

Engine City

Ken MacLeod

To Carol, with love

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There is no middle path between these two, for a man must either be a free and true commonwealth's man, or a monarchical tyrannical royalist.

Kingly government governs the earth by that cheating art of buying and selling, and thereby becomes a man of contention, his hand is against every man, and every man's hand is against him; and take this government at the best, it is a diseased government, and the very city Babylon, full of confusion.

—Gerard Winstanley, *The Law of Freedom in a Platform* (1651)

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Prologue: States of Mind

the god who later became known as the asteroid 10049 Lora, and shortly afterwards as the ESA mining station *Marshal Titov*, was not unusual of its kind. Around the Sun, as with most stars, gods swarm like flies around a sacrifice. Life arises from states of matter. From some of these states of matter arise states of mind.

In the asteroids and cometary bodies the units of life were extremophile nanobacteria. Regulating their ultra-cold molecular processes, the vanishingly tiny temperature differentials, detecting the quantum signature of usable energy—over millions of years, these and other selective advantages drove the development of delicate networks adapted to processing information. Random variations in the effects of their activities on the asteroid's outgassings and on the glacially slow transport of mass within it were selected for whenever they resulted in more stable orbits and fewer collisions. Increasingly complex networks formed. Subjectivity flickered into being on trillions of separate sites within each life-bearing asteroid or cometary mass.

Those within 10049 Lora found themselves in a society of other such minds, exchanging information across light-hours. They had much to learn, and many to learn from. Billions of years of evolutionary fine-tuning had given the cometary and asteroid minds an exquisite sensitivity to the electromagnetic output of each other's internal chemical and physical processes.

Communication, exchange of information and material between cometary clouds, became rumor that ran around the galaxy's outer reaches, which ring like residential suburbs its industrial core where the heavy elements are forged.

Just as minds are built from smaller information exchangers—neurons or bacteria or switches—so from the vast assembly of intercommunicating minds within the asteroid emerged a greater phenomenon, a sum of those minds: a god. It was aware of the smaller minds, of their vast civilizations and long histories. It was also aware of itself and others like itself. Its component minds, in moments of introspection or exaltation, were aware of it. In moments of enlightened contemplation, which could last millennia, the god was aware of a power of which it was a part: the sum of all the gods within the Solar System. That solar god, too, had its peers, but whether they in their turn were part of some greater

entity was a subject on which lesser minds could only speculate.

On Earth, evolution worked out differently. On its surface, the multicellular trick took off. Beneath the surface, the extremophile microorganisms that riddled the lithosphere and made up the bulk of the planet's life formed extensive interacting networks which became attuned to the electromagnetic fields of the planet and its atmosphere. Constantly disrupted by processes far more violent than those of the smaller celestial bodies, they attained the level of symbolic thought, but never quite intelligence. Earth's mind—Gaia—was like that of a pre-verbal child or an animal. Its thoughts were dreams, afterimages, abstractions that floated free and illuminated like sheet lightning.

The large squid of the genus *Architeuthys*, which men later called krakens, were the first real intelligences on Earth, and the ones whose outlook on life was closest to that of the gods. They communicated by varying the colored patterns of the chromatophores on their skins. The minute electrical currents thus generated interacted with the electromagnetic flux of the planet and were amplified by it to come to the cometary minds' acutely sensitive attention. Responses tickled back from the sky. As the gods began to make sense of the squids' sensoria—a research project which kept the equivalent of a billion civilizations' worth of scientists happily occupied for several centuries—they modified their own internal models accordingly. The visible spectrum and the visual field burst upon astonished inner eyes. Sight dawned for the gods, and enlightenment for the squid. Mega-years of happy and fertile intellectual intercourse followed.

Towards the end of the Cretaceous period, alien ships emerged from nowhere. Their occupants were warm-blooded, eight-limbed, eight-eyed, and furry. Celestial minds were already familiar phenomena to them. They swarmed across the Solar System, cracking memetic and genetic codes as they went. They talked to the gods with their noisy radio systems, gibber, jabber, boasting in technical detail of the lightspeed drive and the antigravity engine. Their discoid skiffs scooted through the skies of all the planets. They flashed banks of lights at the kraken schools. They listened to the collective voice of the Martian biosphere, which in all its long dying never rose above a sad, rusty croak.

They made friends. They found a promising species of small, bipedal, tailless dinosaurs and fiddled with their genes. The new saurs were intelligent and long-lived. The octopods taught the saurs how to fly skiffs. (Gaia took the saurs and skiffs into her dreams, and spun shining images of them in plasma and ball lightning, but nobody noticed back then.) They dangled the prospect of space travel before the kraken. Many of the squids pounced at the chance. The octopods designed ships and skiffs; the saurs built them and flew the skiffs; the krakens embraced the algorithms of interstellar navigation. Long ships, whose pilots swam in huge aquaria, blinked away.

By this time, one thought in the baffled minds of the gods resonated from one side of the Oort cloud to the other: KEEP THE NOISE DOWN! The radiation noise and the endless blether of information were not the worst irritations. Despite all appeals, the octopods persisted in digging on the surfaces of asteroids and comets. They itched like nits. Some saurs and kraken began to see the gods' point of view, but they were unable to convince the octopods. The cometary minds made small, cumulative changes in their orbits, nudging a metallic asteroid onto a trajectory that ended on the octopods' single city and

brought the Cretaceous epoch to a cataclysmic close.

The destruction appalled even the gods. The octopods and their allies fled, while the saurs and krakens who remained behind labored to repair the damage done. They still had skiffs and ships. Laden with rescued specimens and genetic material, light-speed ships traveled to the other side of the galaxy. The saurs selected a volume about two hundred light-years across and seeded scores of terrestrial planets—some hastily and blatantly terraformed—with the makings of new biospheres. Saur and kraken settled the new planets, originally as ecological engineering teams, later as colonists. Others returned to the Solar System, to bring more species. The traffic was to continue for the next sixty-five million years.

Echoes and rumors of other conflicts circulated around the galaxy. The kraken picked them up from the gods in the newly settled systems and passed them on to the saurs. In those multiple translations, subtleties were lost. Knowledge of the past became tradition, then religion. Gradually, the saurs, in what they came to call the Second Sphere, diverged from those in the Solar System. Meetings between the two branches of the species became mute, and matings sterile.

In the Second Sphere, a quiet and contented civilization was held together by the kraken-navigated starships that plied between its suns. It assimilated new arrivals at intervals of centuries. Some fast, bright mammals increasingly reminded the saurs of the octopods. Lemurs and lorises, apes and monkeys, successive species of hominid; bewildered, furious bands of hunters, tribes of farmers, villages of artisans, caravans of missing merchants, legions of the lost. The saurs' patient answers to their frequently asked questions became the catechism of a rational but zealous creed. Yes, the gods live in the sky. No, they do not listen to prayers. No, they do not tell us what to do. Their first and last commandment is: Do not disturb us.

Slowly, with the help of the saurs and the two other surviving species of hominid, the transplanted humans built a civilization of their own, whose center was a city that never fell.

For the gods in the Solar System, the human civilization of the Second Sphere was a history too recent for them to have heard of. They knew only that the saurs' snatch-squads continued their work with ever-increasing caution as the human population grew. The clutter of images generated by Gaia's excitable response to the saurs' presence provided the perfect cover for their activities. The gods had real aliens to worry about. The starships might bring back news from the Second Sphere a hundred thousand years out of date, but they collected much more recent news in their occasional stops on the way back. From these the gods learned that the octopods were a few tens of light-years away, and heading toward the Solar System.

The god in 10049 Lora had already lived a long life when it and its peers noticed the rising electronic racket from Earth. It volunteered to swing by for a closer look. It absorbed the contents of the Internet in seconds, and then found, microseconds later, that it was already out of date. It was still struggling with the exponential growth when the European Union's cosmonauts arrived. To them, it was a convenient Near-Earth Object,

and a possible source of raw materials for further expansion.

The humans had plans for the Solar System, the god discovered—plans that made the past octopod incursion seem like a happy memory. But the coming octopod incursion might be still worse. If the humans could expand into space without the devastatingly profligate use of resources that their crude rocket technology required, an elegant solution could be expected to the presence of both species of vermin.

Bypassing the local saurs, who were quite incapable of dealing with the problem, the god scattered information about the interstellar drive and the gravity skiff across the Earth's data-sphere. Several top-secret military projects were already apparently inspired by glimpses of skiff technology, but their sponsors unaccountably failed to take the hint. (In their mutual mental transparency, the celestial minds found the concepts of lies, fiction, and disinformation difficult to grasp.) The minds within 10049 Lora opened communication with the cosmonauts on its surface, where the ESA mining station *Marshal Titov* was giving the god a severe headache.

Having their computers hacked into by a carbonaceous chondrite came as a surprise to the cosmonauts. In the sudden glut of information, they failed to notice the instructions for a radical new technology of space travel until it was almost too late. Politics dictated first that the contact should be secret, then that it should be public. Political and military conflicts resulted in a mutiny on the station. Before the space marines of the European People's Army could arrive to suppress it, the cosmonauts built a lightspeed drive that took the entire station away. They thought they had understood how to navigate it. They had not. It returned to its default setting, and arrived at the Second Sphere.

Before their departure, one of the cosmonauts made sure that the instructions distributed by the god would not be ignored, and could not be hidden. The gods approved. Soon the noisy humans would be somebody else's problem.

The Advancement of Learning

the jump is instantaneous. To a photon, the whole history of the universe may be like this: over in a flash, before it's had time to blink. To a human, it's disorienting. One moment, you're an hour out from the last planet you visited—then, without transition, you're an hour away from the next.

Volkov spent the first of these hours preparing for his arrival, conscious that he would have no time to do so in the second.

My name is Grigory Andreievich Volkov. I am two hundred and forty years old, I was born about a hundred thousand years ago, and as many light-years away: Kharkov, Russian Federation, Earth, in the year 2018. As a young conscript, I fought in the Ural Caspian Oil War. I was with the first troops to enter Marseilles and to bathe their sore feet in the waters of the Mediterranean. In 2040, I became a cosmonaut of the European Union, and three years later made the first human landing on the surface of Venus. In

2046 I volunteered for work on the space station *Marshal Titov*, which in 2049 was renamed the *Bright Star*. It became the first human-controlled starship. In it I traveled to the Second Sphere. For the past two centuries I have lived on Mingulay and Croatan.

This is my first visit to Nova Terra. I hope to bring you . . .

What? The secret of immortality?

Yes. *The secret of immortality*. That would do.

Strictly speaking, what he hoped to bring was the secret of longevity. But he had formed an impression of the way science was conducted on Nova Terra: secular priestcraft, enlightened obscurantism; alchemy, philosophy, scholia. A trickle of inquiry after immortality had exhausted hedge-magic, expanded herbalism, lengthened little but grey beards and the index of the Pharmacopia, and remained respectable. Volkov expected to be introduced to the Academy as a prodigy. Before the shaving-mirror, he polished his speech and rehearsed his Trade Latin.

The suds and stubble swirled away. He slapped a stinging cologne on his cheeks, gave himself an encouraging smile, and stepped out of the cramped washroom. The ship's human quarters were sparse and provisional. In an emergency, or at the owners' convenience, they could be flooded. In normal operation, it was usual to travel in one or other of the skiffs, which at this moment were racked on the vast curving sides of the forward chamber like giant silver platters. The air smelled of paint and seawater; open channels and pools divided the floor, and on the walls enormous transparent pipes contained columns of water that rose or fell, functioning as lifts for the ship's crew. Few humans, and fewer saurs, were about in the chamber. Volkov strolled along a walkway. At its end, a low rail enclosed the pool of the navigator. Eyes the size of beach balls reflected racing bands of color from the navigator's chromatophores and the surrounding instrumentation. Wavelets from the rippling mantle perturbed the water. Lashing tentacles broke the surface as they played over the controls.

Volkov was halfway up the ladder to the skiff in which he had spent most, and intended to spend the rest, of the brief journey, when the lightspeed jump took place. The sensation was so swift and subtle that it did not endanger his step or grasp. He was aware that it had happened, that was all. In a moment of idle curiosity—for he'd never been within sight of a ship's controller at such a moment—he glanced sideways and down, to the watery cockpit twenty-odd meters below.

The navigator floated in the middle of the pool. His body had turned an almost translucent white. Volkov was perturbed, but could think of nothing better to do than scramble faster up the ladder to the skiff.

The door opened and he stepped inside, rejoining his hosts. Esias de Tenebre stood staring at the display panel, as though he could read the racing glyphs that to Volkov meant nothing. Feet well apart, hands in his trouser pockets, his stout and muscular frame bulked further by his heavy sweater, his shock of hair spilling from under his seaman's cap. Though in the rough-duty clothes that merchants traditionally wore on board ship, he had all the stocky and cocky dignity of Holbein's Henry—one who did not kill his wives,

all three of whom stood beside him. Lydia, the daughter of Esias and Faustina, lounged on the circular seat around the central engine fairing behind her parents, returning Volkov's appeasing look with sullen lack of interest. Black hair you could swim in, brown eyes you could drown in, golden skin you could bask in. Her oversized sweater and baggy canvas trousers only added to her charm. The other occupant of the vehicle was its pilot, Voronar, who sat leaning forward past Esias.

"What's going on?"

The saur's elliptical eyes spared Volkov a glance, then returned to the display.

"Nothing out of the ordinary," said Voronar. His large head, which lent his slender reptilian body an almost infantile proportion, tipped forward, then nodded. "We are an hour away from Nova Terra."

"Could you possibly show us the view?" said Esias.

"Your pardon," said Voronar.

He palmed the controls, and the entire surrounding wall of the skiff became pseudotransparent, patching data from the ship's external sensors and automatically adjusting brightness and contrast: Nova Sol's glare was turned down, the crescent of Nova Terra muted to a cool blue, its night side enhanced. Scattered clusters of crowded lights pricked the dark like pleiads.

"That's a lot of cities," Volkov said.

Compared with anywhere else he'd seen in the Second Sphere, if not with the Earth he remembered, it was.

