

Escape Route

Peter F. Hamilton

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Prolific new British writer Peter F. Hamilton has sold to Interzone, In Dreams, New Worlds, Fears, and elsewhere. He sold his first novel, Mind star Rising, in 1993, and quickly followed it up with two sequels, A Quantum Murder and The Nano Flower. Hamilton's first three books managed to slip into print without attracting a great deal of attention, on this side of the Atlantic, at least, but that changed dramatically with the publication of his next novel, The Reality Dysfunction, a huge modern Space Opera (it needed to be divided into two volumes for publication in the United States) that is itself only the start of a projected trilogy of staggering size and scope. The Reality Dysfunction has been attracting the reviews and the acclaim that his prior novels did not and has suddenly put Hamilton on the map as a writer to watch, perhaps a potential rival for writers such as Dan Simmons, Iain M. Banks, Paul I. Mcauley, Greg Benford, C. I. Cherryh, Stephen R. Donaldson, Colin Greenland, and other major players in the expanding subgenre of Modern Baroque Space Opera, an increasingly popular area these days. The second novel in the trilogy, The Neutronium Alchemist, is out in Britain, and generating the same kind of excited critical buzz. Upcoming is the third novel in the trilogy, The Naked God, and Hamilton's first collection, A Second Chance at Eden.

In the pyrotechnic novella that follows, one as packed with intriguing new ideas and fast-paced action and suspense as many another author's four-hundred-page novel, he unravels the mystery of an enigmatic object found in deep space, one that may prove to be harder-and considerably more dangerous-to get out of than it was to get in ...

Marcus Calvert had never seen an asteroid cavern quite like Sonora's before; it was disorientating even for someone who had spent 30 years captaining a starship. The centre of the gigantic rock had been hollowed out by mining machines, producing a cylindrical cavity twelve kilometres long, five in diameter. Usually, the floor would be covered in soil and planted with fruit trees and grass. In Sonora's case, the environmental engineers had simply flooded it. The result was a small freshwater sea that no matter where you were on it, you appeared to be at the bottom of a valley of water.

Floating around the grey surface were innumerable rafts, occupied by hotels, bars, and restaurants. Taxi boats whizzed between them and the wharfs at the base of the two flat cavern walls.

Marcus and two of his crew had taken a boat out to the Lomaz bar, a raft which resembled a Chinese dragon trying to mate with a Mississippi paddle steamer.

"Any idea what our charter is, Captain?" asked Katherine Maddox, the Lady Macbeth's node specialist.

"The agent didn't say," Marcus admitted. "Apart from confirming it's private, not corporate."

"They don't want us for combat, do they?" Katherine asked. There was a hint of rebellion in her voice. She was in her late 40s, and like the Calverts her family had geneered their offspring to withstand both freefall and high acceleration. The dominant modifications had given her thicker skin, tougher bones, and harder internal membranes; she was never sick or giddy in freefall, nor did her face bloat up. Such changes were a formula for blunt features, and Katherine was no exception.

"If they do, we're not taking it," Marcus assured her.

Katherine exchanged an unsettled glance with Roman Zucker, the ship's fusion engineer, and slumped back in her chair.

The combat option was one Marcus had considered possible. Lady Macbeth was combat-capable, and Sonora asteroid belonged to a Lagrange-point cluster with a strong autonomy movement. An unfortunate combination. But having passed his 67th birthday two months ago he sincerely hoped those kinds of flights were behind him.

"This could be them," Roman said, glancing over the rail. One of Sonora's little taxi boats was approaching their big resort raft.

The trim cutter curving round towards the Lomaz had two people sitting on its red leather seats.

Marcus watched with interest as they left the taxi. He ordered his neural nanonics to open a fresh memory cell, and stored the pair of them in a visual file. The first to alight was a man in his mid-30s, dressed in expensive casual clothes; a long face and a very broad nose gave him a kind of imposing dignity.

His partner was less flamboyant. She was in her late 20s, obviously geneered; Oriental features matched with white hair that had been drawn together in wide dreadlocks and folded back aerodynamically.

They walked straight over to Marcus's table, and introduced themselves as Antonio Ribeiro and Victoria Keef. Antonio clicked his fingers at the waitress, and told her to fetch a bottle of Norfolk Tears.

"Hopefully to celebrate the success of our business venture, my friends," he said. "And if not, it is a pleasant time of day to imbibe such a magical potion. No?"

