cigars and hair gel, of exotic polymer fabrics and testosterone. He wore the lens of an implanted lifelogger at his temple. The lens was spray-painted black.

“Who are you?” Adele said.

“I’m Paul Borrego,” the man said, looking at Alex. “The owner.”

“What about the eye?” Adele said, pointing at Paul’s lifelogger-lens.

Paul laughed, like a machine full of broken parts. “Remnant of life left far behind,” he said. “Interesting for the ladies, sometimes.”

Adele’s lips pulled down into a deeper frown.

“Nothing to worry from,” Paul said. “Much discretion given to visitors of stature, especially a Number and a Chief.”

“A number?” Alex said.

“You’re what, number six in the world? For wealth?”

Alex said nothing. But Paul was right. He imagined everyone in the bar looking at them, bitterness burning behind their eyes. There was nothing more than synthetic politeness, given only in hope of reward.

Paul gave him a greasy smile. “And with your mouth hanging open, over our angel.”

“What’s her story?”

Paul shrugged. “Ain’t one.”

“There’s always a story,” Alex said. Chimera-makers always wanted you to know how human DNA hid the secrets that we were once gryphons, or Neandertals, or that we were the actual and true descendants of angels, and all it took was a session with a 3d atom probe, some genetic editing software, and a bank of atom lasers to create a blastula that could prove it.

Paul shook his head. "No story."

"Who made her?"

"Don't know."

"Where'd you buy her?"

"Don't remember."

And I bet all it takes to jog your memory is money, Alex thought.

The angel came and danced nearby. Alex wanted to reach out and touch her, to see if the feathers were as soft as they looked.

"Does it speak?" Adele said.

Paul glanced at her, his eyes flickering like a snake-strike.

"Answer her," Alex said.

"Not much," Paul said. "A few words."

"It probably isn't any smarter than a dog," Adele said.

Alex watched her glide across the stage. *Does something this beautiful need to be brilliant?* he wondered.

Paul shot another razor look at Adele and leaned close to Alex. "She's available after the show," he

whispered.

“Available?”

“Available for a private show, or something more intimate.”

A sudden vision of dirty hands, stroking soft feathers on a bed of rags in a back storeroom, came to mind. Paul’s craggy, streetworn face, bent over those huge sky-blue eyes. Alex’s hands clenched into fists. He grabbed the back of his chair to give his hands something to do, to ensure they wouldn’t fly up to Paul’s throat.

No wonder he had money to buy a smartfog display, Alex thought.

“What’s wrong?” Adele said. “What is he saying?”

“Nothing,” Alex said. He stood, and beckoned Paul to follow. A lopsided grin stretched the other man’s shiny face. Adele made to stand, but Alex pushed her down in the seat.

“Alex,” she said.

“Wait.”

He took Paul over to the bar.

“Interested, yes you are,” Paul said, his smile growing even wider.

“I’d like to meet her after the show.”

“Yes, discreet, very discreet. One thousand five hundred Winfinity points, please.”

Alex made a small notation on his handcom, and Paul smiled. He went back to watch the rest of the

show with Adele.

“She’s probably not even really female,” Adele said.

“Probably not.”

“I don’t understand what you see in those things.”

Alex sighed. *I don’t know either*, he wanted to say. *Maybe because they don’t want anything from you.*

“I said I’d make it up to you.”

“You don’t have to.” Stiff. Not looking at him.

Alex took Adele’s hand. It trembled, just a little. “We’ll go out to the opera next week.”

“They’re out of town next week.”

“We’ll go up to Santa Barbara.”

Adele took her hand back, but said nothing.

When the show ended, Alex took her backstage. She followed in silence. Paul raised an eyebrow when they both squeezed into the tiny room. It was much like he’d envisioned it, except the bed was tidy, with black satin sheets that shimmered under the soft lights.

The angel sat on the edge of the bed.

“What are you doing?” Adele said.

“Trust me,” Alex said.

There was a rough chuckle from behind him. Paul. Apparently he thought if Adele was to be a witness, he could be, too.

Alex knelt in front of the angel. She looked down at him. Her mouth was parted, curved upward in a faint smile. Her brilliant sky-blue eyes seemed to sparkle with joy. She raised her arms to him, as if expecting an embrace. He wondered how many times she had done this, if she was engineered to enjoy rough acts of love.

Alex blinked back the tears that blurred his vision and pushed her arms down. Her down was incredibly soft. He saw the strange muscles working at her sides as her wings fluttered. He reached out to touch her sides, to feel the muscles clench and release, in rhythm with the wings.

“Alex!” Adele’s voice, sharp, cracking.

“Shh!”

He took his arms off the angel’s torso and sat back on his legs. “Do you speak?” he said.

The angel cocked her head at him, like a dog.

“Can you speak?”

“Eeeek,” it said, almost a fragment of birdsong.

He tried for a while longer, but she just looked confused, and said no more.

Alex sighed. “How much?” he said.

“For what?” Paul asked. “Extended time at your home, away from here?”

“Extended. As in forever.”

“Forever?”

“How much? To buy her.”

Adele gasped. “Alex, you can’t—”

“Would you leave her here?” Alex asked, gesturing around the room.

“It’s not even human. It may not even think—”

“Would you leave a dog here?”

Adele looked away, casting glittering tears.

Alex turned back to Paul. “How much?”

Paul smiled, a terrible broken grin. Alex imagined the calculation going on behind the man’s dead eyes. *What can I get for this? Enough to set me up for life. Enough to set me for ten lifetimes—*

“How much!” Alex yelled.

“Two million!” Paul said. “Winfinity points, nothing else.”

Alex made the transfer on his handcom. “Done.”

Paul's face crumpled. "Should've asked more."

Alex ignored him. He held out his hand. The angel reached up. Took it. Her hand was soft and warm. For a moment, he wondered how fast her metabolism was, what she was made of, how fast she had grown, how long she would live.

It didn't matter.

"Do you have a name?" Alex asked.

"How about Lilith?" Adele said, behind him.

"I don't think Lilith is an angel," Alex said.

The angel just looked at him with huge, bright eyes.

"Adele—" he began.

But when he turned, Adele was gone.

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Smell of fear.

Everywhere.

On her nest, on the things the hairless ones covered her with, on the fuzz that covered the floor.

Pouring off the pink ones who came and went. Who brought food. In her food.

She saw cool grass, blue water outside, but she could not walk there. She put her hand up against the barrier, but saw nothing. She pounded on the stuff-not-seen with a fist, but it only shook. Cracks near the floor brought the scent of water. She scratched at it, but could not dig through its hardness.

Prowling the big empty hard-edged places, she searched for escape. Dimly, far away, she remembered the past place, the warm room under the earth that smelled of yeast and pink ones, where there were sounds she could twist to, where the pink ones sometimes came to comfort. But those memories faded more with each day, and soon she would know nothing more than this hard-edged place full of frightened things.

“She,” the constant-pink said. It had been there since she woke, bleeding fear. It had been there before, making those same noises.

“Ki,” it said.

She went to sit by it. Its tiny dark eyes quivered. She reached out to it, looking for comfort. It took her hand and put it in her lap. Fear-smell surged. And something else. Something deeper, richer. Like acrid anger, but more complex. Something she could not place.

“Nah,” it said.

She tried to touch it again. It put her hand down again.

“She,” it said.

It had made that noise before. “She,” she said.

The constant-pink showed its teeth and babbled happy noises. It made a long string of sounds that she could not follow.

“She,” it said, after a while.

“She,” she said.

“Ki,” it said.

“Ki.”

“Nah.”

“Nah.”

More babbling noises. Its smell changed from fear to content-full-happy. She didn't understand, because the constant-pink had not eaten, or given comfort.

“She-ki-nah,” it said.

Its odor changed to that strange acidity.

“She-ki-nah,” it said.

“She-ki-nah,” she said.

The constant-pink stood, clapped its hands, stomped its feet on the floor. It looked big and strong. It might be able to get through the things-not-seen. It would be good to have comfort with.

She reached up to it again, and it grasped her and whirled her in a brief circle. She could smell its content-full-happiness. It made her content-full-happy. Except for the ache only comfort would replace. She grabbed its hands and tried to put them on her. But the constant-pink drew away.

“Shekinah,” it said, pointing at her.

“Shekinah,” she said, pointing back.

The pink thing hid its teeth and shook its head. Its smell edged slightly acrid.

“Shekinah,” it said, pointing at her. It pointed at itself. “Alex.”

She would play with it if it led to comfort. “Shekinah,” she said, pointing at itself.

More jumping around, and rhythmic sounds. Content-full-happy smells.

The constant-pink repeated its gestures.

She pointed at him and said, “Shekinah.”

Teeth-hiding and acrid smells.

She tried to get it to put its hands on her, but again it pulled away. She wailed and cried. She went to the place where she could smell the water outside and scratched at the hardness around it. She could smell the pink thing, shading down to that strange acidity.

“Shekinah,” it said.

She ignored it.

Eventually, it went away.

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Alex would hate this.

The thought was sudden and clear, as if someone had whispered in Adele’s ear. She sighed and put down the stylus. Winfinity’s fighter airframe contract dimmed down into the surface of her desk.

She'd almost forgotten about their last night together. But now she'd have to think about that. She'd have to wonder what he was doing with his pet. Her traitor mind would summon images of them laying together, on the cool sheets of his house high above Malibu. And she'd have to wonder, again, why they'd never found any sustained flame.

And he would hate this, Adele thought, picking up the stylus again. Using his technology to build jet fighters for our new masters. Even if they did profess only to be helping the government-in-collapse.

Alex had been the one to extend the range of 3d atom probes down into the realm of organic molecules. He'd been the first to create an atomic map of a cell, then reassemble the cell with atom lasers. When the cell lived, the biotech professors of UCLA cheered, and money poured in to fund his new startup company, Nanolife. He was 19 at the time.

While others were using his bio-editing techniques and creating the Three-Day Death and terrorbeasts and chimeras, Nanolife's team was working on the fundamental energy-conversion bodies of cells, mitochondria, working to make them more efficient, to make them more like the all-purpose nanomachines that Drexler had imagined.

But, by the time Nanolife succeeded in growing complex carbon composites, Oversight had slated virtually every Nanolife application for regulation. Alex was talking at UCLA about growing free housing when Oversight stepped in and shut down Nanolife.

Adele remembered it well. She'd worked there four months when she came in to black-suited, blank-eyed Oversight agents in the halls, and Alex sobbing on his desk.

I don't understand them, he said. *I don't know what they want.*

Let me talk to them, Adele said.

He looked up at her, eyes shimmering with tears. And she knew he was serious, he really didn't understand, he really just wanted to play with his toys and be left alone. She wondered if he really understood what damage his technology was capable of.

Later that day, she made the first offer on his behalf. *Regulate us. We'll work with you. We'll make sure only safe applications of the technology are used.*

When she told him, Alex cried again. She laid an arm on his shoulder. It was like touching a living statue of a god. She felt light-headed, all-powerful. She felt unclean.

We have to do this, she said. *It's that, or be shut down. Or disappear.*

Alex shook his head and told her, *Better to be shut down*. He told her about shining cities grown from sand and rocks, free for the having. He told her about perfect products, grown to last nearly forever.

And she listened. And nodded. And agreed, yes, this is terrible, this is unfair.

And in the end, they submitted to Oversight control. Adele became CEO of the company, and Alex checked out. Because if you wanted to plant a seed to replace a slum, you had to make sure that seed was the right seed. One that the government said was good for you.

Like now. If you wanted to grow indestructible airframes, you had to make them for Winfinity. The new face in front of all the same old regulations.

It was no wonder Alex had walked away from it all. Leaving her to be the one who compromised.

If I could turn back the clock, if we both walked away, could we have found that flame? she wondered.

She sighed, coming back to the present. She spun her chair away from the desk and went to look out over sunset Los Angeles. The Nanolife tower was the tallest building on the west side. Tall enough that she could see golden ocean, sparkling in late sun. If she had a telescope, she could probably see Alex's house.