"There's only one that matters," said Esias. He did not need to point it out.

Nova Babylonia was the jewel of the Second Sphere. Its millennia-old culture, and its younger but still ancient republican institutions, made it peacefully hegemonic on Nova Terra, and beyond. The temperate zones of Nova Terra's continents were placid parks, where even wildernesses were carefully planned landscape features. All classes of its people were content. Academicians and artists assimilated the latest ideas and styles that trickled in over the millennia from Earth; patricians and politicians debated cordially and congratulated themselves on their fortune in knowing, and avoiding, the home world's terrible mistakes. Merchants traded the rare goods of many worlds. Artisans and laborers enjoyed the advantages of a division of labor far wider than any the human species could have sustained on its own. Emigration was free, but the proportion of emigrants insignificant. The hominidae cheerfully tended and harvested the sources of raw materials, and the saurs and krakens exchanged their advanced products and services for those of human industry and craft. As an older and wiser species, the saurs were consulted to settle disputes, and as a more powerful species, they intervened to prevent any from getting out of hand.

The lights of Nova Babylonia shone just short of the terminator, and somewhat to the

north of the halfway point between the pole and the equator. Genea, the continent on whose eastern shore the city stood, sprawled diagonally across the present night side of the planet and southward into the day and the southern hemisphere. Its ragged coastline counterpointed that of the other major continent, Sauna, a couple of thousand kilometers west: the two looked as though they had been pulled apart and displaced, one northward, the other south. Much of the southern and western part of Sauria was wrapped out of sight around the other side of the planet, at this moment; in the visible part, even at this distance, the rectangular regularity of some of its green patches distinguished manufacturing plant from jungle and plain.

“Do any humans live in Sauria?” Volkov asked.

Esias shrugged. “A few thousand, maybe, at any one time. Short-term contract employees, traders, people involved in travel infrastructure and big-game hunting. Likewise with saurs in Genea—lots of individuals, no real communities, except around the hospitals and health services.”

Hospitals and health services, yes, Volkov thought, that could be a problem.

“What about the other hominidae?”

“Ah, that’s a more usual distribution, except that they have entire cities of their own.” Esias pointed; it wasn’t much help. “Gigants here, pithkies there. Forests and mines, even some farming. More of a surprise than the cities, that; it’s only developed in the last few centuries. They’ve always been herding, of course.”

As the ship’s approach zoomed the view, the city and its surroundings expanded and sharpened. The immediate vicinity and hinterland of the city was a long, triangular promontory, about a thousand kilometers from northwest to southeast and five hundred across at its widest extent. It looked like a smaller and narrower India: an island that had rammed the continent at an angle. Very likely it was—the ice of a spectacular and recent mountain range glittered white across the join. The west coast of this mini subcontinent was separated from the mainland of Genea by a semicircular sea, three hundred kilometers across at its widest, its shore curving to almost meet the end of the promontory just south of the metropolis. From the mountains sprang a dozen or so rivers whose confluence channeled about halfway down to one major river, which flowed into the sea near the tapered tip. The central, and oldest, part of Nova Babylonia was on an island about ten kilometers long that looked wedged in that river’s mouth.

The city drifted off center in the view, then swung out of sight entirely as the ship leveled up for its run into the atmosphere. Why the great starships approached on what resembled a long, shallow glide path was unknown, and certainly unnecessary, but it was what they always did. The air reddened around the ship’s field and, following another unnecessary and invariable habit, its human passengers returned to their seats.

Volkov leaned on the rail of the open sea-level deck of the star-ship and gasped morning-cool fresh air. The starship had, to the best of his knowledge, no air-recycling or air-circulating mechanisms whatsoever, and after a couple of hours even its vast volume of air grew slightly but noticeably stale. Around him, unregarded, the ship’s unloading went

on, bales into boats and sometimes into skiffs. The machinery that he had imported from Mingulay and Croatan—marine engines and diving equipment, mostly—would be a small fraction of the de Tenebres' cargo, and that itself insignificant beside the wares of the ship's real owners and major traders, the krakens. Beneath him, the ship's field pressed down like an invisible, flexible sheet on the waves, flattening them to a waterbed wobble. Under that rippling glassy surface, the krakens from the ship and from the local sea flashed greetings to each other. Off to Volkov's right, behind the bulk of the ship, the sun was just up, its low full beam picking out the city, about a mile away across the water, in rectangles of white glare and long triangles of black shade. Ten thousand years of heaping one stone upon another had stacked the architectures of antiquity to the heights of modernity. A marble Manhattan, massive yet soaring, it looked like something from the mind of a Speer with humanity, or a Stalin with taste. The avenues that slotted the island metropolis from east to west were so broad that Volkov could see the sky on the far side through the one directly opposite him. Bridges, sturdy as ribs, joined both shores to districts that stood, less grand only by contrast, on either bank.

Starships by the score dotted the broad estuary. Skiffs flitted back and forth between the sound and the city like Frisbees in a park. Long-limbed mammals like flying squirrels—this world's equivalent of birds—skimmed the waves and dived for fish and haunted the wakes of fishing boats in raucous flocks. Above the city, airships and gliders drifted, outpaced and dodged by the flashing skiffs. Between the starships, tall junks and clippers tacked in or out of the harbor and both branches of the river, and among them feluccas darted, their sails like the fins of a shoal of sharks. At this distance, the city's dawn din of millions of wheels and feet rose in a discernible and gradually increasing hum.

For a moment the immensity and solidity of the place made Volkov's heart sink. The stone crescendo that rose before his face was like some gigantic ship against whose bow history itself cleaved and fell back to slip along its flanks and leave a wake of churned millennia. And yet ultimately it was only an idea that kept it afloat and forging forward, a thought in millions of all-too-fragile skulls. Let them lose that thought, and in a year, the place would sink. Volkov had set himself the harder task of raising it, and at that, he felt weak.

He heard and smelt Lydia behind him, and turned as she stepped up to the rail. She gazed hungrily at the city, transfixed.

"Gods above," she said, "it's good to see it again." She smiled at him wryly. "And good to see it hasn't changed much." Another, more considering, look at the city. "Except it's higher."

"It's impressive," Volkov allowed.

"And you want to change it."

Volkov jerked a thumb over his shoulder at the work being done behind them. "You're the revolutionaries," he said. "Bring in enough books and ideas, and the city will change itself. All I want to do is make sure it's still there the next time you come back."

He grinned at her, controlling his features. His heart was making him shake inside. "If I

believed in your people's ideas of courtship, I would offer it for your hand. I would tell Esias that I could take this city and lay it at your feet."

Lydia, to his surprise, blushed and blinked. "That's what Esias is afraid of," she said.

She stared away, as though weighing the city, and the suggestion.

"Gregor offered more," she added, "and he delivered it, too, but he didn't want me after all. No, I'm not open to that kind of offer. Not after that."

"I see," said Volkov. "I'll just have to fall back on my fine physique and engaging personality."

Lydia laughed. "I can never tell if you're joking or not."

"Neither can I," said Volkov in a gloomy tone.

She punched him lightly. "There you go again."

He turned to her, with a smile to cover his confusion, and even more to cover his calculation. He did not know how he felt, or what if anything his feelings meant. A few weeks earlier, his affair with Lydia's mother, Faustina, had come to a mutually agreeable end. He got on best with women of his own apparent age, or older; preferably married, or otherwise unlikely to form a permanent—and from his point of view, all too temporary—attachment. He wasn't in love with Lydia, or even infatuated with her. He didn't think about her all the time. But whenever he saw her, he felt an electric jolt inside him, and he found it difficult to look away from her. It was embarrassing to find himself stealing glances like some besotted youth, but there it was.

At the other end of the scale, almost balancing that, there was the knowledge that in terms of Nova Babylonian—and Trader—custom, they were potentially good partners. Marriage was a business, affairs an avowed diversion; issue, inheritance, and fortune the only serious matters, over which geneticists and astrologers and matchmakers kept themselves profitably occupied.

In between, at the balance point, he and Lydia had developed a sort of tempestuous friendship, which every so often blew up in clashes in which his values and ideas appeared to her as a jaded cynicism, and her passionately held ethics to him seemed ancient prejudices, immaturely held. At the moment, their relationship was going through one of its calmer patches. He didn't know whether a squall would have been better. More bracing, certainly; but there was no need to bring it on. It would come of itself soon enough.

"Can we at least be friendly, for the moment?" She smiled back. "You may be sly, Grigory Andreievich, but I do like you. Sometimes."

The first skiff slid out of its slot in the rack and skimmed across the navigation pool and

out of one of the ship's side openings. It soared to an altitude of a couple of hundred meters and flew into the city, the other skiffs carrying the rest of the clan and the crew following one by one at intervals of about half a minute. Voronar took his time, evidently enjoying showing off to Volkov the city's towers and his own skill in flying between them. From above, the city looked astonishingly green. Trees lined the streets, and stories rose in steps like terraces, many of which supported grass and gardens: the hanging gardens of Nova Babylonia, a wonder greater than their ancient original. Monkeys scrambled and swung on long vines and branches; goats grazed the lofty lawns and capered up or down external stairways; flying squirrels, their fur bright and various as the feathers of parakeets, flashed across the artificial canyons.

The skiff dipped, making the view tilt alarmingly while the internal gravity remained rock solid. Volkov glimpsed a buttress on which was carved an eagle, wings outspread to ten meters, and beneath it the inscriptions "IX" and "SPQR"; and then, before he could quite grasp the allusive stir of memory, they were past it and sidling in to a tower, down whose fifty-meter lower tier a column of neon spelled out DE TENEBRE. The skiff landed on one of the building's terraces and everyone except the pilot descended the ladder onto soft turf, and the skiff flitted away to make room for the rest of the skein.

"Sliding glass doors," Volkov murmured to Lydia, as they walked toward the entrance. "It's been a long time."

"Oh, so they had them on Earth?"

From the sliding doors emerged a crowd of the clan's retainers and office workers, and—as Volkov learned in the swirl of fast introductions as the new arrivals were ushered inside—members of the home-staying branch, the oldest of whom might remember from childhood someone old enough to have been alive when the ship had departed. Also in the crowd were saurs, for whom the past two centuries were an episode in their lives, and who swiftly renewed old acquaintances among their counterparts in the traveling crew. For all of them, human and saur alike, the return of the ship was a major event and a huge celebration. This floor of the building was evidently the function suite, a vast deck whose open space was only interrupted by support pillars, and on it a thousand or so people were partying. Most of them wore some kind of pleated kimonos, with variations in cloth, cut, texture, and pattern that differentiated the sexes in predictable ways. Others wore loose jackets and trousers, likewise varied.

Volkov circulated, nibbled and sipped, chatted discreetly. Esias's family and the few crew members who knew who Volkov really was had agreed to keep it to themselves and to the saurs, at least until the Academy, the Electorate, the Senate, and the Assembly of Notables had had a chance to consider the situation. He introduced himself as an immigrant marine engineer importing some new technology, which was true as far as it went. A slow circumnavigation of the room took him back to Lydia's orbit.

He gestured at his clothes and hers, then at those of the other revelers. "Doesn't this make you feel a little . . . underdressed for the occasion?"

Lydia brushed her hands on her hips, leaving crumbs on canvas. "Not at all," she said.

“Traveling gear is the most prestigious garb at this party, I’ll tell you that. If we were to come here in what were our best clothes when we left, we’d look as though we were in some kind of antique costume.” She looked around critically. “Mind you, I can see where this sort of silk origami style came from, and I’m quite looking forward to trying it, but there’s no way I’d change into it straight off the ship. I’d look as ridiculous as I’d feel.”

“I doubt that.”

Lydia acknowledged the compliment with a shake of the head. “And how do you feel?”

“Somewhat overwhelmed by all this, to tell you the truth. Not just the occasion, but the city.”

“Aha,” said Esias, looming into view behind a brandy balloon. “I detect a bad case of cultural cringe. I can see it in your eyes, Volkov. Relax, my friend. We’re the hosts here, remember. And from our point of view, we attend such occasions every few months.”

“Perhaps at the next one,” Volkov murmured, “all the people here will be there.”

Esias raised a finger, then winked. “But yes,” he said, “an interesting thought . . . I’ve set some wheels in motion about a hearing from the Academy, by the way. It’ll take a day or two, of course. In the meantime, I’ll deal with the usual turnaround business, and you . . .”

“I’ll sell machines,” said Volkov.

Volkov spent the next few days wandering around the city, sometimes in Lydia’s company, sometimes on his own. From street level, the terracing gave an illusion of its being built on a human scale. From the pavement, the nearby towers would seem only a few storeys high, those farther away like cliffs striated with verdant ledges. Awnings and cloisters, courtyards and porticoes, plazas and fountains, and the long shadows of the buildings themselves, made the air on the streets bearable, almost cool. Higher up, breezes did the same work. Access to the upper levels was by lifts, or interior stairs, or by perilous stairways that zigzagged up their outer walls. The whole city ran on a like combination of muscle power and electricity. Less dense than it had looked from the sea, it contained endless pocket parks and gardens, fertilized by draft-animal dung, whose collection and distribution was a business in itself. Hardly a splash of shit ever reached the streets. Processing human waste was another specialization, conducted with such skill and speed that Volkov for a long while did not catch more than a passing whiff of it.

The gardens in the business district were decorative, but elsewhere, their floral fringes enclosed vegetable patches, small rice paddies, beds of herbs, tiny meadows for the goats, guinea pigs, and other minor livestock; the trees of the avenues and parks were harvested for fruit, and even timber. It was not something Lydia or anyone else explained to him, it was something he worked out with pencil and paper: The city was a permaculture, self-sufficient in at least its basic necessities. The cash-crop latifundia of its hinterland brought in money, not food, or at most brought variety to the diet.

Its biggest external source of food was the sea, or rather two seas: the Half Moon Sea and

the Eastern Ocean. The feluccas fished the former, and the big oceanworthy junks trawled the latter. Even the harbor was clean enough to sustain a fishery of its own, conducted by hordes of boys and girls who sat along the piers from morning to evening with long bamboo rods. In the dusk they sold basketloads of small fry to the felucca skippers for bait, and sizzled the remainder on roadside griddles long into the night.