Marcus found himself immediately distrustful. It wasn't just Antonio's phoney attitude; his intuition was scratching away at the back of his skull. Some friends called it his paranoia programme, but it was rarely wrong. A family trait, like the wanderlust which no geneering treatment had ever eradicated.

"The cargo agent said you had a charter for us," Marcus said. "He never mentioned any sort of business deal."

"If I may ask your indulgence for a moment, Captain Calvert. You arrived here without a cargo. You must be a very rich man to afford that."

"There were ... circumstances requiring us to leave Ayachcho ahead of schedule."

"Yeah," Katherine muttered darkly. "Her husband."

Marcus was expecting it, and smiled serenely. He'd heard very little else from the crew for the whole flight.

Antonio received the tray and its precious pear-shaped bottle from the waitress, and waved away the

change.

"If I may be indelicate, Captain, your financial resources are not optimal at this moment," Antonio suggested.

"They've been better."

Antonio sipped his Norfolk Tears, and grinned in appreciation. "For myself, I was born with the wrong amount of money. Enough to know I needed more."

"Mr Ribeiro, I've heard all the get-rich-quick schemes in existence. They all have one thing in common, they don't work. If they did, I wouldn't be sitting here with you."

"You are wise to be cautious, Captain. I was, too, when I first heard this proposal. However, if you would humour me a moment longer, I can assure you this requires no capital outlay on your part. At the worst you will have another mad scheme to laugh about with your fellow captains."

"No money at all?"

"None at all, simply the use of your ship. We would be equal partners sharing whatever reward we find."

"Jesus. All right, I can spare you five minutes. Your drink has bought you that much attention span."

"Thank you, Captain. My colleagues and I want to fly the Lady Macbeth on a prospecting mission."

"For planets?" Roman asked curiously.

"No. Sadly, the discovery of a terracompatible planet does not guarantee wealth. Settlement rights will not bring more than a couple of million fuseodollars, and even that is dependant on a favourable biospectrum assessment, which would take many years. We have something more immediate in mind. You have just come from the Dorados?"

"That's right," Marcus said. The system had been discovered six years earlier, comprising a red dwarf sun surrounded by a vast disc of rocky particles. Several of the larger chunks had turned out to be nearly pure metal. Dorados was an obvious name; whoever managed to develop them would gain a colossal economic resource. So much so that the governments of Omuta and Garissa had gone to war over who had that development right.

It was the Garissan survivors who had ultimately been awarded settlement by the Confederation Assembly. There weren't many of them. Omuta had deployed twelve antimatter planetbusters against their homeworld. "Is that what you're hoping to find, another flock of solid metal asteroids?"

"Not quite," Antonio said. "Companies have been searching similar disc systems ever since the Dorados were discovered, to no avail. Victoria, my dear, if you would care to explain."

She nodded curtly and put her glass down on the table. "I'm an astrophysicist by training," she said. "I used to work for Forrester-Courtney; it's a company based in the O'Neill Halo that manufactures starship sensors, although their speciality is survey probes. It's been a very healthy business recently. Consortiums have been flying survey missions through every catalogued disc system in the Confederation. As Antonio said, none of our clients found anything remotely like the Dorados. That didn't surprise me, I never expected any of Forrester-Courtney's probes to be of much use. All our sensors did was run broad spectrographic sweeps. If anyone was going to find another Dorados cluster it would be the Edenists. Their voidhawks have a big advantage; those ships generate an enormous distortion field which can literally see mass. A lump of metal 50 kilometres across would have a very distinct density signature; they'd be aware of it from at least half a million kilometres away. If we were going to compete against that, we'd need a sensor which gave us the same level of results, if not better."

"And you produced one?" Marcus enquired.

"Not quite. I proposed expanding our magnetic anomaly detector array. It's a very ancient technology; Earth's old nations pioneered it during the 20th century. Their military maritime aircraft were equipped with crude arrays to track enemy submarines. Forrester-Courtney builds its array into low-orbit resource-mapping satellites-, they produce quite valuable survey data. Unfortunately, the company turned down my proposal. They said an expanded magnetic array wouldn't produce better results than a spectrographic sweep, not on the scale required. And a spectrographic scan would be quicker."

"Unfortunate for Forrester-Courtney," Antonio said wolfishly. "Not for us. Dear Victoria came to me

with her suggestion, and a simple observation."

"A spectrographic sweep will only locate relatively large pieces of mass," she said. "Fly a starship 50 million kilometres above a disc, and it can spot a 50kilometer lump of solid metal easily. But the smaller the lump, the higher the resolution you need or the closer you have to fly, a fairly obvious equation. My magnetic anomaly detector can pick out much smaller lumps of metal than a Dorado."