Or she could spy the modern way, with a handful of flyeyes feeding images to her dataspecs. But she didn't like wearing them, one thing she and Alex agreed on.

"Incoming call from Alex Farrell," her desk said softly.

Adele's heart tripped, once, and she whirled to face the desk. "I'll take it."

Alex's face appeared on the surface of her desk, covering the Winfinity contract. The POV shook and blurred. Greenery whizzed past in the background. She heard the sound of an engine, rough and choppy.

"Adele!" Alex said. "I can't believe we missed this. This is great! You have to come in!"

"Where are you?" she asked.

"Ecuador. Do you know what the USG did? You won't—"

"Why are you down there?"

Alex gave her an impatient sidewise look. "The space elevator!"

"Space elevator?"

"Yeah! Back when they were doing the Mars thing, it seems the USG started building a space elevator. Never finished it, but they did drop the tether about halfway before everything fell apart."

"The US government? A space elevator?" Adele shook her head, trying to put the two together. She'd never heard anything about it.

Alex gave her a big silly grin, his blue eyes flashing. His blond hair was messy and wind-blown, and dirt streaked his face. He grinned like an overgrown child.

The point of view shifted away from Alex. He was in a Humvee. Through the windshield, the jungle parted to reveal a broad expanse of concrete, crisscrossed with a hexagonal pattern of darker material.

"This is where the tether was supposed to be anchored," Alex said, offscreen. The Humvee stopped and the point of view panned around the huge flat pad. In the center was a smooth bulge that terminated in a flat surface. At the edge of the pad, low square concrete buildings huddled.

Alex turned the camera back on himself. “Bunch of expats control it now. They claim to have access to the top end, too. I think they’re former Oversight. Winfinity’s been trying to buy it, but they don’t get along too well.”

I bet, Adele thought. “What are you thinking?”

“I’m thinking what a wonderful investment this would be. For us.”

“You mean ... leave Nanolife?” For what? Was this a business offer, or something more?

Alex shook his head. “We might need some of Nanolife’s tech to make it work.”

Adele nodded. Controlling the space elevator would give them easy access to orbit. They could sell access for hundreds, thousands of times what it cost in energy. They could solve one of the big problems that prevented humanity from having a space-based economy.

“Planning on changing the world again?” she said, grinning.

Alex’s grin collapsed. He muttered something that was drowned in the roar of the Humvee’s engine.

“What?”

“I never changed the world,” Alex said, loud and bitter.

And he was right. No shining cities, free for the taking. Just magic technology, kept under careful lockdown. For Alex, Nanolife wasn’t his first success. It was his first failure.

“I’m in,” Adele said.

Alex’s boylike grin snapped back. “Great! I’ll send details. Talk to you soon!”

Alex closed the connection. On her desktop, the Winfinity contract came to the fore again. It cut through happy visions of her and Alex, alone in the jungle.

Adele stared at the thing. She picked up the stylus. Hesitated for a moment, holding the stylus over the signature area. After a few moments, she sighed. And signed it.

Because plans didn't always work out.

On the day the space elevator's tether reached the anchor, the news came in about Winfinity's latest rejuvenation failures. Big movingink banners on the whitewashed Quito buildings showed grotesque corpses and claimed it to be the Año de Los Muertos. Talking heads pontificated about how rejuvenation was likely to be a dangerous, complex, and expensive process.

Alex shook his head. Of course it would be. That's how they'd want it to be.

"We're going out to the pad?" Adele asked, as Alex piloted the jeep out of the city.

"I wouldn't be anywhere else."

"What if the tether breaks?"

"It won't."

"You can't say that!"

Alex sighed. They'd stripped out the old nanotube ribbon and replaced it with something from Nanolife's carbon portfolio, but the researchers were still arguing about transient stresses and point defects.

"If it breaks, I still want to be there," he said. *Because if seventy thousand miles of nanoribbon came down, there's no guarantee that Quito will be there afterwards.*

“Idealist!”

“It’s not like I’ll live forever.” Alex pointed at a newsboard showing pictures of the failed rejuvenations.

“You’ll figure it out yourself by the time you’re that old.”

Alex shrugged. He could show her old Nanolife data that suggested the maximum lifespan of any human was less than three hundred years, even with some form of workable rejuvenation.

Three hundred years to make a difference. To make up for the first failure. It wasn’t much time.

He pushed the jeep hard down the dirt road, hoping to make it to the site before the actual moment of contact. Some day, he knew, that dirt road might be the largest superhighway on the planet. Quito might be transformed into a super-megalopolis larger than Shanghai. And ships from all over the world might dock in Ecuador, to cart the riches of the solar system across the face of the Earth.

But will I live to see that? he wondered. There were so many things he was going to miss. Even without Winfinity’s failures.

“Look,” Adele said, pointing up.

Ahead of them, a tiny black line bisected the sky. Almost invisible. Blink and you’d miss it. But follow it up with your eyes, into the heavens, where it disappeared. Alex imagined stars, wheeling just beyond the brilliance of the blue sky. Maybe he should buy a few thousand square miles of Martian land, and dream about the day when the planet grew green. But that was far out, impossible. It would be a hundred years before people could walk outside without squeezesuits, a thousand years before they might dare to breathe. He would never see it.

There are so many things I’ll miss.

“I can leave you off, if you’d like,” he told Adele.

“No.”

“Are you sure?”

“Yes.” Lips pressed firmly together.

“You don’t need to go, just because I am.”

“I want to see it, too.”

Alex shook his head.

“Keep going,” she said.

He did. Through the jungle to the anchorpoint, almost an acre of concrete and carbon nanotube-reinforced matrix, drilled into the heart of the mountain. They sped across the suddenly glass-smooth surface and stopped near the low rise where the ribbon would be anchored.

A team waited there, dressed in orange jumpsuits with BeyondEarth logos on them. Alex knew the drill. They were there for final lockdown. Theoretically, the complex carbon composite was stabilized by the equivalent of carbon muscles and silicon intelligence, in an ever-optimized feedback loop.

The end of the ribbon was visible, hanging motionless maybe three hundred feet above the ground. The ribbon machines were running about two feet per second now.

Three minutes, and our space elevator is complete.

Alex watched the end slowly fall. When it was only about fifty feet off the ground, he held his breath. He imagined seeing a ripple in the ribbon, and then the unimaginable. He wondered what the razor-edged ribbon would do to the jungle. Or to him. Would he feel it at all?

He felt Adele’s hand sneak into his own. Her skin was soft and warm.

“That’s it,” he said, as the ribbon touched down.

The orange-suited team pounced, securing it under multiple layers of carbon composite and adhesive.

When they stood back, a thin black line connected Earth and the sky. The ribbon rose, completely straight and true, till it passed out of sight.

Alex’s heart thudded, and he squeezed Adele’s hand. She turned and hugged him close, turning her face up for a kiss. Alex obliged her, darting his eyes heavenward.

“We’re not done yet,” he said. “We still have to send the crawler down.”

“Do you doubt it’ll work?” Adele looked up at him, her eyes still faraway.

Alex shook his head, thinking, *I always doubt.*

“There you go,” she said, and hugged him tighter.

The climber wouldn’t be down for a day, so Alex took Adele back to Palos, his favorite bar. It had run a chimera show, full of clumsy surgical freaks, until Adele came down. Then the shows had ended. Alex suspected she cared for him, and that she had had something to do with the shows ending, but he didn’t know how to ask, or what to do in return to thank her.

Because Adele was something like Shekinah. Embarrassingly sexual. He was almost glad that Shekinah had to remain behind in Malibu. It was easier. And he could always watch her dance on the remote monitors, even if it did seem to upset Adele.

Adele liked him, he knew. Maybe even loved him. But he didn’t know what to do. He had never felt anything like love, certainly not the all-consuming force that was portrayed in the games and movies. He liked spending time with Adele, and he liked the nights they shared, but he could not imagine tying himself to her in a way that could not be undone. He had thought about it, briefly, shortly after they met, but he had never become any more certain.

Back at his apartment, under the glow of a screen that showed their BeyondEarth logo, he told Adele:

“I’m moving down here.”

Adele looked at him, her eyes steady and clear. As if she was expecting something.

“After all, it’s not like Winfinity really wants me back in its country, after I stole this out from under them.”

Adele looked away and sighed.

“I have a lot of plans for Shekinah. There are new methods for increasing cognitive capacity.”

“Something of yours?”

Alex frowned. “Something I bought. I don’t make anything anymore.”

“You should have called her Lilith.” Adele’s shoulders shook, and her voice was low, husky.

“Lilith wasn’t an angel.”

Silence for a time. Then: “What do you see in the thing? Why do you keep it?”

Because it’s a reflection of what made it, Alex thought. Because maybe, just maybe, it can be a reflection of what we could be.

But he said nothing.

After a time, Adele lay down next to him, softly crying. When he tried to embrace her, she elbowed him away.

* * * *

The pink things came and stabbed her, drawing blood. She yelled and clawed at one of them, raking his cheek with bright red stripes. Blood spattered her face. The pink things yelled and babbled and left her alone.

In the place. The new place. Where she could go in or out. She could walk through grass. She could see the sun. A tall fence, slick and white, kept her from walking farther.

She liked the sun, until she was sick.

Belly-clenching pain. Throbbing pain in her head. She moaned and twisted, trying to evade the hurt. Tired, she went back inside and lay down on her nest.

Sweats in the night.

Strange things seen, bright, exploding.

She woke to ruined rags. They smelled of pain and fear and something else, something deep and cold and hard and wrong. She kicked them away. She could never lay on them.

The hurt in her head gnawed and pounded. She went outside and rolled in the grass, clawed at the fence. One of the pink ones watched her for a time, but it was not the constant-pink, the one that babbled at her longest.

The constant-pink came later that day. It extended a hand through the fence. It smelled of fear and something else, that strange smell that it got when it talked to her, repeating that same sound over and over...

Suddenly, the pain in her head leapt up like a wild thing. She could feel it eating through her head. And then it was like seeing a faint path, leading backwards to days (before).

“Shekinah,” she said, pointing at herself.

The constant-pink's expression changed suddenly. It showed its teeth and made a small noise. The dark scent disappeared. For the first time, it almost smelled happy and content.

“Shekinah.” She pointed at herself again.

The constant-pink nodded and babbled. It smelled very happy. Then it pointed at itself and said, “Alex.”

The pain in her head peaked again. She squinted and moaned. The constant-pink squeezed her hand. Water came to his eyes, and his smell darkened.

She walked away, moaning, back inside. She ate the food the pink things left and kicked the rags away. But the ground was too hard without her nest.

She slept outside, shivering, under the stars. She could see the heat of three pink-things outside, watching her.

More bright flashes and strange sights.

More sweats, tossing, turning.

In the morning, the grass had the bad smell. She ripped it out of the ground.

The constant-pink came to her late in the day. He opened the fence and came inside. He kneeled by her and made some noises, but she didn't try to grab him for comfort. He always smelled terrible when she did that. He stroked her head, which felt nice, despite the pain.

He made her cover herself in scratchy fabric, then he took her out of her place. He put her in a strange-smelling box that roared and moved. The hurt leaped again and she saw something, dimly, like cold dark. Boxes like that. But boxes that moved different, with openings that showed only sky. She had been very frightened by that.

She was less frightened by this box. Outside, green trees and brush passed. Then white buildings, like (something before).

He took her out of the box and led her to a small building with openings of many colors. It smelled of mold and dust and old things. It was very comforting.

Inside, sunlight made the colored openings glow brightly, and she stopped to look at them. The constant-pink held her hand and waited.

She walked in a little more. An unmoving pink thing in white had its arms outstretched. Above him there were other things in white, things with wings.

(Like hers).

The unmoving things above the white pink thing were (like her.)

“Shekinah,” she said, looking up at the unmoving things like her.

The constant-pink jumped and babbled, smelling happy.

“Shekinah,” she said, pointing upward.

The constant-pink showed her its teeth. “Alex,” it said, pointing at itself.

(Was the thing called Alex?)

“Alex,” she said, pointing at him.

“Yes, yes!” it babbled.