Volkov, too, hawked wares around the docks, every day lugging samples of the smaller devices, models, and plans of the larger, around shipping and fishing companies. He knew from decades of experience where to go, usually not to the offices but the sheds, not to the owners or administrators but the engineers, who, once they were sold on a new idea, did his selling for him. He picked up the local vernacular as he went; gradually, his Trade Latin approximated to a sort of Trade Italian, and he made enough deals to reassure him that even if nothing came of his larger plans, he could make a living here. There was a kind of contentment in the work that warred with his ambition.

Guilds, associations, companies, cooperatives, and corporations combined the hustle of private enrichment or survival with the stability of municipal administration and held the city's economic life in what Volkov—used as he was to the less regulated markets of the outer, younger worlds—could only think of as a strangling net. Even the European Union's "feasible and sustainable socialism" had been, to his recollection, much more dynamic. Cartels plus electrification, he thought wryly, added up to something that wasn't capitalism and wasn't socialism. Its exact classification puzzled the residually and obdurately Marxist modules of his mind until he arbitrarily consigned it to the conceptual catch-all of "pre-capitalist." From this society, capitalism could emerge, and—with more upheaval and less substantial change—socialism too, but Volkov's fingers still smarted from a previous experiment in detonating a bourgeois revolution.

Identifying a ruling class and state posed no such problem. The upper and usually senior ranks of the various corporate bodies, patricians and patriarchs of the merchant houses, administrators of cooperatives, guildmasters and latifundists, heads of religious orders and philosophical schools, retired courtesans, professors emeritus, and so on and so forth, formed what was blatantly called the Electorate, who just as blatantly elected the Senate and staffed its administration, and that was that. Volkov had no scruples about elites—having been part of one—and was surprised to find himself shocked by the sheer effrontery of the Republic's lack of the forms of democracy. All his experience had been with people who insisted on at least the illusion of popular rule, and it was disquieting to encounter a people who seemed satisfied with the substance of self-government in everyday life while letting high politics and statecraft go on over their heads—as it almost always and everywhere did, of course.

As he walked through mazes of markets and malls, past workshops and mills, glimpsed ranks of pale-faced clerks filing and scribbling and ringing up totals on calculating machines, and marveled at the countless threads of communication—the racing messenger boys' bare feet slapping in echoing stairwells, the cyclists yelling and dodging in the streets, the long sigh of pneumatic tubes and the ring of telephony—Volkov realized that this city could become the hub of a militarily and industrially formidable state without changing a single institution. All it needed was information.

They already had some—news of the arrival of the *Bright Star*, and bits and pieces of the recent knowledge it had brought, had trickled in long before the de Tenebres' ship had set out to bring back as much as possible. And they had the means to disseminate and discuss it—the press here was multiple and full of rude vigor, as were the numerous radio channels. The massive addition to knowledge that had just arrived would set the place intellectually alight. Rumors of it were already setting everyone agog.

The banner of his revolution would be: *Knowledge is power.*

The Academy's interior was cool—its granite blocks retaining, it seemed, a nip of cold from the previous winter—and quiet. Its air carried a tang of wood polish and disinfectant; aeons of application of the former had given the high doors of the Senate Chamber a patina millimeters deep, and ages of the latter had worn centimeters of dip into the sandstone steps.

“Nervous?”

“No,” said Volkov, belying it slightly by fingering the knot of his tie. He was wearing a hastily tailored but reasonably accurate copy of his old dress uniform, made after the photograph taken on the day of his investiture as Hero of the European Union (First Class) which he still carried around in his wallet. Esias, in a magnificent fur-trimmed brocade robe at least two centuries out of fashion, looked scarcely less quaint and exotic.

The black iron handle of the double doors was turned from within and the doors swung back, silent on well-oiled hinges. Volkov had assumed they would creak. A lean, elderly servitor in a long black gown bowed through the widening gap, then stepped aside. Volkov hesitated.

“After you,” growled Esias. “You're my guest, not a captive specimen.”

“I'll try to remember that,” Volkov said, and with a nod to the servitor, marched into the Senate Chamber. It was about thirty meters high, illuminated by electric lamps and a roseate skylight. Semicircular tiers of benches rose from the podium to the rear, and on them sat a grave multitude of ancient men, among whom were a modicum of younger but still mature men and a very few women. One long-bearded, long-gowned sage stood by the podium, a hand out in a beckoning gesture. Volkov reminded himself that he was older and probably wiser than anyone else present, and strode over to shake the extended hand, rather to the recipient's surprise.

“My name is Luke Sejanus,” the scholar murmured, “president of the Academy of Sciences.”

He turned, threw out an arm with a practised flourish, and announced: “My lords, ladies and gentlemen, I present our distinguished visitor, Grigory Andreievich Volkov! Cosmonaut of the European Union, colonel in the European People's Army, Hero of the European Union . . .”

He rolled on through a list Volkov's achievements, including the succession of his business ventures on Mingulay and Croatan, several of which Volkov had thought he had

taken to the obscurity of a marked but empty grave in the centuries during which the Cosmonauts had concealed their longevity. He had, however, mentioned them to Esias.

Esias had taken a vacant place at the end of one of the lower rows. Volkov glared at him; Esias smiled back.

Sejanus stepped aside, sat down in the front row, and added his expectant face to a thousand others. Volkov swallowed hard and wished there was a glass of water in front of him. Or vodka.

“Thank you, President Sejanus. My lords, ladies and gentlemen, I am honored to stand before you. What is unusual about my life is not what I have accomplished—though I can look back on it with more satisfaction than regret, thanks be to the gods. What is unusual about my life is . . . its length. I am here to show you how you too can live as long a life, and in health and vigor—even those of you who are already old.

“To show you, not to tell you. I am sorry that I cannot tell you. In the third and fourth decades of my life, I consumed many drugs and medicines that promised to preserve youth. As you can see, one of them, or some combination of them, worked. I do not know which, and because the formulae of these medicines were commercial secrets, I would be unable to reproduce it even if I knew which nostrum was, in fact, the panacea. I and the other Cosmonauts have consulted among ourselves, and we have failed to discover which medicine or medicines we had in common.

“What I can do, however, is this. I can show you the method by which you can independently discover the nostrum—the elixir—for yourselves. This would involve extracting material from my body and analyzing it—finding out what molecules are in my blood, for example, that are not in the blood of others. Possibly one or more of these molecules would provide a clue. Or perhaps you might find something unusual in the structures of my cells—I do not know, but that is what I would expect. At the same time, I can give you a list of the types of molecule which are known to have been used in the various medicines, and the parts of the human cells which these medicines were intended to—and were known to—affect. These could be tested on short-lived animals—rats and mice, let us say—then on monkeys, and finally on human volunteers. Many experiments would be necessary. Their results would have to be scrupulously recorded and carefully examined.

“It might be a long process. It might be costly. But we would have, to encourage us, the priceless knowledge that what we were attempting was possible, that it had been done once, and that it could therefore be done again.

“Thank you.”

He bowed, and stood aside as Sejanus returned to the podium.

Esias was nodding and smiling; almost everyone else seemed lost in thought.

“I shall now take questions,” said Sejanus, looking as though he had some himself.

A middle-aged man near the front stood up. “Theocritus Gionno,” he introduced himself, obviously unnecessarily for most of those present. “Chairman of the Department of Medical Sciences.” He preened his robe for a moment. “In recent days, the Trader and Elector Esias de Tenebre has provided us with evidence for Colonel Volkov’s remarkable, nay, extraordinary, claim. We have all had an opportunity to acquaint ourselves with it, and we must, I think, admit that it is extraordinary evidence. Documents of undisputed provenance, photographs, fingerprints. . . . Likewise, we and our predecessors have had many years indeed to examine such evidence of the level of scientific knowledge prevalent in the Solar System at the time of the, ah, *Bright Star’s* departure as has trickled in over the past two centuries. We have no reason to doubt the possibility of the treatment of which the Colonel has spoken.”

He cupped an elbow in one hand, his chin in the other, and gazed around the auditorium.

“However,” he went on, “the method that the Colonel proposes by which we could independently, as he puts it, rediscover the nostrum must surely strike all men—and women!—of science as preposterously cumbersome and, above all, uncertain. This is not how science is done at all! The scientific method is based upon logical reasoning from observation, and from logical analysis of available data. An immense wealth of such data is available to us already. An even greater addition to it has been bestowed on us by the successful expedition of the family de Tenebre, which beyond the memory of the oldest man now living, set forth to bring from distant Mingulay the full fountain-head of that knowledge of which we and our predecessors have long lapped up the veriest drops and trickles. I have every confidence that a few years of careful study and exact reasoning will enable us to deduce the composition of the elixir.”

A low hum of approbation greeted this. Others stood up, one by one, and held forth on the power of logic to reason from old facts to new.

“Let us take for example the theory of evolution,” one man, depressingly young, said. “Could that have been discovered experimentally? No! A thousand years ago, Alexander Philoctetes stood in this very hall and explained to the Academy how in each generation more are born than can survive, how consequently there is a struggle for existence, and how therefore small variations conducive to survival must necessarily be preserved—and so on, in that masterly deduction of the origin of species with which we are all familiar. If Philoctetes had used this vaunted *experimental* method—fossicking about in quarries, no doubt—he would have found the most misleading results in the fossil record, and come up with some theory of successive creations, or spontaneous generation, or such like.”

And more in the same vein. Volkov would have sat with his head in his hands if he’d had anywhere to sit. As it was, he just stood there, feeling his jaw muscles first slacken and then, increasingly, clench.

“Your pardon,” he said finally to Sejanus, “but I must speak.”

Sejanus bowed him to the rostrum. Volkov gripped it and leaned forward.

“I fully understand,” he said, “and deeply appreciate what the sciences of this great city have accomplished by examining and comparing information obtained by your own

careful observations and from study of the information won on Earth in the past. You have indeed accomplished great things. But not all, not by any means all, of what anyone can see in this wonderful metropolis was built by such methods. No amount of reasoning, from observation or from first principles, could have built the machines I have seen in the shops, the ships I see on the ocean, the vehicles in your streets, and the crops in your fields. They were designed by the method I suggested, the empirical method, the method of trial and error, of hypothesis and induction as well as—indeed, hand in hand with—deduction. Your mechanics and artisans, your pharmacists and farmers, your fishers and flyers may not be able to tell you the method by which they have so successfully worked, but the fact of that method and its success are surely beyond dispute here. Let us reason and compare, to be sure, when we investigate the discoveries of others. But let us experiment and test when we wish to make new discoveries ourselves.”

As he spoke, he glanced from face to face, and here and there he saw agreement, even—and it thrilled him to see it—enlightenment dawn, but these occurrences were few. The overwhelming mood of the assembly was bafflement, even affront. Theocritus Gionno was simmering, and jumped to his feet as soon as Volkov stepped back.

“Of course,” said Gionno, “many of us here do appreciate the value, and understand the significance, of what the esteemed Colonel rightly calls the empirical or experimental method. Some here have devoted their lives as scholars to such works of the masters Bacon and Popper as have reached us. The commentaries upon *The Advancement of Learning* alone would fill a not insignificant shelf, and those upon *The Logic of Scientific Discovery* a small library. But there are many deep problems with such a method, and until they are resolved, it is best left to guide, consciously or otherwise as it may be, the crude blundering of mechanics, artisans, and herbalists. Such methods are no doubt good enough for them. The requirements of exact science are considerably more rigorous.”

Volkov laughed. He had not intended to, and he saw at once that its effect was bad, but he could not help himself.

“Somewhere in one of the works of science in the de Tenebres’ cargo,” he said into a shocked silence, “you’ll find a quote from a great scientist of Earth, one Poincare, who said: ‘Science advances, funeral by funeral.’ I see that its truth is universal, and I bid you good day.”

“Well,” puffed Esias, having caught up with Volkov in the shade of a cloistered quadrangle, “that did not go down well.”

Volkov ran his hand over his brush-cut hair. “No, it did not,” he said. “My apologies, my friend. I hope I haven’t dragged you down with me. But these scholars, my God! They’d sooner die than think. And they will.”

Esias chuckled. “Some of them. Perhaps not all. Let us proceed to the refreshment patio and wait there, in as dignified a fashion as we can muster, and see if there are any exceptions to the rule.” He clapped Volkov’s shoulder. “The scientific method!”

“I don’t want to hear those words again for a week,” said Volkov. “But you’re right. And I’m parched.”

They sat at a table under an awning and gulped one glass and sipped a second glass of what Esias insisted was beer. Volkov knew better than to press the point. He relaxed and watched the students, at the other tables or walking in the quadrangle. Apart from the black bat-sleeved short robes they wore like overalls, they looked on the one hand like younger versions of the Academicians, and on the other like students everywhere, alternately earnest and relaxed. The proportion of female students was a good deal higher than it was among the scholars, though nowhere near parity. What a bloody waste, Volkov thought. Changing that alone would speed up development.

“You know,” said Esias, “you may be underestimating the Academy. They are not dullards. They have millennia of experience behind them of teasing out unexpected implications. Your journey here will not be wasted. It may take them time, longer than you might wish, but the knowledge we have brought back will be assimilated and extended.”

“All right,” Volkov said. “Let the Academy rummage through books if it wants. What I’m more concerned about is the other institutions. Are they as hidebound? Because time is what we don’t have. If the aliens turn up before this place has a space defense capability, then the question of longevity is, you might say, academic.”

“Ah yes,” said Esias. “The aliens.” He glanced around. “I think any allusion to that matter is best . . . postponed, until we can put it before the Electorate—in the first instance, the Defense Committee of the Senate.”

Volkov smiled. “That’s how it was done on Earth. The consequences were not good.”

“Oh,” said Esias, looking over his shoulder again, “you won’t find any of that paranoia here. You’ll see.”