"So? If they're smaller, they're worth less," Katherine said. "The whole point of the Dorados is that they're huge. I've seen the operation those ex-Garissans are building up. They've got enough metal to supply their industrial stations with specialist microgee alloys for the next 2,000 years. Small is no good."

"Not necessarily," Marcus said carefully. Maybe it was his intuition again, or just plain logical extrapolation, but he could see the way Victoria Keef's thoughts were flowing. "It depends on what kind of small, doesn't it?"

Antonio applauded. "Excellent, Captain. I knew you were the right man for us. "What makes you think they're there?" Marcus asked. "The Dorados are the ultimate proof of concept," Victoria said. "There are two possible origins for disc material around stars. The first is accretion; matter left over from the star's formation. That's no use to us, it's mostly the light elements, carbonaceous chondritic particles with some silica aluminium thrown in if you're lucky. The second type of disc is made up out of collision debris. We believe that's what the Dorados are, fragments of planetoids that were large enough to form molten metal cores. When they broke apart the metal cooled and congealed into those hugely valuable chunks."

"But nickel iron wouldn't be the only metal , Marcus reasoned, pleased by the way he was following through. "There will be other chunks floating about in the disc."

"Exactly, Captain," Antonio said eagerly. "Theoretically, the whole periodic table will be available to us, we can fly above the disc and pick out whatever element we require. There will be no tedious and expensive refining process to extract it from ore. It's there waiting for us in its purest form; gold, silver, platinum, iridium. Whatever takes your fancy."

Lady Macbeth sat on a docking cradle in Sonora's spaceport, a simple dull-grey sphere 57 metres in diameter. All Adamist starships shared the same geometry, dictated by the operating parameters of the ZTT jump, which required perfect symmetry. At her heart were four separate life-support capsules, arranged in a pyramid formation; there was also a cylindrical hangar for her spaceplane, a smaller one for her Multiple Service Vehicle, and five main cargo holds. The rest of her bulk was a solid intestinal tangle of machinery and tanks. Her main drive system was three fusion rockets capable of accelerating her at eleven gees, clustered round an antimatter intermix tube which could multiply that figure by an unspecified amount; a sure sign of her combat-capable status. (By a legislative quirk it wasn't actually illegal to have an antimatter drive, though possession of antimatter itself was a capital crime throughout the Confederation.)

Spaceport umbilical hoses were jacked into sockets on her lower hull, supplying basic utility functions. Another expense Marcus wished he could avoid; it was inflicting further pain on his already ailing cash-flow situation. They were going to have to fly soon, and fate seemed to have decided what flight it would be. That hadn't stopped his intuition from maintaining its subliminal assault on Antonio Ribeiro's scheme. If he could just find a single practical or logical argument against it ... He waited patiently while the crew drifted into the main lounge in life-support capsule A. Wai Choi, the spaceplane pilot, came down through the ceiling hatch and used a stikpad to anchor her shoes to the decking. She gave Marcus a sly smile that bordered on teasing. There had been times in the last five years when she'd joined him in his cabin, nothing serious, but they'd certainly had their moments. Which, he supposed, made her more tolerant of him than the others.

At the opposite end of the spectrum was Karl Jordan, the Lady Mac's systems specialist. with the shortest temper, the greatest enthusiasm, and certainly the most serious of the crew. His age was the reason, only 25; the Lady Mac was his second starship duty.

As for Schutz, who knew what emotions were at play in the cosmonik's mind; there was no visible

outlet for them. Unlike Marcus, he hadn't been geneered for freefall-, decades of working on ships and spaceport docks had seen his bones lose calcium, his muscles waste away, and his cardiovascular system atrophy. There were hundreds like him in every asteroid, slowly replacing their body parts with mechanical substitutes. Some even divested themselves of their human shape altogether. At 63, Schutz was still humanoid, though only 20 percent of him was biological. His body supplements made him an excellent engineer.

"We've been offered a joint-prize flight," Marcus told them. He explained Victoria's theory about disc systems and the magnetic anomaly array. "Ribeiro will provide us with consumables and a full cryogenics load. All we have to do is take Lady Mac to a disc system and scoop up the gold."

"There has to be a catch," Wai said. "I don't believe in mountains of gold just drifting through space waiting for us to come along and find them."

"Believe it," Roman said. "You've seen the Dorados. Why can't other elements exist in the same way?"