“Yes, yes,” she said.

The pain exploded in her head. It babbled other things, but all she could do was hold her head.

It babbled more, smelling worried.

“Alex.” She pointed at it.

It nodded and babbled.

Then other pink things came into the place and made loud noises, smelling sharply of fear and anger. They walked towards them, arms outstretched, forcing them outside.

* * * *

* * * *

When BeyondEarth went public, Adele made Alex take her up the elevator to celebrate. At the geosynchronous station, dozens of spacecraft huddled outside. Some bore Winfinity flags, some wore corporate logos, some, old-fashioned, still had the symbols of the ESA or CEL on them. Spindly structures extended on either side of the geosynchronous station. Eventually, they'd grow the station to Earth's first true spaceport.

They took a room that looked down the ribbon to Earth, glinting gold in the sunlight. The Earth, cool blue, looked peaceful and far away. The room was still chill aluminum composite, unfurnished, but Adele suspected that it would soon be a luxury hotel suite, or an insanely expensive apartment. For now, though, it was theirs. There wasn't another human-transport crawler coming for three days.

He can't run away from me, she thought.

Alex floated over the window, looking down at the Earth. His face was slack, puffy with zero-G bloat.

"What are you thinking about?" Adele asked.

"Nothing," Alex said.

She tried to hug him, but he shrugged her off.

"What's wrong?"

"Nothing."

Adele waited. He'd talk eventually. That was the way he was.

"We could go up the tether and sling off towards Mars," Alex said. "No rockets. No fuel."

"And get there in years," Adele said.

“Or we could drop smart packages all over the world, and grow new cities.”

“You’re still mad.”

“Of course I’m fucking mad!” Alex screamed, slamming a hand into the bulkhead. He went spinning in the air, then curled himself into a ball, eyes closed.

He’s the richest man in the world now, and all he sees is his biggest failure, Adele thought. Winfinity had come to them, shortly after the drop. They’d worn much better suits than Oversight. They showed Alex and Adele the Earth-to-orbit missiles they controlled. They showed them the firepower in the nearby space junk.

No stupid planting cities stuff, no stirring up trouble on Mars, and everyone’s happy, was the message.

“Never bring a billfold to a gun fight,” Adele said, softly.

“What?”

“Why don’t you go back into research?” Adele asked.

“I don’t have any more ideas! It’s the brainshot kids and bots now.”

Silence for a time. Alex finally stopped his spin and clung to a handrail. “I’ll miss everything,” he said.

“Miss what?”

“I won’t walk on Mars without a squeezesuit.”

Adele just looked at him.

“I’ll never go to Alpha Centauri.”

Adele shook her head.

“I’ll never see where we’re going. Where we’re *really* going. This Oversight stuff, this Winfinity stuff, they’re just in the way. It’s not where we’re going.”

“Alex—”

* * * *

“Why can’t we just ... stay together?” Adele said. Hating the whine in her voice. She squared her shoulders. “I want to be with you. I—”

“You mean marriage, kids, all that?” Alex said. His face was blank, expressionless.

“If that’s what you want. If not—”

“You don’t know who I am,” Alex said. “Do you know how I got to UCLA?”

Adele shook her head. That was one of the world’s mysteries. Oversight was just getting started back then. There were pieces of found media scattered all over the nets from when Alex was in UCLA, but not much before.

“I volunteered for medical research,” he said.

“Volunteered?”

“Remember the Merck programs?”

Adele gasped. Families had signed their children away to them, under the bizarre reorganization laws of

the economic collapse in the early 20s. Most of them had never emerged.

“You volunteered?”

Alex nodded, looking away. “My parents leased me out, before that. Some of the families were okay. Some had ... odd ideas about what constituted family activities.”

Adele pushed over to Alex and tried to embrace him. He pushed her away, not looking at her.

“I’m sorry.”

“They loved each other,” Alex said. “Mom and dad had one of those old-time marriages, with penalty clauses. They’d never be apart.”

Adele said nothing.

“I don’t know what Merck did,” Alex said. “I don’t remember a lot of that time. I remember going into a lab, one day, and saying, ‘Why are you doing it like that, when you can do it like this?’ That’s when they made me a student.”

“How old were you?”

“Sixteen.”

Adele felt tears welling in her eyes. She wiped them away. She went to Alex, put her arms around him, and held him tight even when he tried to push her away. They thrashed away from the window and out into open air. They floated, spinning slightly.

“I just want to see what we can be,” Alex said. “I don’t know if I can be what you want me to.”

The bar he liked was in old Quito. Converted from an old internet café, it still ran random screenshots of Web 1.0 stuff on dim and battered LCD flatscreens. At several tables, there were even reproductions of

ancient computers—iMacs, Dells, Compaq laptops—connected to complete working archives of the internet circa the turn of the century, hidden in matchbox-sized processors under the tables.

Alex preferred the bar. He'd been born at the advent of Web 2.0, and even if he understood how revolutionary the turn-of-the-century apps were, he couldn't understand the attraction of interacting with simulated personalities on old-time message boards, or bidding on Ebay items long since passed.

The white-haired bartender had deeply tanned skin, like polished mahogany. He hadn't spoken more than five words to Alex in all the times he'd been there. Today, though, a younger man was at the bar, and Alex caught the man looking at him.

When the bar got quiet, late that evening, the bartender came over and stopped. "You're the rich guy, aren't you?" he said, in perfect English, with no trace of a Spanish accent. Alex must have looked surprised. "Expat," the bartender said. "I just look the part."

"Oh. And yes, I'm him."

A nod. "What possible sorrow can *you* be drowning?"

Alex laughed. How could he explain? Adele didn't understand. Why would this man?

"I'm Rafael Quincero," the bartender said, offering a hand.

"Alex—"

"Farrell. Yeah, the rich guy. Why don't you go up the beanstalk, rich guy? Or at least go to a hotel tower in downtown? Are you pining over some woman?"

Alex shook his head. "I'm pining over all the things I'll miss."

"I don't know what you mean," Rafael said, frowning.

“I need to invent a time machine.” *To see what’s coming, to get beyond this small-minded Winfinity crap, this caveman stuff, my club is bigger than yours, you obey!*

Rafael grinned. “We already have time travel.”

“What do you mean?”

Rafael turned to the bar and pulled a bottle of El Tesoro tequila off the shelf. He put it on the scarred wood in front of Alex.

“I don’t understand,” Alex said.

“Tequila is time travel in a bottle,” Rafael said. “Drink enough, and you wake up in the future.”

Alex laughed. Then he jumped. He felt a hot shiver pass through his body. “What did you say?”

“Drink enough, wake up in the future.”

Alex picked up the bottle and held it in his hands. It was warm. The amber liquid sloshed back and forth, a tiny fractal sea. That was it. That was what he had to do. Go to sleep. And wake up in the future.

“Thank you,” he said, clutching the bottle.

Rafael looked uncertain. “I was just joking.”

“I’m not,” Alex said. He beamed the barman ten thousand Winfinity points and ran out the door. He ran through town, clutching the bottle and yelling. He remembered long-forgotten physics lectures about old Greeks and hot baths. He didn’t care.

That was it. He didn’t have to miss anything. All he had to do was miss the stuff in the middle.

* * * *

Alex didn't come that night.

He did not come to Shekinah's room. They did not take their walk. He did not try to teach her harder words. He did not show her pictures or tell her things she did not understand.

"Play," she said. "Fun." Two new words. She wanted to remember them. So Alex would smile.

"Smile." Another new word. She'd almost forgotten it.

"Smile, smile, smile," she said, trying to press it into her mind. Her head hurt again.

She waited until it was dark, then lay down on the bed. Thinking about Alex coming to her, comforting her. It was good to think about that. It soothed the pain in her head.

One of the others had tried to comfort her, but he fell screaming on the ground. Shekinah had never seen him again. After that, the others besides Alex stayed far away from her. They didn't answer when she repeated her words to them.

Her words. Were there others she had forgotten?

She stood. She paced. The night smelled of clean vines and grass. She wanted to run. She wanted Alex. Her wings were restless, and her back ached. She leaned them against the wall, willing Alex to appear.

Eventually, she went back to lie on the bed.

She wondered if Alex would come the next day. Or the next. Suddenly the days seemed to stretch out ahead of her, clearings along an endless path.

Shekinah whimpered. She had never thought anything like that. Things to come. Many days.

She imagined days stretching back behind her, but the path was shrouded in mist, gray and diffuse.

“Alex,” she said, softly, as sleep came.

* * * *

Western States Mining was in the middle of Nevada’s Unincorporated Territories, where the last core of libertarians and socialists and constitutionalists and anarcho-capitalists had come to thumb their noses at the Winfinity-Reformed States conglomerate, which was only too happy to ignore them.

Until now, Adele thought, watching the tanks slowly fill with metallic silver.

They were inside one of the old mines. It was cool and dark, and smelled like dust. Support timbers, gray with age, bore graffiti with ancient dates: 1932, 1977, 2000.

The nanoextraction system made only the smallest noise, a faint liquid rushing. Deep in the mountain, she knew, water coursed through all the abandoned tunnels, all the played-out veins, binding and releasing silver in a mindless mechanical dance. The process ended here, where the silver was unbound, captured, dried, and eventually melted into ingots.

“What extraction rate are you running here?”

“About three grams per gallon per hour,” said Charles Strathern, the golden-haired President of Western States Mining.

Adele nodded. It was about twenty times the rate of their best process. “This is built on Nanolife templates?”

A shrug. “If it matters. We don’t recognize your IP here.”

“And you have no nanoprocess permitting from Winfinity?”

Charles squinted at her. “If you aren’t interested in buying, we don’t need you here. The door’s that way. Don’t let it hit you in the ass on the way out.”

Adele held up a hand. “Just getting the lay of the land.” *You may not recognize our IP, but you have no problem selling improvements back to us.* She wondered briefly how long it would take the Nanolife labs to duplicate their feat, but quickly dismissed it. If she didn’t buy it, someone else would.

Charles crossed his arms. “You’ve seen the process. Are you interested?”

“Possibly. How many cycles will the nano tolerate?”

“Seven, eight hundred.”

“What’s the efficiency delta between inception and end of life?”

“We define end of life as one sigma deviation.”

Adele nodded. *Good.*

An anxious-looking man wearing a Western States Mining jumpsuit burst into the room, earning an irritated glance from Charles. “Ms Yucia,” he said, “you have a visitor.”

“A visitor?”

“Yeah. He’s outside.”

Adele ignored Charles’s exasperated look and followed the other man out into the searing sun.

Alex Farrell paced underneath a personal VertiJet. As soon as he saw Adele, he rushed over to her. Little beads of sweat gathered on his forehead, like tiny crystals. His hair was spiky and unkempt, and his

blue eyes darted from her eyes to her lips to some point in the sky, as if he was unable to decide what to look at.

“I figured it out,” he said, taking her by the arms. His grip was tight, hot. “I know what to do! But I need your help. You have to help me.”

Adele tore herself out of his hands. “I’m seeing someone else now.”

Alex looked at her, through her, as if he didn’t know what she was saying. Anger burned her gut, like a poker shoved into her ribs. *I spend all this time finding someone who I can tolerate, someone who might, in a decade or two, allow me to forget you, and you don’t even care, you can’t even take a moment to pretend to be sorry.*

“I can’t do it without you,” Alex said. “Without Nanolife.”

You don’t even want me! Adele thought. She imagined kicking him in the crotch, leaving him to lie in the hot desert dust.

Finally, something in her expression made an impression. Alex’s crazy-happy grin vanished. “Adele? Are you okay?”

“I was in the middle of a business deal.”

“Oh.”

Alex looked so chastened that she immediately felt guilty. “I also can’t believe you came here. To America. Winfinity is less than thrilled with you right now.”

“This isn’t America.”

“Winfinitly still thinks it’s theirs for the taking, whenever they want.”

Alex danced from foot to foot, the portrait of an impatient child.

Adele sighed. "What do you want, Alex?"

"I figured it out. I know what to do now."