But Volkov was only half listening; he was gazing away to the shade of the quadrangle, from which a dozen or so black-gowned figures had emerged blinking into the sunlight and were making their way over.

[slide4.html](#)

New Earth (Political)

the window was tiny and the glass was thick. Susan Harkness pressed her forehead against it, gasping, heart pounding, and stared out until all she could see was the stars. She imagined she stood in a field on a very dark night, looking up at the constellations.

The Musketeer was there, and the jeweled pleiad of the Thrown Net, and the Hind. She imagined a cool breeze in her face, and that the sough of the ventilation was its sigh. Gradually her breathing eased, the bands around her chest loosened.

She had expected a price for her reckless light-century leap into the dark: regret, sorrow, homesickness. Fear. She had thought them all worth paying, for the chance of life at this intensity, and of being present at moments that could not but become history. She had not expected claustrophobia. It had sneaked up on her from behind. She felt betrayed by her own mind. They had spent two days lurking in the system's Oort cloud. It was absurd, but the thought of that cloud was actually making her sense of confinement worse, even though all it meant was a high probability that there was a piece of cometary matter within a few million kilometers.

Rolling in orbit around the selkies' world had been different. The beauty and variety of that terrestrial planet from space, and the alien fascination of its gas-giant primary and its red-giant sun, had made living in the narrow ships feel anything but confinement. One's attention was always turned to the outside. The skiffs had flitted from ship to ship, and she'd always been able to wangle a ride, always with a good reason: interviewing crew members, documenting discoveries. The only sense of confinement she had felt was the suffocating presence of her parents. That they were enlightened and meant well she knew, but they couldn't help casting long shadows. Anywhere in the Bright Star Cultures, she would always be the First Navigator's daughter, the Science Officer's girl. On cold reflection it seemed mad to move a hundred and three light-years to get away from her parents, but analyzing the moment of impulse that had made her do it revealed no other explanation. She felt obscurely insulted that her mother had automatically blamed it on Matt, as though Susan had no will of her own. She was certainly not besotted with Matt, nor he with her, though she suspected that without the ulterior motive of their irregular attachment he would never have connived at her escape, or escapade. In that sense he could be blamed, but she knew that if she ever blamed him she would never forgive herself.

She stepped back from the porthole and groped for the light switch. The cabin she shared with Ramona Garcia, a Cosmonaut mathematician slightly more ancient than Matt, seemed tinier than ever. She ducked out of it into the corridor before that thought could close in again.

The corridor was wider than the room. She could stretch out her arms and not touch the sides. But with the lights on, the windows showed nothing. She walked up to the cockpit. The viewscreens and windows in there gave the illusion of space, or would have done if the cabin hadn't been crammed with people: Matt, Salasso, and Delavar, the old Cosmonauts Mikhail Telesnikov and Ramona (who gave her a quick friendly smile), the Mingulayan captain Phil Johnson, and first mate Ann Derige, both of whom were an embarrassing year or two younger than she was and acted like they were about ten years older; and two of the Multis, the orange one and the blue one.

The Multipliers had spent the first day spinning a thirty-meter dish aerial and a complex receiving apparatus from a kilogram of scrap steel and some random bits of junk, and had detected a very faint microwave beam that swept across them every Nova Terran day.

Just before her panic attack, Susan had heard an announcement that they'd extracted some information from it.

They were all staring at a rectangular patch on the viewscreen above the fore window. All except Matt looked delighted. Nobody told her what it was, and it took her a moment to recognize it as a map, a Mercator projection of Nova Terra. Maps in the Second Sphere were physical. The only imaginary lines on them were trade routes. This city, they told you, was linked with that. The map on the viewscreen was covered with imaginary lines separating patches of different colors, none of which looked as if they had anything to do with geography. "What is that?" she asked.

"It's the first piece of information we've managed to crunch out of the microwave beam," said Ramona. "It's a world map, the logo of the official television station, New Babylon News. Presumably the beam's a daily news update aimed at deep-space missions. Almost certainly military missions, because it's encrypted. Matt doesn't know if it's worth the effort to crack—any news will be a year out of date anyway."

"I know it's a map, but—"

"What you're looking at," said Matt, "is the most obscene and disgusting thing I've seen for centuries. It's a map of the world that happens to be a rectangular sheet of chauvinist shit. Every one of those barbarously, artificially carved-up fragments of the world is tagged with a little rectangle of its own, a bloody badge of shame—a flag! They've got *nationalism* down there. If they had a virulent strain of bubonic plague instead, I'd be happy for them. I'm still red in the face from explaining all this to the Multipliers."

He was indeed red in the face, but he'd been looking flushed for the past day or so, and occasionally shivery. He'd brushed aside any enquiries. Just a cold or something. It hadn't spread.

The Multipliers quivered slightly, perhaps embarrassed themselves. Matt simmered down a little.

"The good thing, though," said Telesnikov, "is that we aren't picking up any deep-space radar beams. I expect there'll be some close in, but they're unlikely to be probing out farther than the asteroid belt."

"Nova Sol has an asteroid belt?" Matt asked.

"You don't know the system?" Telesnikov sounded incredulous.

Matt shrugged. "All the descriptions I ever saw of it were Ptolemaic. Couldn't get my head around the epicycles."

Ramona snorted. The saurs looked slightly abashed. Their species had not thought it necessary to inform the Nova Babylonians about the heliocentric hypothesis, knowledge of which had in the past few centuries spread inward from Croatan to shatter the most horrendously complicated arrangement of crystal spheres ever devised.

"All right," said Telesnikov. "Here it is in Copernican. Working in from here, and not

counting contentious lumps of rock and ice which might be stray gods . . . we've got two gas giants, Juno and Zeus, about oh point seven and one point six Jupiter masses respectively. Both have a spectacular array of moons and rings—it's a fair bet these are garrisoned, if we assume Volkov has succeeded. Which we must, on the basis that pleasant surprises are not to be counted on. Next there's the asteroid belt, which is much richer than the Solar System's, probably the richest in the Second Sphere. There's nothing in the equivalent of Mars orbit, like our Raphael back home—probably never formed, hence the extent of the asteroid belt. Then there's Nova Terra itself, with its two satellites, Ea and Selene, each about two-thirds the size of Luna and resulting in diabolically complex tides. Finally, you have one which is kind of like a big Mercury or a close-orbit airless Venus, a thoroughly nasty ball of hot rock with a high albedo. Named Lucifer, aptly enough.

“Now, if I were applying the doctrine of system defense which I learned in Moscow Cosmotech—”

“You learned *Solar System defense!*” Matt interrupted.

“Asteroid detection and deflection was the practical side,” said Telesnikov. He scratched the back of his neck. “The matter of repelling alien invasions was, ah, the speculative part. Anyway, I'm sure Volkov studied the same classified texts. The basics are the gas-giant moons, the asteroid belt—minimum of three armed and fortified mini-observatories cum missile or particle-beam stations, evenly spaced around it so you essentially have the inner system triangulated—and finally the home planet's moon— moons, in this case— and low orbit. All likewise fortified, and with harder armor and hotter weapons the closer in you are. Anything that gets through all of that is a matter for air and ground defense. Or disaster recovery.”

“What about any inner planets?” Susan asked. “Didn't Volkov go to Venus?”

“He did,” said Telesnikov. “But that was just a stunt. We never considered fortifying Venus! The great majority—I think historically, all—impact events come from the other direction, from outside Earth's orbit. As for intelligent threats—well, there was one theoretical case, a slingshot approach round the sun and out to Earth on the daylight side. Obviously a very smart manoeuvre if you could pull it off—observation would be difficult, interception an absolute nightmare. But that would come in so fast that frankly your lunar and low-orbit defenses would have a much better chance of catching it.”

“Hmm,” said Matt, tipping back the gimbaled chair he'd appropriated and looking as if he wanted to light a cigarette, “it sounds like the dark side of Lucifer would be a good place to lurk. We could jump straight into its shadow cone and stay there—safe from Nova-Solar radiation, and within easy listening distance of Nova Terra.”

“Provided it's not in opposition at the moment—I mean, when we get there.”

The blue Multiplier jumped to the window and spread itself against it, like an expanding snowflake. Then it shrank its extensions back into its limbs and hopped back to its previous perch.

“It shall not,” it said. “If we were to jump now we would encounter Lucifer at thirty-eight degrees from Nova Terra.”

“Thank you,” said Matt dryly. “The next thing we need to know is whether Volkov got any cooperation from the saurs, and therefore whether or not he has lightspeeders and skiffs.” He looked hopefully at the alien. “I don’t suppose you can tell us that?”

“Our skiffs have instruments for detecting other space-bending quantum manifold devices in operation,” it said. “They can only be used when the skiff is in operation, which of course leaves them open to such detection themselves.”

Everybody turned to look at the saurs.

“Ours do not have such devices,” said Delavar.

“How do you avoid collisions?” asked the Multiplier.

“They just don’t happen,” said Delavar. “It’s a question of skilled piloting.”

“It is because of something called the Exclusion Principle,” said Salasso stiffly.

“Ah,” sighed the Multiplier, as though inhaling in order to say something, and then fell silent.

“Okay,” said Matt, in a tone of heavy patience, “and have your skiffs detected any other ships or skiffs in the system?”

The two Multipliers touched hands, conferring.

“One starship arrived two days ago,” said the orange Multiplier. “Another left yesterday. Some minor and local skiff activity accompanied them. That is all.”

“How about rocket exhausts?” asked Ann Derige.

“We have no instruments to detect them,” said the orange Multiplier. “Though doubtless,” it added in a hopeful tone, waving its limbs excitedly, “such instruments could be improvised.”

“Very difficult anyway,” said Telesnikov. “Fusion torches and such apart, and even they’d be almost invisible at this distance.”

“We seem to have arrived at a negative conclusion,” said Delavar. “The deep-space communication suggests a deep-space presence, the absence of evidence of antigravity or nuclear drives suggests that this has been accomplished with conventional rockets. This is more or less what we would have anticipated, if we had done any anticipating.”

Was this a dig at Matt? If it was, he laughed it off.

A day later, they jumped a year.

The dark side of Lucifer. Susan liked the idea; she knew that the Lightbearer was a dark

power in some perverse mythologies. The interstellar flotilla, the *Investigator* and its five companions, hung in starlight a few hundred meters above the planet's cracked surface. This was lower than many of its mountains; their chances of detection equivalently small—

“We've been pinged,” said Ann.

The two Multipliers pounced toward their apparatus. Their hands scrabbled over it and each other. Outside, the dish aerial moved, tracking.

“There appears to be a small artificial satellite in polar orbit.”

“We can improvise a control system to send one of your missiles toward it.”

“Within two of its orbits.”

Phil Johnson looked over at Matt. It was Phil who gave orders to the crew, but it had been well established that it was Matt who was leading this expedition.

“Go for that?”

Matt rubbed his nose. “No,” he said. “I have a better idea.”

He turned to the Multipliers. “Could you ask one of the skiffs outside to go after the satellite, catch it, and reinsert it in equatorial orbit?”

Even he could hardly have expected the speed with which his suggestion was carried out. The orange Multiplier tapped at the apparatus. Within seconds one of the skiffs riding alongside disappeared. Two minutes later, it was back.

“We have picked up and redirected the satellite. It was approximately one meter in diameter.”

“Fucking sputnik,” said Matt. “Now let's shift a thousand or so kilometers out of the way.”

“Why?” asked Johnson.

“We've been spotted by what is probably a scientific satellite mapping Lucifer,” Matt said. “Within about one minute, the information will reach Nova Terra. If it's a purely scientific probe, the likely result is that it won't be processed for months. If it's not, if it's part of their space-defense network, we could be burned by a particle beam in about five or six minutes. So let's move.”

They moved. It wasn't a lightspeed jump, just a very fast move. The landscape below didn't look any different.

“Right,” said Matt, “now we set up a jump to Nova Terra. Make it somewhere on the surface with plenty of cover and far away from any settled areas. Ann, could you patch up that map again?”

Matt peered at the map for a moment, then pointed at a zigzag line marking the northern border of the Republic of New Babylon. “There,” he said. “In the forests just north of the mountains, on the north side of the border. It looks pretty well uninhabited.”

Everybody just stared at him.

“I was wrong about Lucifer,” he said. “It’s not a safe place to lurk. The safest place I can think of is Nova Terra itself. If you’re watching for invaders from space, where’s the last place you’d look?”

“They’ll have spy satellites,” Telesnikov pointed out. “They’ll see *something*.”

“Yup,” said Matt. “I’m counting on it. I’m also guessing that the spy satellites are not likely to be those of”—he peered again at the map—“the Free Duchy of Illyria, and that it and New Babylon are not exactly friends.”

“And if you’re wrong?” said Phil.

Matt shrugged. “If I’m wrong, we’ll move somewhere else.”

Salasso stood up. “I am afraid,” he said, “that that is not an adequate answer. I think I see what you are trying to do, Matt, and I very much look forward to finding out how the Nova Terran news media cover—or cover up—the anomalous event of a satellite suddenly orbiting at ninety degrees to its previous orbit. I agree entirely that Nova Terra is the best place to lurk, now that we have found that even Lucifer is under observation. However, I strongly suggest that we make our base somewhere much less accessible and much less noticeable than a border region, however wild it may appear.”

He pointed to the map. “You will notice,” he went on, “that the lines depicting political divisions are only present on one continent, Genea, the one inhabited mainly by the *hominidae*.” He tapped a long finger on the other one. “The one inhabited mainly by saurs is still marked simply as *Sauria*.”

It was something so obvious that none of them had noticed it. Every planet in their experience had at least an island continent reserved for saurs, and they had taken this one’s for granted.

“I don’t think blundering into a saur city or manufacturing plant is going to make us any less conspicuous,” said Matt.

“Indeed not,” said Salasso. “But as the Multipliers have told us, there are no skiffs operational except around the occasional starship, presumably in the harbor of New Babylon. That suggests strongly to me that there are no, or very few, saurs present on the planet. If for any reason we are detected there, what could be more natural than for our skiffs to be taken for those of returning or remaining saurs? Also, *Sauria* includes extensive areas of rainforest, mountain ranges, temperate forest, ruined cities. One in particular has ruins more than adequate to conceal our entire expedition.”