"I don't know. I just don't think anything comes that easy."

"Always the pessimist."

"What do you think, Marcus?" she asked. "what does your intuition tell you?"

"About the mission, nothing. I'm more worried about Antonio Ribeiro."

"Definitely suspect," Katherine agreed.

"Being a total prat is socially unfortunate," Roman said. "But it's not a crime. Besides, Victoria Keef seemed levelheaded enough."

"An odd combination," Marcus mused. "A wannabe playboy and an astrophysicist. I wonder how they ever got together."

"They're both Sonora nationals," Katherine said. "I ran a check through the public data cores, they were born here. It's not that remarkable."

"Any criminal record?" Wai asked.

"None listed. Antonio has been in court three times in the last seven years; each case was over disputed taxes. He paid every time."

"So he doesn't like the tax man," Roman said. "That makes him one of the good guys."

"Run-ins with the tax office are standard for the rich," Wai said.

"Except he's not actually all that rich," Katherine said. "I also queried the local Collins Media library; they keep tabs on Sonora's principal citizens. Mr Ribeiro senior made his money out of fish breeding, he won the franchise from the asteroid development corporation to keep the biosphere sea stocked. Antonio was given a 15 percent stake in the breeding company when he was 21, which he promptly sold for an estimated 800,000 fuseodollars. Daddy didn't approve, there are several news files on the quarrel; it became very public."

"So he is what he claims to be," Roman said. "A not-very rich boy with expensive tastes."

"How can he pay for the magnetic detectors we have to deploy, then?" Wai asked. "Or is he going to hit us with the bill and suddenly vanish?"

"The detector arrays are already waiting to be loaded on board," Marcus said.

"Antonio has several partners; people in the same leaky boat as himself, and willing to take a gamble."

Wai shook her head, still dubious. "I don't buy it. It's a free lunch."

"They're willing to invest their own money in the array hardware. What other guarantees do you want?"

"What kind of money are we talking about, exactly?" Karl asked. "I mean, if we do fill the ship up, what's it going to be worth?"

"Given its density, Lady Mac can carry roughly 5,000 tonnes of gold in her cargo holds," Marcus said. "That'll make manoeuvring very sluggish, but I can handle her."

Roman grinned at Karl. "And today's price for gold is three and a half thousand fuseodollars per kilogram."

Karl's eyes went blank for a second as his neural nanonics ran the conversion.

"Seventeen billion fuseodollars' worth!"

He laughed. "Per trip."

"How is this Ribeiro character proposing to divide the proceeds?" Schutz asked.

"We get one third," Marcus said. "Roughly five point eight billion fuseodollars. Of which I take 30 percent. The rest is split equally between you, as per the bounty flight clause in your contracts."

"Shit," Karl whispered. "When do we leave, Captain?"

"Does anybody have any objections?" Marcus asked. He gave Wai a quizzical look.

"Okay," she said. "But just because you can't see surface cracks, it doesn't mean there isn't any metal fatigue."

The docking cradle lifted Lady Macbeth cleanly out of the spaceport's crater shaped bay. As soon as she cleared the rim her thermo-dump panels unfolded, sensor clusters rose up out of their recesses on long booms. Visual and radar information was collated by the flight computer, which datavised it directly into Marcus's neural nanonics. He lay on the acceleration couch at the centre of the bridge with his eyes closed as the external starfield blossomed in his mind. Delicate icons unfurled across the visualization, ship status schematics and navigational plots sketched in primary colours.

Chemical verniers fired, lifting Lady Mac off the cradle amid spumes of hot saffron vapour. A tube of orange circles appeared ahead of him, the course vector formatted to take them in towards the gas giant. Marcus switched to the more powerful ion thrusters, and the orange circles began to stream past the hull.

The gas giant, Zacateca, and its moon, Lazaro, had the same apparent size as Lady Mac accelerated away from the spaceport. Sonora was one of 15 asteroids captured by their Lagrange point, a zone where their respective gravity fields were in equilibrium. Behind the starship, Lazaro was a grubby grey crescent splattered with white craters. Given that Zacateca was small for a gas giant, barely 40,000 kilometres in diameter, Lazaro was an unusual companion. A moon 9,000 kilometres in diameter, with an outer crust of ice 50 kilometres deep. It was that ice which had originally attracted the interest of the banks and multistellar finance consortia. Stony iron asteroids were an ideal source of metal and minerals for industrial stations, but they were also notoriously short of the light elements essential to sustain life. To have abundant supplies of both so close together was a strong investment incentive.