If the next words to come out of his mouth are about Shekinah, I will kick him in the crotch, Adele thought.

"Terraform Venus," Alex said.

For a moment, all she could do was look at him. The words seemed to have no meaning. She tried to put them together like a jigsaw puzzle.

"Yes!" Alex said. "Everybody's thinking about Mars, but what about Venus?"

"You're not serious."

"I'm one hundred percent serious."

"It would take hundreds of years."

A grin. "Thousands, actually. About two thousand eight hundred or so, by the best simulations."

"You ... you'd never see it."

The grin became a smile, bright and almost maniacal in its intensity. "That's what you think."

Adele shook her head. She wondered if Western States was listening to their conversation. She wondered how serious Alex really was. "Show me," she said.

“I can’t do it here,” Alex said. “Too bright.”

Western States let them use one of their unused mineshafts. Adele didn’t suppose they had it bugged, but she scanned and flashed it regardless. Alex waited until she was done, then showed her diagrams on a small smartfogger. Dust-motes danced inside the diagrams, sparkling like tiny stars.

“It’s simple,” he said. “All it takes is one little package and a lot of time.”

First, he showed her the space elevator. At the far end of the tether, a small package was released into space. A closeup showed it packed with a cross-section of the latest nanotech: miners, shapers, builders, heavy instruction-units and overseers.

“A lot of industrial nano already runs at higher temps than the surface of Venus, and the extra heat energy lets us run it fast and efficient.”

The viewpoint changed to show the package’s trajectory, traced with a bright green line. The line intersected a brilliant white ball that circled the sun, well inside Earth’s orbit: Venus.

“Here’s the best thing. Everything can be done under Venus’s cloud cover, so nobody needs to know what’s going on. We can even simulate the clouds later on, so it stays invisible.”

The viewpoint changed again, to show the impact of the package on Venus. It spilled nanotech near one of the poles, where it started transforming the ragged surface of the world into a shimmering crystal city, edged by deep green jungle. “The jungle probably won’t work,” Alex said. “One of those old pulp ideas, kind of fun but impractical. But we can create the crystal cities. In fact, with the amount of carbon dioxide we have to bind, we need a diamondoid economy. We can literally pave the streets with it.”

Adele watched, dumbfounded, as the planet sprouted pole-ringing crystal cities, green jungles, and far-scattered lakes. She blew out her breath. Until then, she hadn’t realized she’d been holding it.

“But ... you said it would take three thousand years.”

“Twenty-eight hundred. Don’t exaggerate.”

“But...”

“Imagine it,” Alex said. “Our own planet. Our own world. Complete. Ready-made. No bidding on Winfinity’s Martian parcels. No regulation. We do this right under everyone’s noses.”

“How do you expect to live for twenty-eight hundred years?”

But he just smiled. “I don’t expect to live,” he said. “I expect to sleep.”

“What?”

“Like time travel in a bottle. Drink enough, and you wake up in the future.”

“Alex, what’s wrong with you?”

He picked her up, spun her around. “Nothing,” he said. “For the first time, nothing.”

Adele made him put her down. The hologram was now doing a flythrough of one of the Venusian cities, gracefully curved crystal spires rising above shining avenues.

Could he do it? she wondered. *Could he?*

“How do you expect to keep this secret?”

Alex smiled. “That’s the easy part. Nobody has to know. Send the package, go to sleep, wake up later.”

“So you’ve figured out hibernation?”

“No, but I’m sure one of the brainshot kids has.”

“And nobody will dig you up during those twenty-eight hundred years?”

A quick frown. “So maybe I have to go to Alpha Centauri or something.”

Adele laughed. It was beyond credibility.

Or was it?

She made him pack up his show. She promised to help him. Then she went to finish her deal with Charles and Western States Mining.

“About time,” Charles said, when she returned.

“Shut up,” Adele said. “We’re about to make you rich.”

Charles opened his mouth, closed it, let it turn into a smile.

But Alex and two Western States miners burst into the room. They were covered with dust and Alex’s suit was torn.

“Winfinity,” Alex said. “Win-Sec. My jet’s destroyed.”

“We’ll give you two hundred million Winfinity credits for your IP,” Adele said. “Final offer. Accept now and you’re a rich man. Wait and see if Winfinity offers you something better.”

“I accept,” Charles said.

There was the sound of gunfire from the mine, coming closer to the processing room.

“Please tell me there’s an alternate route out,” Adele said.

Charles nodded and told them.

The two Western States men rushed them down tunnels to a helicopter hidden under a camouflage net. Adele watched as Alex took off, heading south to Mexico.

Suddenly all her business deals, her entire life, seemed so very small.

Do it, she thought.

Rafael Quincero and Shekinah came with Alex to the Moon.

“Because their fingers are starting to reach down here, too,” Rafael said, watching a shiny new Winfinity transport whirr through the cobbled streets of Quito.

Because Shekinah wouldn’t let him go, when she finally understood that he was going away. Alex pointed up at the three-quarters Moon and told her they were going there. Shekinah nodded, her big eyes widening even farther. Alex knew she didn’t really understand. Not until they went up the elevator and stopped at the flingpoint. When her weight fell away, she wailed like a frightened child and clung to him again. He tried to tell her what they were doing in words small enough for her to understand. But she just looked at him with big tear-filled eyes. Alex held her close, trying not to think about the softness of her feathers, or the fluttering of her heart, or Rafael’s eyes, heavy on his back.

“You’re a rich man,” Rafael said, when Alex asked if Shekinah bothered him.

“What does that mean?”

“It’s a free pass.”

“So I can do whatever I want?” Alex said.

Rafael nodded. “Exactly.”

But that's not true, he wanted to say. But Rafael, like Adele, wouldn't understand his failures as failures.

And there were things he didn't want to think about too much. He'd never looked at the results of Shekinah's gene sequence. He didn't want to hear a computer's voice tell him that she was 67% of this, 15% of that, 8% of something else, and shared less than 50% of her genome with humanity. Or whatever it ended up being.

On the Moon, the geeks who hadn't made it to Mars were trying to engineer their own escape. In the middle of the great Google logo, painted fifteen years ago in carbon black, railguns shot raw materials at an irregular blob of darkness that whirled in orbit. The first real starship, designed to carry an entire community across the light-years to a new place where the madness of humanity was unknown. From Torvalds, the main lunar settlement, the starship could be seen only by the stars it occluded, or the occasional orange-red cooling edges of the ceramics and aerogels spawned by the nanotech. Rumor had it that Winfinity or one of the other Earth governments had tried to probe the starship. Or maybe destroy it. The probe (or weapon) had disappeared into the seething darkness. By now, it was part of the still-growing ship.

Asked about their starship, the geeks grew silent, or gave sharp little nervous laughs and smart-assed remarks.

“When will it be done? Well, when it's done, of course.”

“How big will it be? Well, we won't know until it's done.”

“What's its operational life? Well, it'll last until we're there. We hope.”

And so on. Rafael quickly found employment as a bartender, but he got no more information than Alex. And Shekinah stopped conversation wherever she went. Until the whispers started. About the rich guy and his pet. Or his lover. Or whatever it was.

For once, Alex was glad that she didn't understand very much. Even then, he spent long hours calming her, explaining why she couldn't come with him, trying to tell her why she couldn't go outside.

“Go out!” she said, scratching on the window. The sound of her nails on the diamondoid was like the wail of a dying animal.

“You can’t,” Alex said. “They don’t have a suit that will fit you.”

“Out!”

“You’ll die.”

A wail. More scratching.

She never understood, so he had a spacesuit made for her. It had to be one of the old-style ones, and he had to go to one of the oldest women on the Moon, who had to make entirely new molds for her vacuum-forming equipment. At first, she looked at him with suspicious crystal-blue eyes, set into deep folds of brown flesh. Then, as he and Shekinah came back for a second fitting, then a third, then a fourth to see how far her wings could be folded back, she softened.

“You’re the nanotech man, aren’t you?” she said.

Alex nodded. “Alex Farrell, but you know that.”

“I know nothing.” A pause. Then a hand, like a weathered leather satchel. “Gina Richardson.”

Gina worked a while longer, rebonding seams, adding material, cursing. Then she turned to him. “Why you here, nanotech man?”

“Shekinah,” Alex said. She’d gone to the window, to look out over the bright gray landscape. “She doesn’t understand why she can’t go out.”

Another long pause. Then: “I meant, why you here? On the Moon.”

Alex sighed. “I don’t know.”

“Man like you has a reason. You could buy the world, if you wanted.”

“Nothing to buy here,” Alex said. “Nobody will talk to me long enough to sell me anything.”

“I meant the other world,” Gina said, nodding skyward.

Alex laughed. Another who didn't understand. Sentiment at Winfinity had hardened against him even more, Adele said. “I can't buy Winfinity,” he said. “I can't even go back to Earth.”

Gina nodded, but said nothing more.

When the suit was done, Alex took Shekinah to the nearest airlock and let her run on the soft powder surface of the Moon. She leapt in the air, crying with delight. Alex wished her wings were not folded tight against her back. With them unfurled, she would look truly like an angel, silhouetted against a surreal night sky.

They played until Shekinah got tired. Alex thought he saw Gina watching them through a window, once. But when he turned, she wasn't there.

Later that week, one of the men he had talked to before came to sit by Alex in the bar. His name was Steven Kowalski. His name was most often mentioned by the conspiracy theorists and apocalyptics back on Earth when they talked about the spaceship growing at the Moon.

“What are you doing here, rich man?” he said.

“I don't know. Maybe I'll figure it out eventually.”

A pause. “How long you going to be here?”

“I don't know. Until I'm finished, I guess.”

Steven clenched his jaw and muttered. Looked away. Finally, sighed. “Okay,” he said. “I deserve that. Let’s talk.”

“For real?”

“For real. What do you want?”

“I need a spacecraft,” Alex said.

Steven looked surprised. “Our starship? It’s not for sale.”

“No.”

A pause. “Then go back down to Earth and write a check. You have the cash.”

“I need something different. What’s the operational life on your starship?”

A sigh. “In the range of five hundred years. We’re hoping to get up to ramjet speeds—”

“I need longer than that.”

“Longer?”

“Say, three thousand years.”

Steven stopped moving. He turned to look at Alex. His eyes were cool and unreadable. “Three thousand years? What do you need that for?”

Alex gave him a slow smile, but said nothing.

Steven shook his head. “Five hundred years is tough. I mean, the ship isn’t so much manufactured as it is alive. Even then, after five hundred years there are likely to be massive transcription errors. We can develop for some of the worst-case scenarios, but we don’t really know what the ship will grow into. It might end up, uh, where we’re going, in dramatically different shape than when it started.”

“And you’d still get on it yourself?”

Steven nodded. “Yes.”

“Why?”

“Because it’s getting scary,” Steven said. “Have you seen what they’re teaching in schools these days? About government? Want to bet what Winfinity’s plans will be for the next century? I’m hearing indentures, control networks, stuff like that.”

“So it’s worth it,” Alex said.

A nod.

“I need something that can last three thousand years. It’s worth it.”

Steven sighed. “I suppose if it was stripped down to the very basics—not much more than a ballistic shell with an opening to get things in and out—we might be able to do it.”

“I’ll take the chance.”

“Are you serious?”

Alex nodded. “Dead serious.”

A strange expression overtook Steven. A ragged smile, a gleam in his eye. Something like wonder.

“I also understand you’re working on human hibernation.”

“We are.”

“How long can you keep someone on ice?”

Steven shook his head. “Not long. That’s why we’re thinking generation ship. Though that isn’t set in stone.”

“Three thousand years?”

Steven laughed. “No, no way. A year. Maybe ten. A hundred, no way. Thousands? You’d have to virtually rebuild the body on a continuous basis.”

“Then that’s something else to work on.”

Steven started. His eyes went wide and he goggled at Alex, in almost Hollywood fashion. “You ... you’re going to help us?”

“As much as I can,” Alex said. He’d have to be careful about moving things around, so it looked like he was working on some personal project Winfinity wouldn’t care about, but he could bring more resources to the Moon. And maybe even some of Nanolife’s best brainshots.