“How do you know all this?” asked Susan.

The saur gave her his almost undetectable smile. “I remember it well,” he said.

At that moment, Susan noticed Matt looking at his watch. A moment later, a bright flare filled the windows on one side, and the viewscreens went into an unstable cycle of failed adjustments. Several alarms went off. It was as though the ship had drifted out of the shadow cone into the savage sunlight; except it was the wrong window, and the light was fading, not increasing.

Matt looked from his watch to the window. “Plasma-cannon strike,” he said. “Vaporized the ground just below where we were a few minutes ago. From lunar orbit, by my reckoning—shit, they must have something big up there, one hefty motherfucker of a death ray projector. Let’s jump.”

They jumped.

Rhododendrons and flying squirrels in a big square of blue. Susan staggered away from the foot of the *Investigator’s* stair ladder, mistiming her steps in the subtly different gravity, then found her feet and ran to the door of the hangar-sized megalithic structure within which the ship and the ships were parked. They’d come out of the lightspeed jump a thousand meters up and a few thousand meters away—the Multiplier navigators, and Salasso’s memory, were that precise. Strangely, the flying squirrels avoided the structure, which might have seemed a suitable roost; Susan noticed as she ran that the floor was thick with dirt, but clear of any animal droppings.

Out in the open she stopped, and breathed deeply. She was ecstatic with relief. Only now that she was out of the ship could she realize how confined she had felt inside it; how tightly she had screwed a lid down on that feeling of confinement. The air was colder than she had expected, and better than she had hoped. It carried a sweet-sour smell of vegetation. She was facing northward, the mid-morning sun high to her right. Ahead of her was an area of ground covered with short grass and rhododendron overgrowth, riotous with rotten flowers. After about a hundred meters, the ground dropped away sharply to a rainforest valley many kilometers across, on the far side of which a range of mountains raised jagged white teeth to the sky. The cacophony of whoops and the symphony of chirps from the various species and sizes of flying squirrel, and the buzz and hum of insects, were the only sounds, and they were enough.

She turned to look back at the great door, fifty meters in width and height, whose lintel cast the black shadow from which the others were emerging. The two saurs first, and the other eight humans, and a dozen Multipliers. The aliens, to her surprise, suddenly rushed past everyone else, past her, and leapt onto the tops of the rhododendron bushes and then away down the slope into the trees, chasing the startled flying squirrels into flapping, screaming flocks.

“Are you all right?” Matt asked.

“Zeus! Wow! Am I all right!”

Nobody else seemed to be having quite the same reaction. They all stepped out into the glaring sunlight cautiously, sniffing the air like prey animals; turned around at once to

check the sky and the skyline; the saurs wandered off to examine the side of the entrance. Matt stood beside her and looked about with more enthusiasm than the others, but without abandon.

“Plasma rifles,” he said.

His high temperature seemed to have run its course; Susan noticed that she couldn't see the tracery of subcutaneous scar tissue he'd ruefully pointed out when they'd first met. It must be something about the light.

“What?”

“We should keep them handy. There are dinosaurs on Sauria.” He laughed harshly. “Perhaps that's what's kept it from being colonized by humans. ‘Here be dragons.’ ”

“Assuming it *has* kept it,” said Telesnikov, coming up. “I can see a scramble for this continent as soon as the rival nation-states on the other one work themselves up to it.”

“Yeah,” said Matt vaguely. “The falling rate of profit, and all that.”

“I hope not,” said Susan. “Wow, it's beautiful!”

Matt's attention snapped back to her. “You're very high,” he said.

“It's, um, just good to be off the ship,” she said. “Uh, cabin fever, you know?”

“Oh, shit,” said Matt. “Wow I get it. You suffer from—”

“*Don't* fucking say it!”

The two Cosmonauts laughed unsympathetically.

“Just as well you didn't get the tests we went through—”

“You mean, the pipes we went—”

She grabbed his arm hard enough to hurt. “Don't. Fucking. Say it.”

Matt gave her a warmer look. “All right,” he said. “Sorry. Christ, I've been worried about you. You haven't cracked a smile since we jumped from Planet Selkie.” Then he ruined it all by adding: “Thought you were missing your parents or having PMS or something.”

She shrugged away from him. He looked at her helplessly for a moment, then turned away and called and beckoned everyone together.

“We have a couple of things to talk about,” he said. “Let's get the first one out of the way while our friends are away enjoying themselves. Have any of you here taken up the Multipliers' offer?”

They all shook their heads. Including the saurs, Susan noticed, as if the question might be relevant to them. Maybe it was.

“I didn’t know they could just do it, like, any time,” said Obadiah Hynde, the rocketeer. “Didn’t know we had the option, see.”

“Well, we do,” said Matt. “They don’t need machines. It’s like . . . an infection. They give it to you. I took it, when we were lurking out in the cometary cloud.”

“How could you do something so crazy and irresponsible?” said Ramona. “Oh, what am I saying? I am talking to Matt after all. Well, Matt, tell us what it is like.”

“That’s the trouble,” said Matt. “I don’t know if I can, because one part of it didn’t take. The orange Multiplier, the one who tried, said it was ‘like biting fruit and finding stone.’ They read your genes, then tweak them. I think that’s what they do. They could read mine but they couldn’t alter them, because they’ve been altered already by the process—whatever it was—that gave us longevity. But apart from that . . . yeah, I can tell you what it’s like. It’s like having an infection that doesn’t make you ill, then an infestation that doesn’t itch, and after that you remember things that never happened to you. That’s the most disturbing thing about it, I’ll give you that. But it’s not delusional . . . I remember them happening, but I don’t think they happened to me. I can remember doing things, without thinking that I did them.”

“What kind of things?” asked Ramona.

“Budding,” said Matt. “Seeing my hand break off and run away, and wishing it well. Sharing knowledge, knowledge of the world and knowledge of how my body was built. The pleasure of that.” He laughed. “Our friends have more fun than we know. And now I know more. Strange things. So anyway—is anyone else willing to try it?”

“So you’re telling us,” said Ramona, “that the Multis can give us the long life. Except for those who already have it. For the rest of us, it’s hardly an issue—I don’t think there’s one of us here who is over twenty-five, am I right? And besides that, they mess with your head. So what’s the advantage in taking the risk?”

“Its one big advantage,” said Matt, “apart from the long life, is that you do not fall sick, and that most injuries self-repair very fast. I do have that.”

“How,” asked Telesnikov, “if they could not alter your genes?”

“That part of it has nothing to do with genes,” said Matt. “It has to do with . . . some of the very small offspring of the Multipliers continuing to live inside you.”

“You stay infected?” Ramona Gracia took a couple of steps away from him. “No thanks.”

Matt shrugged and spread his hands. “I see I haven’t sold anyone on this. Well, you can all watch and see if I turn into something strange.”

(“You’re there already,” Ramona muttered.)

“The next thing we need to discuss is what we are doing. We didn’t have any detailed plan before we came here, because we didn’t know what we’d find. In a sense, we still don’t. We know they have separate states, and that at least one of them, most likely

Nova—New Babylon, as it calls itself now—has some pretty heavy space defense. Now I don't know about you, but I don't fancy our chances going up against that kind of hardware with our fireworks. I've considered stunts like, you know, jumping a skiff or even the *Investigator*, right inside one of the orbital forts, but, well, I'd rather not rely on dumb luck or brute force. So." He brushed imaginary dust off his palms. "Anyone got any bright ideas?"

"I had the impression," said Ann, "that Salasso thought you already had one."

"Well, kind of," said Matt evasively, "but I want to hear other suggestions first."

"I have one," said Ramona. "Let's brew up some goddam coffee and have something to fucking eat."

Susan had never before heard Ramona speak coarsely. The mathematician met her surprised look with a sullen flush.

"He has that effect," she said.

After the gunners and rocketeers had come back from the ship's galley with hot coffee and cold rations, people began to feel less fractious. One light-year lightspeed jump, one crack at turning a mapping satellite into a blatant anomalous phenomenon, a near miss from a plasma bolt, and another lightspeed jump to ruins so old there were fossils younger—all made for a tense morning.

"The first thing we should do," said Ramona, "is watch some television. Not as easy as it sounds—I doubt if even satellite broadcasting covers this continent."

"There's always radio," said Susan. She remembered that she had a radio in her pocket. "Hey! Wait a minute."

She switched the radio on and spun the dial slowly. Most of the stations played music. The scales were unfamiliar, the lyrics mostly in languages that had drifted from Trade Latin or never started from it, but the music was a reassurance of the planet's humanity. Other channels carried news or discussion—without context it was difficult to make sense of it, but context could be built up. One wavelength was pure bedlam: a welter of voices and sounds, fragmentary phrases, strange noises. It wasn't that she was picking up lots of stations at once; the more precisely she tuned it the weirder it got.

"Well," said Matt, "the radio is something to work on. Susan, could you look after that and try to compile a picture?"

"Sure."

"Okay. Anyone else?"

"I haven't finished," said Ramona. "I've been doing some back-of-the-envelope calculations. We have jumped from the selkies' world to here, more or less in the shortest possible time. It appears that the normal trade routes have been severely disrupted, if the number of starships in this system at any given moment is one or less! The obvious

explanation is that our people are supplanting the kraken-saur-Trader partnership. Assuming that the Multipliers have indeed been assimilated to the Bright Star Cultures, and that they are spreading from star to star with only a small delay to build more ships and navigate the next jump, they cannot be far behind us. We have at the very most a few years, at the very least a few months, before the first Bright Star Culture ships arrive. In that time—short at best—we have to arrange matters so that they are not blasted out of the skies. We have one lightly armed starship, one human-built skiff with antigravity only, and five jump-capable Multiplier skiffs. The other side have an extensive space defense capability, built to all appearances with rocket technology. Evidently they have been unable or unwilling to persuade or coerce the other species into sharing antigravity and lightspeed tech.”

She waved a hand at the dark interior of the enormous building. “All our advantage, such as it is, is right here. What we have to decide is how to use it.”

“Exactly,” said Mikhail Telesnikov. He stood up, incongruously gesturing with an empty coffee mug. “We have two basic options. One, and the most economical, is to make a direct approach to whoever is in power in New Babylon—presumably Volkov or his successors—and convince them that there is nothing to fear or fight. Considering that there are obviously no Multipliers here, and that some were on their way, it seems evident that the New Babylonians have already *won* such a fight and are unlikely to be persuaded that it was all a terrible mistake. I still say it should be our first option. The second—which the failure of the first might foreclose, so it’s not the second in time—is to approach one or more of the rival powers, who are more likely to be convinced, and who must surely fear the power of New Babylon. It is at least possible that they would agree to a military strike against New Babylon, if they have the military capacity and the hope of winning. If they have the former, we can provide the latter.”

“I don’t see how we could,” said Hynde. “Each of our missiles could take out a spy-sat. At close range. Maybe. That’s about all we could do, and it don’t sound like enough.”

“I was thinking more,” said Telesnikov, “that if the other powers have nuclear weapons, or even decent-sized conventional bombs, we could deliver them to the space battle stations very fast and unstopably by lightspeed jump, then jump back out of the way.”

“Problem with that,” said Matt. “Do we want to destroy New Babylon’s space defenses? If the gods get angry, we might shortly need them ourselves.”

Susan jumped up. “We don’t need to put bombs on them!” she said. “We can put troops on them!”

“You can’t get many troops in a skiff,” one of the gunners said.

She glared at him. “I know *that*,” she said. “But you’re thinking of one trip. Think lots. Every Multiplier skiff can zap back and forth lots of times—say it can carry six soldiers at a time, it could shift dozens in minutes, just pour them in. And at different places in the battle station, too.”

Telesnikov was looking at her as though seeing her for the first time. “That’s a very good

point,” he said.

By the time the Multipliers swarmed back from their cavort in the forest, the rest of the expedition was ready to explain their contingency plans. The Multipliers listened to Matt’s enthusiastic outline and announced that they would not hear more of it. They squatted around the circle of humans like so many miserable balls of fur, twitching slightly and occasionally stroking each other’s hands. At length Matt walked over to the orange Multiplier. Susan followed, discreetly recording.

“Do you have an ethical objection to taking life?” Matt asked.

The alien wrapped its limbs around its body and rolled away. After a tense minute it uncoiled and reached out to the nearest of its fellows. That one, magenta-furred, eventually stood up shakily and tottered into the center of the circle, near to the remains of lunch. It inspected spilled coffee grounds and bread crumbs and reconstructed a shrimp from a sliver of paste. The shrimp twitched and scabbled, dying in the air. The Multiplier observed it with apparent curiosity, then ate it.

Then Mr. Magenta (a naming convention that Susan hit upon at that moment, and thereafter spread) waved a limb in a circle above itself and fixed, it seemed, its all-around gaze on everyone simultaneously.

“We are distressed,” it announced, “by your plans. They are inelegant. We were under the impression from our reading of the Matt Cairns that you all understood how to survey a planet and neutralize its defenses. You have had such beautiful examples. Why do you not follow them?”

“What examples?” Matt asked.

“You are the Matt Cairns,” said the alien. “You know. Please educate the others, and then we will be happy to make your invasion a wonder and delight for the ages, and give our descendants memories to warm them while they watch the stars turn to iron.”

By the time Matt was five minutes into explaining his contingency plan he was beginning to scare people.

“Do you know how many Multiplier skiffs were in our system in the years before we left? Two! And you know what they did to us! They had us thinking we were under constant surveillance! Thinking we were about to be invaded! For every real incident there were ten unreal incidents! We made them up ourselves! That’s what we have to do here! Make them doubt their concept of reality! Guerrilla ontology!”

He glared around like a lone gladiator facing a hostile colosseum.