Lady Mac's radar showed Marcus a serpentine line of one-tonne ice cubes flung out from Lazaro's equatorial mass-driver, gliding inertly up to the Lagrange point for collection. The same inexhaustible source which allowed Sonora to have its unique sea.

All the asteroids in the cluster had benefited from the plentiful ice, their economic growth racing ahead of equivalent settlements. Such success always bred resentment among the indigenous population, who inevitably became eager for freedom from the founding companies. In this case, having so many settlements so close together gave their population a strong sense of identity and shared anger. The cluster's demands for autonomy had become increasingly strident over the last few years. A situation agitated by numerous violent incidents and acts of sabotage against the company administration staff.

Ahead of the Lady Mac, Marcus could see the tidal hurricane Lazaro stirred up amid the wan amber and emerald stormbands of Zacateca's upper atmosphere. An ocean-sized hypervelocity maelstrom which followed the moon's orbit faithfully around the equator. Lightning crackled round its fringes, 500kilometer-long forks stabbing out into the surrounding cyclones of ammonia cirrus and methane sleet.

The starship was accelerating at two gees now, her triple fusion drives sending out a vast streamer of are-bright plasma as she curved around the bulk of the huge planet. Her course vector was slowly bending to align on the star which Antonio intended to prospect, 38 light years distant. There was very little information contained in the almanac fileother than confirming it was a K class star with a disc.

Marcus cut the fusion drives when the Lady Mac was 7,000 kilometres past perigee and climbing steadily. The thermo-dump panels and sensor clusters sank down into their jump recesses below the fuselage, returning the ship to a perfect sphere. Fusion generators began charging the energy patterning nodes. Orange circles flashing through Marcus's mind were illustrating the slingshot parabola she'd flown, straightening up the farther the gas giant was left behind. A faint star slid into the last circle.

An event horizon swallowed the starship. Five milliseconds later it had shrunk to nothing.

"Okay, try this one," Katherine said. "Why should the gold or anything else congeal into lumps as big as the ones they say it will? Just because you've got a planetoid with a hot core doesn't mean it's producing the metallic equivalent of fractional distillation. You're not going to get an onion-layer effect with strata of different metals. It doesn't happen on planets, it won't happen here. If there is gold, and platinum and all the rest of this fantasy junk, it's going to be hidden away in ores just like it always is."

"So Antonio exaggerated when he said it would be pure," Karl retorted. "We just hunt down the highest grade ore particles in the disc. Even if it's only 50 percent, who cares? We're never going to be able to spend it all anyway."

Marcus let the discussion grumble on. It had been virtually the only topic for the crew since they'd departed Sonora five days ago. Katherine was playing the part of chief sceptic, with occasional support from Schutz and Wai, while the others tried to shoot her down. The trouble was, he acknowledged, that none of them knew enough to comment with real authority. At least they weren't talking about the sudden departure from Ayachcho any more.

"If the planetoids did produce ore, then it would fragment badly during the collision which formed the disc," Katherine said. "There won't even be any mountain-sized chunks left, only pebbles."

"Have you taken a look outside recently?" Roman asked. "The disc doesn't exactly have a shortage of large particles."

Marcus smiled to himself at that. The disc material had worried him when they arrived at the star two days ago. Lady Mac had jumped deep into the system, emerging three million kilometres above the ecliptic. It was a superb vantage point. The small orange star burned at the centre of a disc 160 million kilometres in diameter. There were no distinct bands like those found in a gas giant's rings, this was a continuous grainy copper mist veiling half of the universe. Only around the star itself did it fade away; whatever particles were there to start with had long since evaporated to leave a clear band three million kilometres wide above the turbulent photosphere.

Lady Mac was accelerating away from the star at a 20th of a gee, and curving round into a retrograde orbit. It was the vector which would give the magnetic arrays the best possible coverage of the disc. Unfortunately, it increased the probability of collision by an order of magnitude. So far, the radar had only detected standard motes of interplanetary dust, but Marcus insisted there were always two crew on duty monitoring the local environment.

"Time for another launch," he announced.

Wai datavised the flight computer to run a final systems diagnostic through the array satellite. "I notice Jorge isn't here again," she said sardonically. "I wonder why that is?"

Jorge Leon was the second companion Antonio Ribeiro had brought with him on the flight. He'd been introduced to the crew as a first-class hardware technician who had supervised the construction of the magnetic array satellites. As introverted as Antonio was outgoing, he'd shown remarkably little interest in the arrays so far. It was Victoria Keef who'd familiarized the crew with the systems they were deploying.