Steven swallowed, his face slack in wonder. In that moment, Alex knew he believed. He believed it all. Steven had his own list of things he wanted to see, and he’d do whatever it took to see them.

“What’s lasted three thousand years?” Steven asked.

Alex shrugged. “The pyramids. Some religions. I’m sure a few other things.”

“But ... to do it physically?”

Alex nodded.

Steven stuck out his hand. “It’s good to meet someone crazier than I am.”

Alex called Rafael over and ordered drinks, Shiraz nanolife-produced from California wine templates. They raised glasses.

“What are we drinking to?” Steven said.

“To going out. Over the horizon,” Alex said.

* * * *

Shekinah did not like the place that was smooth and cold and smelled of rock and fear. Even when Alex took her out to leap into the night-sky-with-sun. Jumping was fun, but her back ached from the strange coverings they put on her. She scratched at them, but could not get them off.

Alex took her to a new place, one where the rock still smelled hot and bright lights lit up a large cavern. He smelled happy and bright. He jumped in the air. She did the same. She sailed up towards the top. Alex did that a few times, then started to smell disappointed.

“Fly,” he said, making motions like his arms were wings.

“Fly,” Shekinah said. The new sound meant nothing.

Alex jumped in the air and flapped his arms again, like wings. “Fly, like this,” he said.

Shekinah jumped up and flapped her wings. She fell slowly back down. Her back hurt.

Alex clapped his hands and showed his teeth. Shekinah tried it again, and again, and again. Then her back hurt too much and she stopped. She rubbed her shoulders, her sides.

Alex put a hand on her shoulder and said, "Are you all right?"

It was almost too much for Shekinah to understand.

"Back," she said. "Hurt."

Alex turned his lips down and kneaded the muscles in her shoulders and sides. Shekinah moaned. It felt good. Like the comfort Alex would never give her. Dim images of many nights spent trying to get him to stay, of crying alone afterwards, came to her.

Shekinah whirled to face Alex. Her claws shredded his clothes. She clung to him as he tried to scramble away, as his smell went to fear. But she could smell his need, too. She shrugged out of her thin dress. She clung to Alex, digging in her claws. He tried to push her away. He grew hot and hard, on her belly.

Shekinah pulled herself up and dropped down on him, feeling his heat, feeling him fill her. She groaned and threw her head back, shivering in comfort.

Alex's scent changed again, from fear and arousal to something deeper and more complex, something she had smelled on him before. When the words were hard, when she did not remember them.

But she writhed against him, and for a time they moved as one. Alex even gripped her to him, towards the end. Then she cried in the explosion of comfort. Alex made a low noise. His eyes spilled water.

Shekinah released him, strengthless and satisfied. Alex laid by her for a moment, then pushed himself away. He smelled strongly of that low scent and of fear as he picked up fragments of his clothes.

"Thank," Shekinah said. The sound he used when she brought him food. Another sound he tried to teach.

Alex looked up. His little eyes were round. "I'm sorry," he said.

Shekinah didn't know what he meant, so she closed her eyes and went to sleep.

When she woke, she was in the little room with the window that looked out over the gray land and night sky with sun. She remembered the night before. She smiled.

When Alex opened the door, later that day, there were two other men with him. They wore clothes that smelled like the new place, like cool stone. They smelled slightly of fear.

She went to Alex's arms, but he pushed her away, making lots of noises, beckoning her to follow. She did not want to play, but Alex stunk of fear. She followed.

He took her to a big room where there were many shiny things. She looked at her distorted reflection in some of the things. Alex talked to another man in the room. The noises he made were fast and low. Shekinah caught her name, and a few of the noises: more, small, fun. Alex kept looking at her when he spoke. He showed his teeth, but he did not smell happy.

A strange feeling came to Shekinah. She had not made him happy. She had failed. It was a dark, terrible thought. Images of sharp pins and headaches came. Before and after. The feeling of being changed.

Was he going to change her again?

Shekinah smelled something familiar-yet-not. It took her a few moments to realize she was smelling herself, her own fear.

Alex and the other man stopped and showed their teeth. They looked at her. Their teeth were like a cat's, bright white and sharp.

Shekinah backed away, but the other two men caught her arms. She struggled against them, but they were very strong.

She felt a sharp pain in her arm.

Then Alex's face, bending over hers.

Then nothing.

* * * *

In the smartfog, Adele fell towards Venus. Beside her, Alex looked intently forward, his face painted by the reflection of brilliant white clouds. He darted a glance at her, twitched an uncertain smile, and looked forward again, chewing his lip.

What's the matter? Adele thought. *Don't tell me the ship is a no-go, and I came up to the Moon for nothing.*

Venus's bright clouds stripped away as they fell, revealing a city of neon-lit crystal perched on top of the world. They swooped through forests of tall, long-needed trees and approached the city. The sun hung low on the horizon, spread wide and golden in layers of haze. It cut through the transparent towers of the city, painting them with a soft, warm light. The city glowed, as if in distant memory, Vaseline smeared on the lens of reality.

They flew between the towers, slowing to show beautiful details: etchings in the diamondoid in a neo-art-deco style, heroic men and women of science struggling to turn the gears of immense machines, sunrises dawning over rolling perfect fields, antique spaceships thrusting towards stylized planets.

Adele and Alex soared above the city to a room at the top of the highest tower. It looked across spires of tapered grace, and arches of mathematical perfection, down a broad avenue that led into the city, gleaming and perfect and clean. Inside, a man and a woman reclined on a couch, holding hands.

"Excellent work. Very detailed."

"EA Games already had most of the templates."

Alex gave a nervous little laugh. "Of course."

Their POV whizzed up and around the planet, from dayside to night. Dayside showed grasslands and deep-green forests, punctuated by bright blue lakes. Nightside showed frozen lakes and dead gray

forest. At the terminator, the trees slowly came back to life, the lakes slowly melted.

“Which is why the cities are at the poles,” Adele said. “There’s no good mechanism for increasing rotational speed, but with the limited axial tilt, polar cities will have a sun that’s always just above or below the horizon.”

“Climate?”

“We’ll have to leave some reflectance in the upper atmosphere to get the poles to shirtsleeves.”

“The equator?”

Adele shrugged. “Best guess says it won’t be fatal on the dayside.”

“What’s not fatal?”

“Not much over fifty or sixty degrees C.”

Alex nodded. “Sounds great. When do we start?”

Adele glared at him.

“What?” Alex said.

“You just don’t understand, do you? Three thousand years, Alex!”

“So?”

“So all of this is guesswork! Get out the rabbits’ feet, because you’re going to need them. The bio you saw is guesses and BS. Nobody knows if we can really make trees that’ll survive a Venusian night, so you might end up with a dead planet. And then there’s the carbon problem. I’m still working out whether

it would be better to bind it and railgun it out—which increases our chances of being detected—or split it and oxidize it out. No matter what we do, the nano probably won't be stable for three thousand years, not even if we run cold backups in orbit and reseed.”

Adele expected Alex to wave a hand and tell her it didn't matter, but he only sighed. She turned off the smartfog and they were back in Alex's drab gray cubicle. He hadn't even customized his wallscreens. He sat on an unmade bed.

“What's wrong?” Adele said.

“Nothing.”

“Is it the ship?”

Alex shrugged. “Do you want to see it?”

“Sure.”

* * * *

* * * *

Alex took her down to a hallway that looked over a smoothly-sculpted cavern. Two men in bright purple jumpsuits looked down into the dimness, their eyes shrouded by dataspecs. Below them, Alex's ship grew. Its rainbow-slick gray coating shimmered and danced, like a dirty soap-bubble. She could feel the heat of the nano coming through the diamondoid windows.

"Do they know what it is?" Adele said, nodding at the Moonies.

"They think it's a toy," Alex said.

"Are you sure?"

Alex frowned and handed her a pair of dataspecs. She put them on and looked down at the growing ship. In place of the gray blob, there was a cutaway. And a name.

“Hades? Isn’t he Greek?”

“Better than Pluto.”

“So are you the god of the underworld?”

“I may be,” Alex said. “Or at least that’s what Steven keeps saying. Twenty-eight hundred years is beyond the end of the nano’s projected life, even running cold. And there’s the radiation.”

An image of Alex’s body, blue and motionless, came to Adele. Hurling through space on its unbelievable quest.

“Why are you doing this?” she asked.

Alex looked away. “Most of the ship is a lead matrix, just to protect me from radiation.”

The inner shell of the ship highlighted in her dataspecs. Inside, a body floated in liquid. Nanorepair devices crawled sluggishly through the liquid at only a few degrees Kelvin. An inset showed them comparing Alex’s cellular structure and DNA to stored templates, and performing repairs when necessary. “I won’t be able to wake up periodically,” Alex said. “Too dangerous. Not that I’d be able to turn around. We’re bringing some water to electrolyze into maneuvering fuel, but my landing will be dead-stick.”

“Alex—”

“If all goes well, the inner lead matrix will part when I’ve landed,” Alex said. “If not, there are failsafe saws.”

In her POV, new cutaways showed the supercooled fluid draining from the passenger compartment, and a man reclining in a pilot’s chair, banking the ship towards the outline of a city.

“Alex, why—”

He held up a hand. "I don't even get to see Alpha Centauri, because we can't get enough velocity. I'm just a parabola to nowhere."

"Alex, with this tech, we could be the most powerful people in the solar system."

"And do what? Bring our gun to the fight? Drop bombs on them from our secret base on the Moon?"

In a sudden blinding flash, Adele saw them doing just that. One on Washington, one on Winfinity City, one on Hollywood. She shook her head. Even if they won, it was back to the same old game. The same old insanity.

"I'm going," Alex said.

Adele nodded. "I know."

Alex watched the package fly free from the tether. It moved so slowly he couldn't tell the actual moment of release. It was small, only the size of a car. Gradually, its relative speed increased. It fell towards Venus.

I could wait, Alex told himself. I could send monitors to see if the package begins replication.

He shook his head. Even with the spoofing he'd bought, somebody would know. Somebody would talk. They'd ask about what he'd sent. And maybe they'd uncover the truth.

Newsbits floated in his dataspecs. martian terraforming accelerates. new keys to habitable space. nanoroids: resources in the asteroid belt. Every title tagged to one of the many companies Alex and Adele owned. So many companies these days. All running happily like bacteria. The lengths they'd pushed Nanolife and the Moon-geeks had given them breakthroughs to make life better, both on Earth and in space.

Maybe we could challenge Winfinity.

But that would mean staying. And waiting. And missing the grand ending. Winfinity was nothing more than an aberration, the corporation that ate the United States. In three thousand years, they'd gone from

pyramids to nanotechnology. In another three thousand years, surely they'd conquer their own internal demons.

Alex imagined coming back to a system transformed. Three blue-green worlds to choose from. Maybe more. And perhaps indescribable wonders.

Maybe there would even be a world where Shekinah could fly.

She was still on the Moon. Alex had asked Steven to take Shekinah on their generation ship. He imagined her soaring in the skies towards the center of the habitat, where gravity was light. She would like that.

Alex went back down the ribbon and took a fling out to where his ship Hades waited.

A day into his fling, Adele called him.

"You're clean," she said. "There's no activity in any of the infoswarms."

"Good. Mission accomplished."

Adele went silent. In his dataspecs, her lips pursed, like a child pouting when it didn't get its toy.

She's beautiful, he thought.

"They'll notice you're gone," Adele said.

"Of course. That's okay."

"What if they look for you?"

Alex sighed. Old conversations, well-worn into familiar grooves. He was the only one who knew the

trajectory. And he'd be running dark and cold. "Let them."

Adele just looked at him.

"Goodbye," Alex said. "And thank you. For everything."

"You can stay," Adele said. "You don't have to be with me. We don't even have to change the world anymore."

Alex shook his head.

"I love you, Alex," Adele said.

Alex froze. He felt a slow shiver work down through his body. He opened his mouth, but no words came out.

"I can't," he said, after a time. "Stay."

Adele looked down. "It's that thing. That chimera."