“Fuck with their heads!” he shouted. “*Fuck with their heads!*”

That night Susan sat outside on a block around the side of the big building. The block was thirty meters long and five on a side. She had scrambled up the tough creeper that overgrew it. The air was cold and the sky was black. Fog lay over the forested valley, lit by the two small moons, both waxing gibbous, their surfaces so cratered that their terminators were visibly serrated even to the naked eye. Six comets were visible, low in the sky. She had never seen so much as one comet before. The Foamy Wake blazed a trail across the zenith. Every so often a meteor flared, and now and again what appeared to be a star would move steadily across the sky. These, she guessed, must be artificial satellites, like the spaceship yards that orbited around Mingulay.

After a while Salasso joined her. "That is a frightening sky," he said. "The gods' anger is written on it. Fortunately my anger is greater."

"You don't know what anger is," Susan said. "What Matt has, now that's anger."

"I am angry with the gods," said Salasso. "Matt is only angry with the saurs."

"I thought he liked you."

"He does," said Salasso. "It is not personal. All of the old Cosmonauts are like that."

"Ah!" Susan had a sudden insight. "It's because of what the saurs were doing back in the Solar System. All that stuff about Greys and flying saucers, it must have been like a bad dream."

"No," said Salasso. "At the time when Matt and the others lived on Earth, almost all of that was decades in the past. I have studied the literature, if you can call it that, and I found no reported sightings, abductions, or anything untoward for many years. The old stories were not taken seriously except by students of popular delusion, and the deluded, and a very few stubborn investigators."

"Oh! So it was the shock of finding that something they had dismissed was partly true after all—"

"Again, I fear not," said Salasso. "They had no emotional investment in its dismissal. It was not a live issue, either way."

Susan looked at the saur sitting beside her, gazing out over the valley in the double moonlight. His small shoulders were slumped, and his large head hung heavy.

"So why—"

Salasso turned to her. "Do you have your recording devices with you? Of course you do. I am telling you this because it is something I wish to be known after I . . . after all this is over. When the Bright Star Cultures come here, and find a welcome, I want this to be known. Not before. Will you promise me this?"

Susan clamped her hands on her quivering knees. "Yes," she said. She fumbled, setting

her apparatus, then turned to face the saur as though interviewing him.

“When the *Bright Star* arrived in orbit near Mingulay, three hundred—no, it is now four hundred—years ago, we were shocked and frightened. The crew claimed to have navigated here, and though we soon realized they were lying, that did little to allay our fears. We had no reason to think there might not be more ships. We knew that the Cosmonauts had received the instructions for the drive directly from a god. This suggested to us that the gods in the Solar System had lost patience with the saurs, and perhaps that the gods here had too.

“The saurs discovered how to manipulate genetic material many millions of years ago. With that discovery we built the manufacturing plant. This was an industry that did not disturb the planets, or displease the gods. With that knowledge we have been able to screen all the new arrivals from Earth, and to prevent the spread of diseases. We explained this to the Cosmonauts, and they agreed to be examined. They told us freely that they had taken life-extending drugs, and we soon found out why some of these drugs had worked. They modified a gene which is common to many species, including ours. In their case it was only somatic, not heritable, but it was still alarming. The effect of human longevity on the stability we had so carefully cultivated would be immensely disruptive—as indeed it is proving now, if Ramona is right, and I think she is.

“The effect of the knowledge in the ship’s computer libraries, and the machinery it had to replicate the computers and disseminate the knowledge, would have been even more disruptive. At the same time it was not in our nature to deny or destroy that knowledge. So we later allowed the computer libraries to be transcribed to the manufacturing plant, and subsequently printed in books—a necessarily slow process, which made assimilating the knowledge the work of centuries, still incomplete. But we did not allow the Cosmonauts further access to their ship, and only allowed them to take from it such machinery and computers as they could carry.

“Before we even allowed them off the ship, we took one further precaution. We took them one by one and subjected them to a second medical examination. It was traumatic and intrusive, and not merely physically. We did everything to them that they had jokingly told us saurs were supposed to do.” He looked away, then looked back. “We terrified the living shit out of them.”

Susan’s mouth was dry, her eyes wet. “Why are you telling me this, now?”

“Because I feel bad about it. And because as more and more people take up the Multipliers’ offer, these memories will be shared and passed around like diseases. It is important that people are able to make sense of these frightening fragments of memory.”

“You mean,” she said, “that they don’t find themselves fearing and hating the saurs for no reason they can understand.”

“That too, yes.”

“I don’t know what to say,” she said.

“Nor do I,” said Salasso. He made a cutting gesture. She switched off her apparatus.

“Well, hell,” she said, “I think you’ve made up for it since, Salasso.”

“I wish you had recorded that,” said Salasso.

“I will say it again.”

They sat in silence for a while.

He took out his pipe. “Would you share a smoke?”

“Yes,” she said.

The hemp knocked Salasso into a twenty-minute trance, and left Susan to gaze at the Foamy Wake and imagine the Solar System on the far side of it, and wonder what had befallen the saurs and humans there.

Salasso came to himself with a start. In silence the woman and the saur, one after the other, descended the precarious ladder of creeper.

“What is this building, anyway?” she asked, as they headed back.

“Before the saurs learned how to make the manufacturing plant,” said Salasso, scuffing through the leaves beside her, “they constructed such buildings. This one, I believe, they used as a place to park their skiffs.”

Susan glanced back at the megalith, one of many strewn around, evidently surplus to the requirements of the gargantuan structure, which was built from blocks of similar or greater size.

“And they used the skiffs to lift the blocks up here, and move them into position?”

“Oh, no,” said Salasso. “That is physically impossible. They built enormous ramps of close-packed earth, and made ropes of the creeper vines, and tens of thousands of saurs dragged the blocks up.” He spread his long hands and shrugged his small shoulders. “But when you tell people that, they don’t believe you.”

In stealth mode the skiff was visible only to the insane, the users of psychoactive chemicals, the very young, and dogs. To anyone else it was something that could be glimpsed, perhaps as an unfeasibly large meniscus of water, but not directly seen. It was certainly invisible to the sober agents of national defense, security, and law enforcement.

It had been highly visible earlier, during the day, when its sonic boom was breaking windows and its radar trace was scrambling jet fighters right across Genea. Over the New Babylon subcontinent it had appeared as a fleet above a small town in the Massif, making lightspeed jumps back and forth between five separate points so quickly that it was seen as five separate ships. It had been even more visible late in the afternoon, when it had

loomed over the brows of nearby low hills like an early rising Lucifer and confronted and confounded a number of isolated farm laborers and one latifundia chairman. The skiff's occupants knew he was a latifundia chairman because they had followed him back to the biggest house in the village. He had kept looking back over his shoulder, unable to see the now stealth-mode skiff, but obviously feeling that he was being watched. His dog had dashed past him and barked at something outside the gate for a quarter of an hour.

Now it was barking again. Matt and Susan gave the dog a wide berth and walked up the short drive, their footsteps crunching in gravel. All the lights in the house were on. Under the lamp by the porch Matt gave Susan a critical look.

“Straighten your tie,” he said.

She and Matt were identically dressed in black suits, white shirts, black ties, and black hats.

“I’ve always wanted to do this,” Matt confided as he knocked on the door.

The latifundia chairman peered around it, holding a shotgun just in view. His expression went from suspicion to terror the moment he saw them.

“Good evening,” Matt said, raising his hat. “There is no need to be alarmed. We’re from the government.”

The New Moon’s Arms

“So this is how it ends,” Matt said. “Up against a fucking wall.”

He sat warming his feet in front of a fire in a hut in the detention camp on the island in the sound off New Babylon’s harbor, smoking a cigarette and drinking whiskey. Susan had brought a good supply of both. Matt’s fellow prisoners, Salasso and Volkov, sat with him and her around the fire, variously soothing their angst and ennui with hemp and whiskey. They both nodded philosophically. Their attitude annoyed Susan intensely.

“You shouldn’t just give up,” she said.

“I’ve had a long life,” Matt said, “and I’m not too bothered by the prospect of not having more of it. I’m after immortality.”

Volkov snorted. “Immortality doesn’t last, my friend. I’ve outlived mine already. All it takes is a good hammer.”

Salasso, who was evidently turning his last weeks or months to good account by testing the limits of his species’ capacity to smoke hemp and stay conscious, turned a loll of the head into a nod. This irritated Susan even more.

“Your crewmates are doing everything they can for you. You could at least pretend you appreciate their efforts.”

“We do,” said Matt. “But we know they’re not going to get anywhere. And so do you.”

Susan nodded glumly. She had spoken often enough to Phil, Ann, and the others, who had not been indicted and seemed to feel obscurely guilty about that. They had petitioned and agitated with a sort of Mingulayan Scoffer militancy and naivete, and had almost been lynched themselves. It was like defending child murderers.

“Your appeals might get through the Senate,” she said. “And then there’s the Assembly of Notables.”

The two men guffawed. Salasso’s shoulders shook a little. The winter wind rattled the windows; even now, in mid-morning, the place felt like night. Farther up the fuggy hut sat other men, Volkovist prisoners and a few criminals, around other fireplaces and around tables of dominoes and checkers. A few of them read. There was nothing much else to do. All of them kept a respectful distance from the dead men on leave, and had even refrained from overt primate displays when she had walked in. They knew who she was, and who she was with. It was far from her first visit.

She had arrived by a Prison Department launch across the choppy water of the sound, through rain and sleet. New Babylon’s winters were cold and pervasively damp, the converse of its hot and pervasively humid summer. She had found a niche there—a politically savvy and, at the same time, inquisitive and naive journalist, especially one from off-world, was just what the newly liberated media wanted—but she hated the place. There was too much of the prehuman in New Babylon, and not only in its architecture. Something in the culture of the place looked back to an age of giants. Too much antiquity, too much continuity, had accumulated here for it to be a place where something new could begin. No wonder Volkov had failed; as, in a different way, de Zama was failing. Susan wanted to get away, to do things that had never been done before, to see new worlds like that of the selkies, outside the Second Sphere altogether and away. At the same time she wanted to stay here, to be with Matt and the others to the bitter end, or to help them avert that end. She wanted her experiences, her very self, to be multiple. She realized she was thinking like a Multiplier.

Matt wasn’t, instead contemplating his end with a gloomy relish. He pointed out of the nearest window, which overlooked the sound and afforded through the rain and mist a view of the city’s mutilated skyline.

“Look at that,” he said. “No matter what the gods do that should make people angry, it only makes them more afraid. Cringing bastards. They’re as bad as the fucking saurs, no offense, Salasso.”

“No offense is taken,” said Salasso. “I despise them myself. Even millions of years after something much worse than genocide was committed against my people, they still regard the gods as good and theicide as the ultimate sin.”

“The Multis don’t,” said Susan. “They would be quite delighted to help you escape. To

help *us*. The migration will continue after the Bright Star Cultures arrive, you know. There are people—humans and saurs—who are interested in going with it. Hundreds of light-years, thousands, right across to the next spiral arm. They could take you off the island at a word, and hide you in the forest until—”

“No,” said Salasso.

“Not a chance,” said Matt. “I’m not running away. I’m not giving these people the satisfaction. Fuck ’em. They either accept self-defense and retaliation as a justification for theicide, or not. If they don’t, then nothing we’ve done means anything anyway. I don’t want to live another few hundred years, or whatever I’ve got left, with the gods behind the back of my neck.”

Susan wanted to shake him. “Look, when the Bright Star Cultures arrive, this’ll all change. The Illyrians, the Postmodern Regime, whatever—they’ll all be overwhelmed by people like us, people who have the Multiplier outlook, not just the infection but the attitudes. Besides, the Cairns Fleet sent us to do a job, and we did it. They can’t let you be shot for doing what you had to do.”

“Well, yes,” said Matt, more cheerfully. “There is that.”

They came in the spring, on the eighth day of the month Florida, A.C. 10,350. A swarm of ships like enormous flies—multilegged, wide-bellied, stubby-winged—appeared suddenly in the sky above New Babylon. Susan, walking down Astronaut Avenue in the green fresh post-rainshower morning to cover a story—for Junopolis Calls, ironically enough—about the rebuilding of the Ninth HQ, saw them and saw the city stop around her. She started running. The ships came down so fast they had disappeared behind buildings before she could see where they were landing, but she made a guess that they would head for parks, and so she turned at a corner and ran along a side street of apartment houses and there it was squatting on the grass among the trees like a piece of play equipment for giant children.

Around her other people approached more cautiously. Among them a couple of members of the militia, the Ninth, had unslung their plasma rifles and were talking fast into their radios as they jogged forward, bravely in the circumstances. Susan outran them all, vaulted a low fence and padded across damp trampled grass. The only children in the park this early were quite young. They bawled and clutched at their mothers or stared, thumb in mouth, at the ship. Flying squirrels fled to the trees and chattered abuse.

A curved segment of the side of the ship slid back and a ladder rattled down. Susan was by now close enough to see and hear it. The mechanism was reassuringly clunky and creaky, not like the seamless refinement of the Multiplier or even saur skiffs. It wanted oiling somewhere. A young man in loose green fatigues came down the ladder and stood at the foot of it, blinking in the sunlight and gazing at the buildings and the slowly gathering crowd. From the dark of the hatch at the top other faces, including children’s, peered out. The man shaded his eyes with one hand and waved with the other.

“Trade Latin still spoken here?” he called out.

“Yes,” said Susan, walking up to him and holding out a hand. She had the camera and the mike on the side of her head. “You should really try to say something more historic. Anyway, welcome to New Babylon.”

“Thank you,” said the man, shaking hands. “Are you a Mingulayan?”

“Yes,” said Susan. “I came here with Matt Cairns.”

“Oh my God,” the man said, in English. “You’re the one who’s fucking historic.” He waved vaguely in the direction of the harbor. “The First Navigator’s ship is coming down over there. You should probably go and report to him.”

“Yes,” said Susan, stepping back to let the militiamen check the guy out. “I probably should.”

The people from the neighborhood were still hanging back about fifty meters away, as if that would make them any safer. The arrival of the ships, and even their appearance, was not unexpected. But it was only when a purple and a red Multiplier descended the ladder, stepping down after a few more adults and children had emerged and stood around on the grass talking to the militiamen and a few other bold locals, that the crowd surged forward, children in the lead. The new arrivals were almost bowled over, and the Multipliers had to move their limbs smartly and skitter about in a slightly threatening manner to clear some space around themselves.