"Shekinah."

"Whatever! Of course you love it! You made it into what it is!"

"I don't..." *I don't love her*, he wanted to say. It was an obligation. He couldn't let her go. And she had so much potential. He imagined what she could be, in three thousand years.

"You don't what?" Adele said.

Alex sighed. "Goodbye, Adele."

Adele glared at him for a moment. Then cut the connection.

When she tried to call him back, Alex didn't take it. He had said all he needed to say. All that he could.

When he neared the Moon, he called Shekinah. She ran towards his POV, grinning. "Alex! Missed you!"

"Missed?" Alex said. Rafael and Steven were teaching her more words.

"Missed, missed, missed!" Shekinah said, spinning happily.

"I missed you, too," Alex said.

"Love you! Love love love!"

Of course, Alex thought. They had to teach her that word. He doubted if she really understood what it meant. The geeks muttered about braincase size and brain morphology, and shook their heads. Like a child. Seven or eight years old. Unless we do more radical work.

"Shekinah, I—"

"Love you! Come see." Shekinah wrapped her arms around herself and closed her eyes, as if embracing him.

"I have to go away," Alex said.

"Come see me."

"I can't. I have to go. Rafael and Steven will take care of you."

“Away?” Soft, plaintive. With her head cocked just so. Suddenly Alex was back at the terrible little show where he’d first met her. His eyes filled with tears. Little rainbows formed on the edges of the dataspecs’ images.

“I’ll miss you.”

“Come see!” Shekinah cried, beckoning.

“I can’t.”

Her smile became a frown. “Alex! Want Alex!”

“I’m sorry,” Alex said. Thinking, terribly, *But she does understand this. She’s making progress.*

“Alex come see!”

Alex shook his head. Tears spilled down his cheeks. He didn’t try to wipe them away.

“I love you,” he said. And broke the connection.

When the Hades’ disposable booster pushed him back in his seat, Alex still cried. *I could stay*, he thought. *I could go on the generation ship, when it was complete.*

But then he’d miss the end.

The cabin grew cold. Needles slipped into his flesh.

Consciousness ended.

It took the Angel of the Moon all morning to climb the one hundred steps to Winfinity’s Hollywood office. It was a big white building with pillars out in front. It was new, but it looked old, like things she

had seen in history lessons. The Winfinity logo rotated above it, suspended in air.

People came out of the building to watch her. Some wore dark gray uniforms with bright green letters that read win-sec on the front. Others were just men and women in business suits, who watched her for a while and then went back into the building. Their eyes looked thin and angry, but they smelled like fear.

Once, a group of chimeras came out of the building. They all wore the little shiny collars that Paul had told her were for the ones who never worked their way to freedom. *Permanent indenture*, he called it, the words big and darty in her mind.

The chimeras walked right by her, only glancing. Their eyes were dead and still.

I was like that once, Shekinah thought. Faint images came to her, fragmentary and slow. Dancing in front of an audience in a place that smelled like alcohol and sex. Her second room, the one where she could go out and see the sky. Alex.

She closed her eyes, wishing she could remember his face. The treatments had done bad things to her memory. Alex was a shade, half-imagined. She heard his voice. *She-ki-nah. Shekinah.*

I remember what you did for me, Alex, she thought. *I will never forget that.*

She levered her thin body up another step. Her wings dragged on the ground. She had never felt this heavy before. She remembered soaring through the caverns of the Moon.

People came from the street to cheer her. They projected images of her flying. They projected images of other chimeras, in cages, at podiums, in sex farms. They projected words:

end the exploitation!

stop the cripples!

welcome the angel of the moon.

The people in the gray coveralls took those people away.

She made it into the cool stone lobby as people passed, smelling of hunger. The man behind the desk tried to look through her for a while. When she said who she wanted to see, he laughed.

She waited for a while, then asked again. And again. The WIN-SEC people drew close.

Then, a voice. "I'll speak to her," it said.

They put her in a lift with two WIN-SEC men, who would not look at her and smelled of terror. Shekinah wondered what they had to fear from her.

She shuffled into a large room that looked out over Los Angeles. They were still fixing some of the buildings from the big earthquake. Evan McMaster, CEO of Winfinity, sat behind a bare stone desk.

"Welcome, Angel of the Moon," he said. "I've enjoyed many of your videos."

Shekinah paused. She did not expect welcome. But he did not offer her something to eat or drink, like they usually did. His smell was masked with strong fragrance, but there was something like anger underneath.

"Mister McMaster, I ask a favor," Shekinah said, repeating the words that she and Paul had rehearsed so many times.

His eyebrows raised. "You're not here to raise a chimera army against my oppressive regime?"

"No." Not understanding completely. Words too fast.

Evan laughed. "That's good. I wouldn't want to lose my emperor's chair."

"Please, I want you to stop production of dumb chimeras."

Evan's eyebrows raised, and he breathed heavily, once. "But chimeras *are* typically of less than human intelligence."

"They don't have to be."

Evan sat back down and crossed his arms. "And how am I to stop this?"

"I have a list of companies. None of them are yours. You could buy them and shut them down. Or make a law."

"Why would I buy a company and shut it down? Companies exist to make money. Buying one only to shut it down wouldn't do much for our bottom line, would it?"

Shekinah struggled to grasp the words. She shook her head.

"Winfinity has over seven hundred million shareholders," Evan said. "They work hard to get through their indentures, then they work hard to move up, then they expect us to take care of them when they are old and retired. And we do. What would you tell all our shareholders, when we had to cut their benefits because we bought some companies and closed them down?"

"You could make a law."

"Again, why? Do you know how much it costs to enforce laws? What happens if we have to increase court costs because we made too many laws? What would you tell them then?"

"But ... these companies create dumb things, when they could be making something smart!"

Evan's eyes narrowed. "How smart are you, on a human IQ scale?"

"I don't know."

“How painful was it, to get there?”

The shade of Alex danced in front of her, faceless. Paul, bending over her in that capsule on the Moon. Telling her that she had become all she could, he was mapping her mental function now, she might lose some of it.

Tears came. She closed her eyes to hold them back. “We can be made better.”

“Why?”

“Because it’s the right thing to do,” Shekinah said. “Because you should care.”

“Should I care about a steak? Should I care about a chicken?” Low, dangerous. Anger overwhelmed his other fragrance.

“Please,” Shekinah said.

Evan McMaster turned around. “No. This meeting is over.”

Shekinah pushed herself forward on trembling legs. The WIN-SEC men grabbed her arms. They were very strong, and it hurt. She cried out.

“I’ll do anything,” Shekinah said.

Evan McMaster came to her and cradled a tear-soaked cheek. His smile was like a snarl. He stunk of anger.

“Anything?” he asked.

“Anything.”

Evan laughed, spraying spittle in her face. “You have nothing I want.”

“Please!”

“This meeting is over.” Evan turned.

The WIN-SEC people led her out to the steps. They let her go, but waited around and watched her.

She made her way down the steps. It took the rest of the afternoon. She had time. They would not let her go back to the Moon.

She was an angel, but she would never again fly.

Adele knew she wouldn't live through her third rejuve. Because of the doctors. Her optilink whispered inferred meaning into her ears, even when they didn't speak. And she knew the gossip. Once, mostly, twice, for some, a third time, for none.

If Alex was here, he would have figured out a better process, Adele thought. But he was probably outside the limits of the solar system now, still drifting along a long, slow parabola that would take him back to her, only about twenty-six hundred years late.

She also knew because of the requests. *Before you go in, whisper one secret in my ear. Where is Alex Farrell? Where did he go?*

Good luck with that, Adele thought. She'd had her own memories repatterned. She didn't remember Alex's trajectory herself. She didn't remember entirely what he did.

Self-preservation, really. Winfinity had absorbed Nanolife by fiat and made her a Chief Executive. Then a Perpetual, when she proved to have true skills. They had allowed her to rejuvenate once, twice, and now, a third time.

She hoped to open her eyes to the thrill and energy of a body young, so exquisitely sensitive and perfect. She remembered her last awakenings, the feeling of wonder, that perfect moment of realization: *I would do anything for this.*

Winfinity had treated her well. As good as it could. But she still wondered what would have happened if Alex had stayed, if he had worked on the problem of rejuvenation, if he had decided to see his project through in body, rather than by escape. But he had never been interested in the in-between work. He wanted to see the end.

There had been days, dark days, when she thought of telling Winfinity where he had gone. When people first asked, in reverent tones, what he was like. When they asked where he had gone. The mysterious man who reinvented the world, and then disappeared.

Then the inference algorithms began to get very, very good, and Adele went to Mars, to the Independent people who lived outside of Winfinity, and had a very small part of her memory erased. The other Perpetuals knew she did it. But it was easy enough to tell them it was too painful to remember Alex. Only the very, very old found that hard to believe. And only a few of the very old ranked higher than her in the Winfinity regime.

And, in some ways, they didn't really care. The Moonies' generation ship had gone out into interstellar space, and they didn't waste time looking for it. Alex's ship was considered as a relic of that same age. Because it was a new world. They had happened upon the great fortune of the Spindle Drive, and instantaneous interstellar transport was a reality. She had stood on the cold green surface of Alpha Centari A's single ocean-heavy world. She'd heard the songs of its fractal bushes. And she'd left, like the rest of Winfinity, because there was no trade to be had with the bushes, even if they did prove to be intelligent.

But they'd found other worlds, other life. None of it intelligent. None of it more than a shade of the Earth's teeming biosphere. Sometimes she wondered about the meaning of that, late at night. Winfinity had no answers. The Consumeristians thought they had answers, but she could not believe them. They were too convenient, too pat, too facile.

It wasn't a terrible empire they had created, she thought. In many ways, no worse than government at the end of the 20th Century. People didn't have to work for Winfinity. They could join a hundred rival corporations. Of course, Winfinity benefits were always greater. And when you were considering a ten or twenty-year indenture, why would you go with a lower return? And it did make sense to hold back rejuvenation for the vast majority of the population. It kept population in check.

And it was the ultimate incentive. She would give anything to be young again.

They had given her a comfortable room in Winfinity City, overlooking the restored town of Rogers, and the rolling hills that framed the One True Shack. Those were icons too, for the people who did not

remember where they came from.

They even surrounded her with young, cheerful medical staff who smiled too much, as if they knew she could read their minds. Like the young girl who came to see her that morning.

“Are you ready to be young again?” she asked.

They are trying to comfort you, the inference algorithms whispered.

“Sure,” Adele said. Her voice was screechy with age.

“Nothing to it,” the girl said. “You’ll just wake up, young. Of course, you probably know that.”

This is a statement calculated to put you at ease.

“If I wake up.”

She is shocked and afraid. She is thinking about calming you.

Adele waved her hand. “Sorry. Never mind.” *Let me die with my mind intact, please.*

They wheeled her into the room with the tanks. It was always nice, going in the tanks. Warm and soft. They put her in. Her optilink fed her a last question about Alex. She thought, one more time, *I could turn him in. I could tell them what he’s done.*

But she didn’t remember. She didn’t remember at all. She remembered helping him. She remembered putting something in space to spoof Winfinity. But she did not know where. She remembered being very relieved when Winfinity took the Spindle Drive and began venturing outward, rather than looking in.

She did remember the name of his ship, the Hades.

Where I am going soon.

She slipped beneath the warm liquid, tasting its familiar salty tang.

She closed her eyes, wishing to open them once again.

Alex Farrell opened his eyes, thinking, *Something's wrong.*

Nothing had changed. The cramped little cabin was the same as it had been when he closed his eyes. The little light-strips still glowed with the same intensity, the instruments floated in front of him, and the soft molded foam he reclined on felt as if he had just lain down.

He raised an arm. It rose smoothly, effortlessly. Not stiff, not slow, not in pain. He could have just dozed off, a few minutes ago.

It didn't work. I woke early. His heart thudded. What if he couldn't get back into suspension? What if he couldn't turn the ship around?

How far was he off? Had he ever gone into suspension at all? He glanced at the instrumentation, expecting it to show a date some time in 2032.

august 5, 4834

Alex sat up straight in his seat, banging his head on the low ceiling.