“Make things!” the children were shouting. “Make things for us! Please!”

In the past half-year, since the Crisis (as it was now called, or the Events) the Multipliers who had arrived with the *Investigator* had themselves multiplied by the thousands. They had begun to integrate and educate the numerous free-living small offspring that had resulted from the mass infections that had spread from the recovering casualties of the attack. They had taken up residence in old warehouses and under piers and bridges. They roamed the streets and conjured things out of air and grass and dirt. They talked on the radio and on television, wheezing and waving their limbs like mad old scientists. It was all strange and unsettling, but also in a way reassuring to the people of New Babylon. The whimsical frivolity of their conjurings—here a piece of jewelery, there a machine for making shoes—and their enthusiasm and curiosity as they scuttled around factories and fingered all the pages of all the volumes of the great libraries, all this could not help but charm. The decades of preparing to fight off the dreaded Spiders only increased the relief at the arrival of these engaging octopods. Eight-limbed fuzzy shapes of many different colors had become the most popular type of soft toy.

Susan made her way out of the park and back to the avenue, where she headed for the nearest underground station. Street-level traffic looked like it would remain snarled up for hours. The trains were unaffected. She emerged from the underground at Port Station One and immediately found another crowd surrounding several of the Bright Star Culture ships. Multipliers swarmed in the trees, displacing complaining flocks of flying squirrels. Multiplier skiffs flitted, autogyros hovered overhead, microphones and cameras

dangling—she was not filing the story of the century, and she didn't care. The search took a while, during which she ruthlessly used her journalist's card and her elbows. Eventually she found the ship of the First Navigator, and her parents.

They were in a small inner ring of people: the President and her entourage and bodyguards, who had arrived, grandly enough, by skiff. Susan saw Elizabeth and Gregor through the surrounding heads and almost did not recognize them. She had thought of their parting as being over a century long, which of course was irrational—they had traveled the hundred-odd light-years in not much more time than she had, with stops of a few days or weeks while the next course was plotted and new ships were built. Somehow this brought home to her for the first time the sheer force of the Multiplier migration, its quality of being a cascading explosion of thistledown birling through and filling and abhorring the vacuum. Her parents had been changed in those months, perhaps more than she had; they looked younger, almost as young as herself. It was weirder than seeing Matt naked and remembering he was centuries old. She had a shocking premonition that a world in which the senior generation did not grow older would have its disadvantages that could only be overcome by endless expansion, if the hominidae were not to become a second version of the saurs. Almost she started her own trajectory in that expansion right then; almost, she fled. But Elizabeth saw her and smiled, and Susan pushed through and rushed forward. She hugged Elizabeth and Gregor, everyone babbled for a bit, and then became serious again. The conversation with the President resumed, slightly out of Susan's earshot.

Susan slid a finger under her hair and switched on her recording equipment. Her channel might as well get some benefit from her proximity. As Susan watched her parents talking to Julia de Zama and to the President's new security adviser, a memorably forgettable-looking man called Gaius Gonatus, she found herself standing beside another of the President's entourage, Lydia de Tenebre. She'd met the Trader woman at some diplomatic banquet whose afterglow had been open to the press, and had interviewed her briefly. Lydia was now some kind of high official in the Space Authority, and spent much of her time, as far as Susan could make out, trying to reassure the saurs and krakens on newly arrived Trader ships, without much success so far, other than to persuade one or two saurs to remain with their skiffs. Hence, no doubt, the President's prestige vehicle.

Susan smiled sideways at Lydia, who looked as though she too had been pushed to one side.

"It's like a conspiracy," Lydia said quietly. "A conspiracy of the old against the young. Except they now have the advantage of experience, and we don't have the advantage of vigor."

Susan nodded, craning to catch what was being said, upping the gain on her mike. The voices became clearer. As she leaned closer she suddenly realized they were talking about the theicides.

"No question," her mother was saying, "it's a hard one, but we can't intervene. It's a capital crime in our code too, one of the few—"

“No!” Susan’s outcry was involuntary, turning heads, raising eyebrows. She broke into the charmed circle and confronted her mother.

“You can’t let them carry out the executions!” she said. “You can’t let them kill Salasso!”

Elizabeth looked at her sadly. “I can and will,” she said. “Look, I’m sorry, Susan. I loved that saur, and Matt I liked and Volkov I could, well, I could stand, but it’s out of my hands, it’s out of the President’s hands. We can’t let theicide go unpunished. The precedent is too dangerous. There are some crimes that can’t be forgiven. That’s why we have the category of heinous crimes, and theicide is one of them—in the Bright Star Cultures too.”

“But everything else is changing around us,” Susan protested. “The Multipliers, they’re changing everything, they’re changing us. They’ve changed you. Why can’t we change the law, or at least recognize that this time it was justified?”

“That’s exactly why we can’t change it,” said Elizabeth. “It’s very difficult to maintain our humanity. The Multiplier outlook literally infiltrates us. We have their worldview in our blood. There is a continuous option to simply dissolve into Spiders, if not physically then culturally. For that reason we maintain our own laws with scrupulous severity. And we are not going to interfere with New Babylon’s.”

Susan’s vision of Elizabeth blurred. She felt as though she had been punched in the stomach by this stranger who could have been her sister. Her father’s face was more concerned but, with its tracery of smoothed-out creases, too frighteningly reminiscent of Mart’s to be of any comfort.

“*What bloody humanity?*” Susan shouted. “Just because *you’re* the Science Officer doesn’t make you—”

“Don’t lose it with me,” Elizabeth said, in a flat, calm voice. It was an order Susan had last heard at the age of nine. It infuriated her to hear it now, but it had its effect, a cold blade in the belly.

Susan blinked hard, clenching her fists at her sides. “You’ve lost it already,” she said. “Your humanity.”

She knew this was not true. It was a stone to hand, and she threw it, and she could see the hurt and she didn’t care. She could see right through her mother to the omnipresent deity infinitely greater than the gods, and she could not see why Elizabeth couldn’t see it too, in her and in the condemned. Or did she, she thought wildly, and did it make no difference?

Susan whirled on de Zama. The young-old President was a very strange-looking person, her smooth skin thin and shining, like the paper of a lantern over her bones.

“Can’t you at least use your gods-damned prerogative, Madame? Can’t you give clemency? Surely you still feel something for Volkov, he was your partner”—*in crime*, she almost said—“for fifty years or longer, and you have already killed him once! Isn’t

that enough?"

"For that very reason I cannot give clemency," said de Zama, quite unperturbed by Susan's flaming disrespect. "People would say it was personal. And I cannot give clemency to the other two without giving it to Grigory Andreievich. In any case, when the people have spoken, and the Senate has spoken, and all the world knows what the Notables will say, it would be a foolish President who cast the prerogative in their teeth. There would be a constitutional crisis, which with things as they are we cannot afford." She spread her hands. "With the best will in the world I could not do it."

And you do not have the best will in the world!

Susan turned and walked away, out through the inner circle and the growing crowd. She had just reached the area of devastation at the bottom of Astronaut Avenue when Lydia caught up with her.

"I can't stand it either," Lydia said. "Come on—we can't stand for this, we can do something."

She seemed furious and determined, standing there in the grey dust, incongruous in a fluttery, flower-printed silk trouser-suit and platform shoes.

"What *can* we do?" Susan asked.

"We have experienced the Multiplier enlightenment," said Lydia. "We can think of something."

"So have they!" said Susan. "Much good it does them!"

Lydia laid a hand on her arm. "That's no reason for us not to use our heads. Come on."

"Where? Where is there to go?"

Susan sniffed noisily and wiped her nose on her sleeve. She felt disgusted with herself. She switched the recording gear off. Lydia put an arm around her shoulders, and that made them start to shake. Susan willed their shaking to stop, but it didn't. Lydia said nothing for a while. When Susan opened her eyes again, Lydia was regarding her soberly. Susan blinked away the rainbow effects on her eyelashes, sniffled noisily again, smiled weakly.

"I don't know about me," said Lydia, "but you could use a drink."

Susan took a deep breath. "Oh, yes."

Lydia led Susan around a corner into one of the relatively undamaged shorefront streets, to a drinking den called The New Moon's Arms. The sign that swung above the door was a stylized orbital fort, petaled with solar power panels, bristling with weaponry.

"Old malcontent hangout," Lydia said as she held the door open. "I suppose it's still bugged." She laughed suddenly. "This time it'll be Gonatus who will be listening."

It was almost empty, and the barman was watching television, agog at the landings, begrudging the attention it took to pour them drinks. The pictures flickered silently; he was listening in with earphones.

“Amazing,” he kept saying. “Amazing. A great day.”

“A great day,” Lydia agreed. She bought a clinking double handful of bottles. Susan turned away to sit down. Lydia caught her elbow.

“Outside,” she said.

They returned to Astronaut Avenue and sat down with their backs against one of the Volkov plinths. A selkie, walking past, glanced down at them from its swaying height, then strolled on, rubbernecking. Lydia wrenched the tops off two of the bottles. The drinks were sugarcane spirit diluted with a bittersweet juice. It tasted rough.

“What was that about Gonatus?” Susan asked. She had to talk about something else for a while. They would get back to what they had to talk about soon enough. From here, the prison island was visible on the horizon.

“I first met him last year,” Lydia said, “about the time you people showed up. I took him to that bar back there for what I thought was a secure enough chat. I was a malcontent and he was an Illyrian spy. Still is, I suppose.”

“Perhaps I should file that story with Junopolis Calls,” said Susan, with a shaky laugh. “Give them one scoop at least, having missed today’s big news.”

“Oh, they’ll know,” said Lydia. “They’ll spike it.”

“You know my employers better than I do?”

“Yes,” said Lydia, unabashed. “I’ve lived here longer than you have. A hell of a lot longer. It’s not like good old free-wheeling, free-thinking Mingulay. They have security apparatus here that go back to deep antiquity. And the Illyrian one, remember, is just a chunk of the old Nova Babylonian one that broke away.”

“And Gonatus has just changed departments?”

Lydia smiled sourly. “Yes, you could see it like that. He’s an interesting guy, in his way. Very intense, very sincere, strange though it is to say about a spy.”

“What was his interest in you?”

“Well, I worked in the Space Authority, I had been in the Bright Star Cultures, and I had known Volkov.”

They looked at each other. Susan put her drink down. The bottle drummed momentarily as it touched the pavement. “I think you have some explaining to do,” she said.

After a while she interrupted and said: “You were once in love with Gregor? My *father!*”

“Yes,” said Lydia. “Well, maybe, but . . . anyway, that’s why it was so weird just now, seeing him just as he was when I knew him twelve years ago.”

“Twelve—oh, right. I see. I think.”

Susan pulled out a notebook—it was a local one, made from paper, which, as Matt had once said, sure cracked the screen-resolution problem—and started writing names and drawing lines.

“Fuck,” she said. “It’s lucky none of you had a sexually transmissible disease.”

Susan opened another bottle. The pain of her parents’ refusal to intervene was still like a coiled snake in her belly. The alcohol was stunning it, but it would come back. She would vomit it out.

“So is this why you want to save them?”

“No,” said Lydia, bleakly. “I want to save them because they were right. They don’t deserve to end up against a wall.”

“A wall is what all this feels like,” said Susan. She knocked the back of her head on the plinth. It hurt a little. “And I’m bashing my head against it.”

“Every wall has its weak points.”

“The weakest point I can see,” Susan said, “and the only one we can work on directly, is their bloody-minded refusal to escape.” She clenched her fist in front of her. Her knuckles were grazed, she noticed from a distance. She looked out past the docks and the harbor to the island. “They could do it, you know. I could raise enough Multis to lift them off within minutes. But they’d have to be dragged, because they think they’d lose the argument by fleeing.”

“Fuck them and their fucking arguments,” said Lydia vehemently. “They’d rather die than lose, and they can’t win. It’s not a political argument, it’s not even a cultural one, it’s a . . . I don’t know, a superstition. How is it that we can see past that, and the Multis can, and our friends themselves can, and most people can’t? When did we lose our respect for the gods? How did we lose our fear?” She nibbled at her lower lip. “I don’t remember, myself. I haven’t feared the gods since I was a little girl. Not since after my first journey.”

Susan frowned. “Space travel?” she said. “Lightspeed jumps? That’s what we all have in common. Even the Marines who went along with our attack on the god.”

Lydia shook her head. “Doesn’t work. Your parents—”

“My parents don’t fear the gods! They’re just committed to the law taking its course for political reasons, cultural reasons. They think there’s a line to hold—damn them.”

“You’re right,” said Lydia. “And Esias and Faustina and all my family, even Voronar, an old saur who stuck around with us, they don’t have that horror either, and they’re pretty

conservative. I mean, apart from Faustina”—she waved a finger at Susan’s scribbled diagram—“they’d be happy to see Volkov shot, they detested what he did to this city, and Salasso and Matt mean nothing to them, but they don’t *execrate* them like everyone seems to be assuming everyone does.”

Susan thought over all the buzz and mutter she’d heard in the past months, weeks, hours. “Well, about everybody else, they’re right.”

“*Vox populi, vox Dei*, huh?” Lydia said bitterly.

The voice of the people is the voice of God. Which people, and which god?

“That’s it,” said Susan, with a cold feeling like water down her back. “That is it.”

“What is?”

“The answer. It is space travel. I mean, I can see how it might be.”

She felt a sudden surge of relief, perhaps no more than a rebound from her earlier dismay and despair, but it was something to feel hope again. She jumped up and drained her bottle and hurled it to crash on the rubble, and reached down to grab Lydia by the hand. “Come on, get up. We have to talk to some of the Bright Star Culture people. If I’m right, they’ll feel the same as we do.”

She fell over. Lydia helped her up and made to go back to the area around Port Station One.

“Not back there,” Susan said. “One of the small parks.”

Taking a complex route through side alleys to circle around the area of destruction and reconstruction, Lydia led the way unerringly to the nearest park. A Bright Star Culture ship squatted there, and around it stalls had been set up, by the humans and saurs and Multipliers on board and by those of the locals whose entrepreneurial talents had emerged from under the overturned bushel of the Modern Regime.

Lydia said: “This is just like something I saw before, on Novakkad. We’re becoming a Bright Star Culture already.”

“How long do you think trade will last, when the Multis can reproduce anything?”

Lydia looked at her sideways. “Good question. What the ships end up selling is space travel, and the access to space to gather the exotica to make more ships.”

Susan grinned. “Good.”

“Why?”

“I’ll tell you later.”

They walked over and started talking to the Traders. Almost every one of the new arrivals were shocked at what was being done to people whom they regarded—once the

background had been quickly filled in—as heroes. Many of them hadn't even known about the advance expedition, and how it had saved them from being blasted from the skies as soon as they emerged from the jump. With the locals it was a different story entirely.

“These three?” The man they bought coffee from drew a finger across his throat. “They should have been shot months ago.” He leaned closer. “You know, it's safe to say now, I always admired old Volkov, got that from my own old man, real old Modernist he was. But now, gods above—” He caught himself and chuckled nervously. “So to speak. Volkov and the others *killed a god*. The sooner they're rotting in Traitors' Pit, the better for all of us.”

With that, quite unselfconsciously, he looked up and shivered.

“Hmm,” said Susan. “Thanks for sharing your thoughts.”

They wandered on. The coffee didn't really sober Susan, and she became less discreet in her questions. After one particularly awkward moment, the two women had to flee the park.

“Are we satisfied?” said Lydia, as they emerged halfway up Astronaut Avenue after running a kilometer through a warren of apartment blocks. Traffic was getting back to normal, but people were still hanging around and talking a lot. The early edition newspapers were being so eagerly snatched up that Susan felt vaguely in dereliction of duty.

Susan ducked her head around the corner. No signs of pursuit. “I don't know,” she said, a little short of breath, heart pounding, “but I think we're safe.”

“Good,” said Lydia, putting her shoes back on as the cuts in her feet cleaned themselves. “Now, can you tell me what difference this is going to make?”

Susan told her. “It's Lithos,” she said. “It's the god in the world, the god under our feet.” She looked down and swayed. Lydia steadied her. “The gods in all the worlds. They fuck with our heads. It's only by space travel that we break the bond. You see?”

Lydia shook her head. “I don't see what difference it makes, except to make things worse. Nothing we do can make people who've never traveled through space change their minds about theicide.”

Susan looked at her. Gods, the woman could be so stupid sometimes.

“Exactly,” she said, straightening up and letting go of Lydia's arm and walking on very steadily. “So there's no need for our friends to die if it won't change anything.”

“I think we can sell them that,” Lydia said. “That one will fly.” Her expression became distant, calculating. “Or if not that, something else. Do you have a phone number for any of the *Investigator* crew?”

“Oh, sure, I have them all.”

Lydia jerked a thumb toward a newly repaired public phone stall. “Call them now.”

“You aren’t thinking of—”

“Maybe,” said Lydia, “but the first thing we have to do is check this out with your friend Mr. Orange. Come to think of it,” she added, “a lift to the island by skiff would not go amiss.”

The Prison Department guards might have challenged and surrounded an autogyro, and impounded an unauthorized boat. They had a healthy respect for a Multiplier skiff. They let it land between the huts and didn’t so much as give a dirty look to Susan, Lydia, and Mr. Orange. Matt, Volkov, and Salasso were easily enough spotted, strolling by the cliff at the far end of the small island.

Susan’s heart sank a little at their eager expressions. They had affected fatalism, but they must have placed a lot of hope in the arrival of the Bright Star Cultures. She gave them the news of Elizabeth’s unwavering decision.

“I’m sorry,” she said.

“Bitch,” said Matt.

“Bourgeois,” said Volkov. He made it sound a nastier epithet than Matt’s.

Salasso took it more stoically. “People change,” he said.

“Let’s find somewhere to sit down,” Susan said. “Mr. Orange has something to tell you. There’s a way out of this.”

There was a windbreak shelter with benches and a table, built by prisoners, a hundred meters away. As they headed for it Matt rushed off to the hut. He came back with a pot of coffee and some mugs. The Multiplier draped itself across the supports like a gibbon and leaned down, its speaking mouth forward, and delivered its usual wheezy breathless ramble. People, saurs, everybody who lived on planets, it explained, were influenced by the minds in those planets and formed attachments to them. Only space travel could break those attachments. In the long run many more people would travel in space and would lose their fear of the gods. To die for the sake of not fearing the gods was both superfluous and futile.

“We thought you knew,” said Mr. Orange.

The two men and the saur stared at Mr. Orange for a few moments.

“Fuck off,” said Matt at last. “What difference does it make, if the space-going people have a rational attitude and the others don’t? It’s the others who have decided to kill us, and I am not going to let them off that hook. Let them see the consequences of their actions and their beliefs. That’s what a public stoning is *for!* It’s not to deter the wicked,

it's to deter the righteous. You should know that, Susan. You were raised a gods-dammed Scoffer."

"Well, I was not!" said Lydia. She slammed a fist on the table. "I was raised a good Stoic, and I *became* a Volkovist. No thanks to you, Grigory, but behind all your Communist claptrap there was something great. And there is still something great there, in the Space Defense cadre who still look up to you. And in the new traders, the Bright Star people, and the Multipliers. Between them they have the power to rescue you, not to run away and hide but to defy the world and all the superstitious gods-fearing bastards that live on it like nits in its hair."

Volkov folded his arms. "And then what? Another revolution from above? I've lived through three already, two of them my fault. I'm not doing it again. Enough people have died here, and not only here. Enough."

"Adding three more deaths won't help," said Susan.

Volkov snorted. "It's not a question of what *helps*."

Susan turned to Salasso. "You can see it, can't you?" she pleaded. "You've tried to change minds, and now you know why you couldn't. It's not political, it's not cultural, it's a physical influence. You could—"

The saur's sneer was thinner than the men's, but no less scornful.

"Take my people on day trips to space?" His mouth stretched sideways a few millimeters. "Most of them are already in space, and no doubt on their way to fight the gods' battles somewhere else."

Susan felt herself shaking inside again, and tears escaping through that treacherous instability. She turned it to anger, and the anger away from herself.

"You can't just sit here and wait to die!" she said. "What honor or defiance is there in that? It's just the same wretched passivity you say you're fighting against. Go away—*come* away! Join the Multiplier migration, join *us*. There's no need to hide now, we're here, and we're going away."

She did not know if she meant that. She was too various. It was the small offspring within her talking, just as her mother had feared. It was what her mother was fighting. She could almost sympathize; or rather, she could, and she could not.

"You might have a point," said Matt, reluctantly. His voice sounded as if it was being dragged out with hooks. "I mean, why push it, if these people can't change no matter what—"

The skiff came out of nowhere—not out of a jump, but out of an aerial manouevre so fast that its hull glowed red as it halted right beside them. The shock wave was still rocking the gazebo as a dozen heavily-armed men jumped out and surrounded them, plasma rifles leveled.

One of the men removed his helmet to reveal a pair of earphones, which he likewise removed.

“You were right, Lydia,” said Gaius Gonatus. “We’re still listening.”

The sun was in their eyes and they had disdained the offer of blindfolds. Susan was at the front of the crowd, with the other reporters. She could zoom her camera, zoom the mike, and watch and hear them all. It was only her concentration on this, her fierce determination that her draft of history would be the one to get through all the edits and be in all the books and tapes about the event, that kept her from weeping. That and the thought that weeping would be self-indulgent, because she was not mourning the two men and the saur. She would be weeping for the loss of her mother, who in clinging to her humanity had become inhumane.

The officer with three black cloths over his wrist was holding out two packets. “Hemp or tobacco?”

“I’ll go for a joint,” said Volkov.

“Let’s share it and a cigarette,” said Matt.

“All right.”

“I think I wish to die consciously,” said Salasso. “Hemp would tend to prevent that. Therefore, I will take a cigarette. I have on occasion wondered what their attraction is.”

“They’re bad for your health,” said Matt, predictably.

They accepted the officer’s offer of a light, and he returned to the squad. “You may address the public while you smoke,” he said.

Volkov and Matt glanced at each other. Matt shrugged and waved his cigarette. They swapped their smokes around.

“I wish I respected you all enough to despise you,” Volkov said to the outstretched microphones and to the world. “But you aren’t worth it. You have chosen to become part of an alien culture. That is your choice. What will you do when the next alien culture comes along, one which may be less easily adapted to? You will have to fight, as I taught you to fight. I hope I taught you well.”

He looked as though he was about to throw the diminished cigarette on the ground, but Matt reached out for it and passed him the hemp.

“Ah,” said Matt, exhaling gratefully, “there’s nothing like a butt for a roach. If you’re looking for words of wisdom from me, you can fucking forget it. I’ve had a good run and I have no complaints. Volkov was defending the human race according to his lights, and so was I. Come on, man, give Salasso that roach.”

“Thank you,” said Salasso, taking it and sucking hard. “The small quantity remaining should not affect my lucidity. Tell Bishlayan I love her, and tell Delavar I quite liked him, on the whole. As for most of the rest of my species, they have feared the gods, they feared the hominidae, and now they fear the Multipliers. I have shown that I feared none of them. I have killed a god, I have had friends among the hominidae, including Matt and including Elizabeth and Gregor, and when my blood runs out it will be full of Spiders.”

“Gods above, Salasso,” said Matt, “you never told—”

The rifles, as ever, had the last word.

Coda: State of Play

there is no meanwhile. But, across a hundred thousand years and light-years, the events of A.C. 10,350 and the Seasonally Adjusted Year of Our Lord 2360 were approximately in step with the year A.D. 2362.

In the year A.D. 2357 the god in the asteroid 10049 Lora made one of its regular close approaches to Earth; and, as had become customary, a delegation from the Military Subcommittee of the Executive Committee of the Solar Commonwealth came out to visit and consult. Their skiffs hovered above its pitted surface, gently docking with the vast web of the interface that gave them access to the wealth of information in its many minds.

Greetings were exchanged, something that the humans managed through the combined actions of a myriad quantum computers and the god with the equivalent of the twitch of a toe. With some slightly higher-level processing it conveyed its thanks and congratulations on the defeat of the octopod invasion. The humans acknowledged that the war against the Spiders had been long and terrible, but that driving the alien invaders from the Solar System had been worth the cost. They mentioned the cost with a certain urgency. The long-term damage to Earth’s atmosphere and biosphere, and the losses to the many habitats across the system, had been substantial and painful.

The god thought they were taking a very short-term view, given that habitats could be replaced within decades and the atmosphere and biosphere restored to something like equilibrium within a million years. It did not, however, convey this thought to the delegation. Much as it appreciated their defense, and much as it appreciated their cooperation in maintaining a blessed radio silence throughout the system—their plethora of tight-band laser comms were only a minor annoyance—the billions of humans of the Commonwealth were, it well knew, touchy. Especially, for some reason, those who had lived in space habitats. It would be deeply unfortunate if more humans had to move off the damaged planetary surface and settle in space habitats. It would be even more unfortunate if their expanding, though cautious, skiff and lightspeeder operations were to encounter the saurs who remained in and around the Solar System. The humans’ lightspeed expedition to Alpha Centauri had been a close call, it had been given to

understand.

The god was beginning to experience a certain impatience. The universe was full of much more interesting phenomena than this multicellular infestation. Briefly, for a second or two, several of its inner civilizations devoted the equivalent of centuries of human effort to investigating the possibility of resetting the planet's evolution completely, and of arranging a simultaneous set of collisions between habitats and stray heavy-metal junk. On balance the decision was negative. Even for the gods, some exercises in celestial mechanics were just too complicated.

Even for the gods, some inspirations take time to emerge. When the box is large enough, even the greatest minds sometimes have difficulty in thinking outside it. But once it had succeeded in doing so, it took very little time for the god to communicate its inspiration to the delegation of the Military Subcommittee. They were greatly delighted with the description it gave them of hundreds of underpopulated habitable planets, and deeply grateful for the coordinates it provided to guide light-speed jumps of a hundred thousand light-years.

They assured the god that building the ships to evacuate the entire human species would take them only about five years, and they promised to keep the noise down.

At the edge of New Babylon's old industrial zone, near where the coal wastes leached into ponds, was a deep hole known as the Traitors' Pit. Only the senior officers of the Ninth knew exactly where it was. The material consigned to it was always delivered at night, in an unmarked truck, and thrown in without ceremony or compunction. On this particular night two colonels, their uniforms concealed under rough overalls, heaved three bodies—two of them large, one small—over the side and waited only to hear the thuds before they drove away.

After a couple of days a Multiplier emerged from the shaft. It was not large, about the size of a cat, but it had assimilated, one way or another, many millions of its fellows. It had survived an intense process of natural selection. Its mind was limited and fragmentary, its obscure sense of self flagrantly contradicted by its disparate memories. It scuttled off across the waste ground with a sense of accomplishment, both from its long and perilous ascent and from the memories it had assimilated. It was eager to sort them and share them and acquire more.

It remembered having hands with four digits, only one of which was opposable, and with those hands controlling a skiff that skimmed across endless forests that looked strangely like the complex pipework it could see in the distance. It remembered swaying on two legs, through a city of lights, and shouting in a strange language while colorful explosions lit the sky overhead and a cold liquid in the mouth made the belly warm. It remembered different hands, with five digits this time, moving over an instrument covered with glyphs. It remembered looking out from behind a transparent curved pane at a red, hot surface, while the air hung heavy and still around it and the breath sounded loud in the ears. It remembered skin cool and yet warming, under hands, and hair long or short brushing the skin that felt that electric touch. It remembered looking at stars, and at the gardens of the gods.

What memories, it thought, for one so small to have. It turned two of its eyes upward, and watched as new lights appeared in the sky. Overhead, quietly, without any fuss, the starships were coming in.