No. It had to be a joke.

There was no way they'd worked out suspension so well. The geeks on the Moon had told him: *Most likely, you die. Second most likely, you are in terrible shape, like hundred-ten-year-old man. Third most likely, you something strange from transcription error in the medical nano.* They'd also warned him that many of the ship's systems were likely to fail, so even if he did awake, he might have no control.

He scanned the display. Other things jumped out at him: nanotech runrates averaging 99.5%. Better than when he was launched. Nanosystems didn't refine themselves for better performance. Their timeline was always clear: increasing replication error, until the system dropped off an efficiency cliff to become dumb matter again.

Alex had the instruments display his relative position. It showed a dotted line, arcing through the orbits of the planets, terminating near Venus. He zoomed out and saw his entire arc, with time and distance markers. The ship thought it had been on a 2,800-year journey, at least.

The geeks. They sold me out. They never put me under. Win-Sec was probably on its way to pick him up.

Alex turned on the communications scanner. Nothing. It didn't even show the low-power blocks where the geeks sent packets between the Moon and Mars. Flat down to the noise floor.

He frowned. It should show Earth bleed, even in the inner system. He aimed the directional antenna first at Earth, then at Mars. There was nothing coming from either planet.

Of course, they disabled communication, he thought.

Either that, or he really had gone 2,800 years into the future, and humankind had moved so far beyond the electromagnetic spectrum that he couldn't even talk to them anymore.

Pyramids to nanotech, he thought. *Nanotech to ... what?*

The instrumentation fed him visuals, but the optics were only rudimentary. Fuzzy images of blue-green Earth floated ahead of him. Spectral analysis of the atmosphere showed:

24% o₂

75% n₂

1% other, including co₂, argon, and helium pollutants below detectable levels

Wait. He called up the last reading taken, right before he left.

20% o₂

78% n₂

2% other, including co₂, argon key pollutants include oxides of nitrogen, cfcs, and various vocs

He aimed the optical array at Mars. The wavering, uncertain image of a green and salmon-colored globe, punctuated by blue spots, floated in front of him. Its atmosphere was 15% o₂, 80% n₂, 5% co₂ and other gases.

They'd done it! They'd terraformed Mars! *He had gone forward.*

He turned the camera on Venus. It showed a smooth white globe. For a moment Alex felt a thrill of panic. Then he realized that the smartfog was supposed to stay in place until he came back. He had the ship transmit the command to drop the camouflage.

“Command acknowledged,” the ship’s voice said. “Camouflage will dissipate in about eighty hours. Arrival at Venus in about ninety-six hours.”

Spectral analysis told him the atmosphere was unchanged, but his nanotech was already communicating with the ship, telling him it had a breathable atmosphere with slightly higher oxygen content than Earth. Than the Earth he remembered, anyway.

The nano even fed him images, vague and grainy clips of endless pine-like forest under a brilliant white sky. Clips of a brilliant crystal city, brooding in twilight. It told him that it was twenty-three degrees C in the city on that long night.

I did it, he thought. But, deep down, Alex felt a deep unease. Because, by the numbers, his ship should be limping along, and he should be dead.

Or did I have help? he wondered. *And, if so, from whom? Or what?*

On the display, Hades flickered a tiny bit closer to Venus.

* * * *

Venus howled. The wind cut through the channels of his empty polar city, picking haunting notes from the knife-sharp edges of the diamondoid buildings. Lights within reflected and refracted through their translucent interiors, bathing the streets in a cool blue-white glow. The sky was heavy and gray, like lead, the far horizon shading to lighter gray above the hidden sun.

I never named it, Alex thought, as he walked towards his tower. Walked because he had never thought of transportation. Or the nano had degraded to the point where it dropped off the design chart. In his dataspecs, the nano efficiency showed 27%. Barely hanging on the edge of the cliff that fell towards dumb matter.

Which answered one question. His nano had degraded in-line with his forecasts. So he really was in the future.

Or was he a simulated mind, plugged into some future virtuality?

Alex shook his head. He didn't want to think about that. But it would explain a lot. His too-easy reawakening. Hades' increased nanoefficiency. He could be nothing more than computation.

But Alex doubted it. There were too many things, done too right. The alien overtones of the wind on the edges of his buildings. The little errors, like the razor-sharp edges and lack of transportation. Even the smell of the city, sharp with the tang of CO₂ and an unfamiliar, astringent odor something like pine.

And the sense of being alone. His footfalls on the diamondoid pavement were the only sound other than the wind. Nothing moved, except his shifting shadow cast by the light of the buildings.

If Shekinah could see this, what would she think? Alex wondered.

“Communication restored,” the nano interface whispered in his earpod. He had transmitted archived

specs to reverse its decline. As he watched, the efficiency bar slid up towards 28%.

“Why isn’t there any transportation?” Alex asked it.

“Some complex structures were abandoned as efficiency decreased.”

“Is there food?”

“Yes.”

“An observatory? Somewhere I can look at Earth?”

“Ground-based observatories would be useless due to residual shielding. There were no plans for an orbiting observatory.”

“Have you detected communication from Earth?”

“That was not part of the original dataset.”

Alex cursed. “How am I supposed to find out what happened to the rest of the solar system?”

“There were plans for an interplanetary ship. It is complete.”

“There were?” Alex said, shaking his head. He didn’t remember plans for a ship. He’d expected to come here and invite the people of Earth to join him on his new world. “Did you broadcast the invitation to Earth?” he asked.

“Yes. There have been no replies.”

Damn. Alex wondered again if progress had taken Earth past any kind of electromagnetic communication. What if he literally could not talk to them?

Alex turned onto a wide avenue. He could see his building, rising like a crystal art-deco sculpture, at its end.

“Can I take the ship to Earth now?” Alex asked.

“It will take several days to fuel. Would you like this to be done?”

“Yes, please.”

He sliced open his shoe on the razor-edges of the steps that led up to his building. As he watched, blood welled from a thin line on the top of his foot. He tried to smile through the pain.

“Can we fix the sharp edges?” he asked the nano.

“Sharp edges?”

“On the buildings and stairs. They seem to come to a single-atom point.”

“It was not known that you desired rounding.”

“I desire it.”

“That will require active rework of the city, which will render portions of it unusable.”

Alex imagined layers of slick gray nano coating the city. “Start in areas farthest away from me.”

“Proceeding.”

Alex was relieved to see an elevator waiting open in the lobby. Warm light spilled out of it. Something

like woodgrain decorated its interior. He put his hand on it. It felt too cool and too smooth, like the rest of the diamondoid.

“Do the other buildings have elevators?”

“Some.”

Great, Alex thought.

The elevator rushed upwards and its doors opened on his penthouse. Alex gasped. The far wall, transparent, looked out over a blue-white fairyland. His city rose and fell, swooped and spired, towards black lands. The gray splotch of the sun was offset to the east. In a month or so, the sun would rise and cast shadows down the broad avenue that led to his building.

This was what all those futurists always wanted to do. Tear down the city whole and start anew. Not piece by piece. A single integrated whole, designed for utility and beauty.

I've done it.

Alex found food. Little tangerine-sized spheres with a foamy consistency. They tasted like oranges. Slices of something too perfect and regular to be bread. A large, slightly greasy red slab that looked and smelled a little bit like beef.

He toasted the ‘bread’ in an old-fashioned toaster and paced the living room while he ate. It tasted like very good whole wheat bread, despite its looks.

He went to the transparent wall and looked out over the city. In the city, nothing moved. He could hear nothing, not even the howl of the wind. It could have been a picture painted on a wall.

Suddenly, a strange feeling welled up in Alex. It felt as if his chest had been opened up and hollowed out. It felt like his guts had been carved from ice. He hugged himself and shivered.

I'm alone.

He used a wallscreen to access the city's entertainment library. He played music, Halfway and Kraftwerk and Antony Palmiero and The White Plague, very loud. He had the wall show old movies, *Genero* and *The Matrix* and *Fugue State* and *Windex*, with no sound. He pressed his face up against the diamondoid, wanting to touch the characters that glowed within.

* * * *

Tequila is like time travel in a bottle. Drink enough and wake up in the future.

I'm in the future, but I'm not sure I'm awake, Alex thought. It was three days since he'd landed on Venus. Four more until he could board the Aphrodite and see what had become of Earth.

He'd thought the silence around him was like the hushed time in the early morning. But it was more than that. It was as if the planets had stopped in their orbits. It was as if everything had fallen to absolute zero, and all atomic motion had ceased. It was the polar opposite of the grinding bump and garrulous buzz of the seedy end of Los Angeles. It was that pause at three o'clock in the morning, magnified and redoubled and magnified again. It was an ache in his chest, a physical thing, as if he would never be full again.

Adele walked through the door.

Alex stopped pacing and stared at her. All thought ceased. For a moment, it was as if the very ground beneath him rolled and gave way.

She crossed her arms, giving him a thin-lipped grin.

"You're not real," Alex said.

"No," Adele said.

Alex looked at her again. He noticed that highlights on her simple white dress bloomed and spread, like sunlight seen through haze.

“You’re smartfog.”

She nodded. “Close enough.”

A moment of anger, like a knife pressed through his chest. “What are you? Leftover bits of her mind?”

“More than that.”

“What?”

“I’m the best simulation of Adele Yucia that they could make, right before my first rejuvenation. Before I erased my memories of a man named Alex Farrell.”

Alex felt the knife of anger twist again, to pain and confusion. “Rejuvenation? You erased me?”

“Winfinity’s inference algorithms were getting too good. They would have discovered where you had gone—and what you were doing—if I hadn’t made it disappear.”

“You erased me?”

“To protect you! The spoof network I put in place around Venus kept their probes from reporting what you were doing, but I had to get rid of the knowledge. Completely. Then I sent my simulation here, to wait for you to come back.”

Alex collapsed in a chair. He felt as if he had been punched in the gut. Adele ... here and now ... it was too, too much. “How long did you live?”

Adele gave him a wry grin. “How should I know? I simulated before my first rejuve. If I survived my second, I probably lived two hundred years or more.”

“Could you still be alive ... on Earth?”

Adele laughed. "No. By the time I went in for my first rejuve, they were already whispering about it working only a couple of times."

"They could have improved the process."

Adele hugged herself and looked around. "I doubt it."

"So you worked for Winfinity?"

"There wasn't much choice, after a while."

Alex shook his head.

"You would have, too," Adele said. "They controlled the world."

Alex nodded. Best not to argue. He realized, with a start, that the silence had receded, and his loneliness had disappeared.

"Thank you," Alex said.

"For what?"

"For coming to see me."

"Oh, Alex," Adele said. She came over to him and laid a hand on his. He felt a warm, wet breeze on the back of his hand. The feeling of smartfog.

"I thought I was a simulation," Alex said.

“What do you mean?”

“When I awoke. It was too easy. I wondered if I had been turned into a simulation of myself, running on some massive computing system.”

“If you were, how would you tell?” Adele asked.

“Exactly.”

“So maybe we have more in common than we ever had.”

“That’s not funny.”

Adele laughed. “I can embody.”

“Embody?”

“I added some nano routines to your system.”

Alex imagined Adele with him, in his empty city on the pole. He thought about holding her in his arms. He saw himself waking next to her, on the too-slick sheets, on the too-sharp bed. He saw their children, running through the empty streets of the alien world.

“No,” he said.

* * * *

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Alex looked at Earth from orbit.

Earth was a wilderness, seemingly untouched by humanity. The Los Angeles basin was an endless sea of golden grassland, swaying gently in the breeze. Scrub-bushes, eucalyptus, and oak crowded what had been the Hollywood Hills.

He took the shuttle down and stood on the hills that looked out over the San Fernando Valley, trying to divine the hint of an ancient grid. Any remains of the streets and buildings that had once risen there. Sepulveda. Ventura. He could see them in his mind's eye. But even when he hiked down to the valley floor, even when he dug into the ground with his hands, where he knew Ventura once ran, he found nothing. No trace that humanity had ever been. The ship's voice, blandly female, told him softly that there was nothing buried.

Alex returned to Aphrodite. His hands shook. The diamondoid glass of water clattered against his lips.

“Will you talk to me now?” Adele’s shade asked.

Alex looked up, through the translucence of the ship to the softly-shrouded stars. “Did you know it was like this?”

“Only since we arrived.”

Alex had Aphrodite image every square mile of Earth. In the middle of what used to be the Winfinity States, herds of buffalo grazed again. In Europe, great forests carpeted the ground, untouched by any axe. In Egypt, the Nile Valley was untouched by tombs. The Pyramids themselves had been erased.

He stood on the plains. The buffalo looked up, once, then looked away. The herd walked past him as if he didn’t exist. As if he had never existed.

He stood on the banks of the Thames, and wondered if this was what the Romans saw when they first came to that land. A fox stopped to stare at him from the comfortable darkness of the forest. Its green eyes flickered. Then it leaped away.

And he visited his past. His house in Alaska. His home in Quito. All gone, wiped clean, like the wrong answer on a slate.

Reboot, he thought.

Could every trace of civilization be wiped clean in less than three thousand years? Aphrodite’s mind told him no.

Could humankind have left to other stellar systems, to garden worlds discovered or created? Could they have wiped the slate?

No, Alex told himself. If they had done that, there would have been monuments. *We were here. We screwed up. But we fixed it. We leave it here, as we think it once was.* Something couched in florid turns of phrase that would only underscore its idiocy.

And even if most had left, there would be ones who remained behind. Humanity never thought with a

single mind. And if they had left on generation ships, there would be those who turned around and came back. And if they had cheated lightspeed itself, there would be tourists. Footprints on the perfect Earth. Shops selling little trinkets, rocks encased in diamondoid, or tiny bits of the True Pyramids, or of Washington Fallen. Because that was the way people were.

“Will you talk to me now?” Adele asked. “I can help.”

How can you help? Alex wanted to ask. *How can you even begin to understand?*

And the silence. Everywhere Alex landed, the silence. Not the silence of nothingness, but the silence of no human voice, no human activity. It made Alex feel like an ice-sculpture made of frozen oxygen, endlessly cold, infinitely untouchable. He imagined building a house on Earth and living there, and cried terror. There was nothing human there, nothing for him.

Have I come to a timeline where humans never existed? Alex wondered.

No, Aphrodite told him, after it had finished its analysis. The shoreline of the east coast of the former Winfinity States was subtly different from the records it had, different in ways that suggested conflict with hundred-megaton weapons, rather than natural erosion. There was evidence that Earth’s oil reserves were still depleted by the predation of the 20th and 21st centuries.

And, it said, there is biological and silicon detritus that suggests nanotechnological reshaping on a planetary scale. Much like what you have done to Venus.

Alex had a terrible thought. His plan to terraform Venus had gone awry. Part of his package had landed on Earth instead. He had brought about the complete destruction of humanity.

No, he thought. Venus’s package was specific. It would only activate in Venus’s environment.

“You didn’t do it,” Adele said, as if reading his mind.

But it was done, he thought. *Something did this. Something wiped humanity out, like a wrong answer, poorly given.*

“Mars,” he told the ship.

* * * *

Mars was like Earth. Rockport, gone. Winfinity City, gone. The south polar settlements, gone. Semillon Valley farms, gone. But hardy engineered grasses grew on the chill plains, and thin white clouds scudded across the blue sky.

Alex stood where Rockport would have been. Low, dark-green bushes crowded the sickly yellow-green grass. Here and there, salmon-colored boulders punctuated the landscape, their sharp edges slowly softening in the new rains.

He breathed in the chill air. It had a sharp tang, like chlorophyll and rust.

I'm standing on Mars, breathing, he thought.

He drew the air in deep. It was like standing at the top of Yosemite. Chill and thin.

I'm standing on Mars, alone, he thought.

After a while, he went back to the ship. Adele said nothing. But he imagined she was watching him, and thinking, *Will you talk to me now?*

“The Moon,” he told the ship.

* * * *

The geek-warrens were gone, as well as their blob of a ship, but there was a monument.

If you could call it a monument. On the lunar plain, there was a crystal stalk set into a semicircle of white concrete. The stalk rose thirty feet in the air, branching and rebranching, thinning and rebranching, until the ends of its stalks were nothing but a rainbow shimmer. The sun shone through the tree and cast

shimmering colors on the white concrete.

At first, Alex paid no attention to the refracted sunlight. He went to the base of the tree, where a single glyph was carved. It looked something like a stylized 'y', with a thick base that arced up to graceful curves, one drawn back on itself like a curlicue.

“What does that mean?” Alex asked Aphrodite.

“I do not know,” Aphrodite said.

“I do,” Adele said. Her voice was soft, guttural, sad.

“What is it?”

Adele didn't answer for a long time. When she did, her voice was little more than a whisper. “It's a symbol of the Angel of the Moon.”

“What?”

Silence again.

“Adele, please.”

“You wouldn't know,” Adele said. “After you left, your ... Shekinah became very famous. She was known as the Angel of the Moon.”

Alex felt as if someone had punched him in the stomach. He went to examine the sunlight that danced on the white concrete. Its rainbows twisted and shimmered, changing slowly in the slowly-moving sunlight.

In the middle of the rainbows, Shekinah flew. Her wings beat slowly, dreamily. He caught hints of rock in the background. A cavern. Like that day, so long ago.

She turned, infinitely slowly, to look at him. Her clear blue eyes were drawn down in pleasure.

She flew, Alex thought.

“This is a memory structure,” Aphrodite said. “Designed to impose a simulated mind onto the computational environment.”

“The computational environment?” Alex asked.

“In this case, sunlight,” Aphrodite said.

“I don’t understand.”

“The changing angle of the sunlight is the computational environment. Refracted through the diamondoid structure, it displays a result of the computation. Preliminary analysis of the structure suggests that it is more complex than can be delineated by a single environmental parameter.”

“You’re still not making sense.”

“Didn’t you ever read anything outside your field? Adele said. “Environmental computing is an old theory. The entire environment is computation. Sand automatically separates itself into coarse and fine grains when dropped on a predetermined slope. Things like that. If you could find a way to modulate your own equations onto the environment, the environment itself would solve your equations.”

“The equations being this movie of Shekinah?”

“It is likely that the display you are viewing is only a fraction of the complexity of the diamondoid structure,” Aphrodite said.

Alex blew out his breath, fogging the faceplate of his space suit. “So there are more movies stored in the tree?”

“There is enough complexity to simulate a mind, given the right environment,” Aphrodite said.

“This ... this is Shekinah?”

“No,” Aphrodite said.

“No,” Adele said, after a time.

I just have to see his face, Adele thought.

Adele waited, arms crossed, as Aphrodite landed on the outskirts of Venus’s pole city. She had taken to calling it Erebus, for the volcano at Earth’s south pole.

It was just like Alex to forget to name the city. On her first day out of the tanks, she had gashed her leg on the knife-sharp edge of a diamondoid stair. Also just like him. Set the plan in motion, let the details take care of themselves. Except there were no people to fill in the details. Just dumb nano, executing his grandiose plan in the only way it knew how.

The sun was peeking over the horizon as the ship fell to the great sheet of diamondoid. Adele faced it, letting the warm wind of its odorless exhaust wash over her.

Aphrodite extended a ramp. She limped to meet it.

Alex paused, once, at the top of the ramp, looking down at her with wide eyes. He walked down the ramp, head down, and stopped three feet away from her. His eyes flickered up to meet hers. His hands clenched, once, as if needing something to hold. He looked tired and sad and confused.

Adele felt a wave of concern wash over her. She wanted to take him in her arms, tell him it would be all right.

“Adele,” he said.

She nodded. *And now he'll tell me I shouldn't have embodied, I should have waited, it wasn't the right time.*

Alex took one step and stopped. He wavered. Gave a tiny moan. Embraced her.

Adele stood stiff. *I could back away, she thought. I could leave him. I could fly away to Earth and live there. He would never find me. And it would serve him right.*

Alex sobbed, his head laying cradled on her neck and shoulder.

Adele put her arms around him.

They stayed that way for a long, long time.

* * * *

After that night, they talked. Like broken talking-head dolls, parroting comforting phrases as their sun-cast shadows moved jerkily against the back wall of Alex's apartment.

"What happened to Earth?" Alex said.

"I don't know. Any more than you."

"Something changed it."

"Maybe."

He shook his head. "Not people. We'd leave monuments. We'd open shops."

“Maybe we’ve grown up.”

“I have a model of Shekinah’s mind,” Alex said, after a time.

“I know.”

He went to sit by the diamondoid window. He looked down on the empty streets. “I don’t know what to do,” he said.

Adele went to sit by him. She put her arms around him. He didn’t try to shake her off.

“Are you real?” Alex asked.

Adele sighed. She’d already gone through that mental ping-pong, wondering what she was and who she was and if it mattered and if the mind was just computation, or if it was something else, and if the she-that-was somehow was aware of the she-that-is-now. There was no history. She could have died the day after getting her memory mapped by the independents on Mars. Or she could have lived two hundred years more.

“I’m here, now,” she said, softly.

Alex waited for children that never came. A year passed, and their city grew softer. The nano built them parks for strolling and for play. Five years passed. Adele dropped hints, and Alex did the tests. He was fertile. So was she.

But there were no children.

Someone, something interfered, Alex thought, late at night when the wind had dropped to a low moan, and Adele lay by his side. And something’s still interfering. Something that had some magic greater than nanotech, something in control of forces beyond human knowledge and physics. Perhaps even humanity itself, uplifted out of the realm of matter.

Ten years passed. Adele went away for a time, to the city on the opposite pole. Then she came back, long-faced and haggard. The nano showed him the body she’d built to consort with. It showed her crying

when month after month passed without pregnancy. Alex welcomed her back with a hug and a smile. He never said a word.

Because, for some reason, it was all right. They were not supposed to reproduce. They were not supposed to continue. There was something he could learn from that. Something beyond, *There are always limits.*

Alex started his own project. He had all the old tools. Some even better than he remembered them, built with fragments of data from Adele's files she'd sent to Venus, fifty years after he left.

I will live for another two hundred years, Alex thought. I have that time to work on this. And I can always simulate my mind and rebody.

But that isn't me, he thought, deep at night when the silence was only relieved by the sound of Adele's soft breathing and the beat of his own heart.

Adele, to her credit, never asked what he was doing. On the night the new ship launched, invisible, from the other side of the planet, she came up behind him and said, "You seem happy."

"Content," he said.

"What do we do now?"

"What?"

"Keep rebodding? Keep waiting for God to pop out of the woodwork and say, 'Sorry for the misunderstanding, here's what happened'?"

And, in that moment, he wanted to tell her everything.

You were right. I loved her. She's what sent me here. To escape that scary, scary fact. Yes, I wanted to see what we could be, but that wasn't all of it, not by a long shot. And when I get here, the only monument I find is to her. Like everything I did was really for her. Not for me. And so I have to do this. Because it doesn't matter to me or you. We will find our own way, and Shekinah

will find hers.

But instead he just shook his head and looked out over Venus, and thought of the package now hurtling towards the Moon. A hack of the Venus nano. Maybe it would work. Maybe it wouldn't. His skills were rusty. The Winfinity docs were shortspeak for headshots. But he could hope. And, if it didn't take, he could try again.

And in a few thousand years when the Moon blooms, he thought, it doesn't matter if we're around to see it. In a few thousand years when Shekinah and her kind come back to life, your children will be the ones to meet them. And when Shekinah and her kin soar into the sky on brilliant white wings, maybe you'll feel something, something I could never truly express. Hope. Thrill of beauty. Manifold of possibility.

"I don't know," he told Adele, finally. "But I won't leave you. Not again."

Adele cried and fell against him. He held her, sobbing. Maybe they would make more bodies. Maybe they'd make themselves into something ready to meet Shekinah and her kind as equals. Or maybe not.

Alex closed his eyes, seeing beings like butterflies dancing under a full Earth.