"We should hunghim in our medical scanner," Karl suggested cheerfully. "Be interesting to see what's inside him. Bet you'd find a whole load of weapon implants."

"Great idea," Roman said. "You ask him. He gives me the creeps."

"Yeah, Katherine, explain that away," Karl said. "If there's no gold in the disc, how come they brought a contract killer along to make sure we don't fly off with their share?"

"Karl!" Marcus warned. "That's enough." He gave the open floor hatch a pointed look. "Now let's get the array launched, please."

Karl's face reddened as he began establishing a tracking link between the starship's communication system and the array satellite's transponder.

"Satellite systems on line," Wai reported. "Launch when ready."

Marcus datavised the flight computer to retract the satellite's hold-down latches. An induction rail shot it clear of the ship. Ion thrusters flared, refining its trajectory as it headed down towards the squally apricot surface of the disc.

Victoria had designed the satellites to skim 5,000 kilometres above the nomadic particles. When their operational altitude was established they would spin up and start to reel out 25 gossamer-thin optical fibres. Rotation ensured the fibres remained straight, forming a spoke array parallel to the disc. Each fibre was 150 kilometres long, and coated in a reflective, magnetically sensitive film.

As the disc particles were still within the star's magnetosphere, every one of them generated a tiny wake as it traversed the flux lines. It was that wake which resonated the magnetically sensitive film, producing fluctuations in the reflectivity. By bouncing a laser pulse down the fibre and measuring the distortions inflicted by the film, it was possible to build up an image of the magnetic waves writhing chaotically through the disc. With the correct discrimination programmes, the origin of each wave could be determined.

The amount of data streaming back into the Lady Macbeth from the array satellites was colossal. One satellite array could cover an area of 250,000 square kilometres, and Antonio Ribeiro had persuaded the Sonora Autonomy Crusade to pay for 15. It was a huge gamble, and the responsibility was his alone. Forty hours after the first satellite was deployed, the strain of that responsibility was beginning to show. He hadn't slept since then, choosing to stay in the cabin which Marcus Calvert had assigned to them, and where they'd set up their network of analysis processors. Forty hours of his mind being flooded with nearincomprehensible neuroiconic displays. Forty hours spent fingering his silver crucifix and praying.

The medical monitor programme running in his neural nanonics was flashing up fatigue toxin cautions, and warning him of impending dehydration. So far he'd ignored them, telling himself discovery would occur any minute now. In his heart, Antonio had been hoping they would find what they wanted in the first five hours.

His neural nanonics informed him the analysis network was focusing on the mass density ratio of a three-kilometer particle exposed by satellite seven. The processors began a more detailed interrogation of the raw data.

"What is it?" Antonio demanded. His eyes fluttered open to glance at Victoria, who was resting lightly on one of the cabin's flatchairs.

"Interesting," she murmured. "It appears to be a cassiterite ore. The planetoids deftely had tin."

"Shit!" He thumped his fist into the chair's padding, only to feel the restraint straps tighten against his chest, preventing him from sailing free. "I don't care about tin. That's not what we're here for."

"I am aware of that." Her eyes were open, staring at him with a mixture of contempt and anger.

"Sure, sure," he mumbled. "Holy Mother, you'd expect us to find some by now. "Careful," she datavised. "Remember this damn ship has internal sensors."

"I know how to follow elementary security procedures," he datavised back.

"Yes. But you're tired. That's when errors creep in."

"I'm not that tired. Shit, I expected results by now; some progress."

"We have had some very positive results, Antonio. The arrays have found three separate deposits of pitchblende."

"Yeah, in hundred-kilogram lumps. We need more than that, a lot more."

"You're missing the point. We've proved it exists here; that's a stupendous discovery. Finding it in quantity is just a matter of time."

"This isn't some astrological experiment you're running for that university which threw you out. We're on an assignment for the cause. And we cannot go back empty-handed. Got that? Cannot."

"Astrophysics."

"What?"

"You said astrological, that's fortune-telling."

"Yeah? You want I should take a guess at how much future you're going to have if we don't find what we need out here?"

"For Christ's sake, Antonio," she said out loud. "Go and get some sleep."

"Maybe." He scratched the side of his head, unhappy with how limp and oily his hair had become. A vapour shower was something else he hadn't had for a while. "I'll get Jorge in here to help you monitor

the results."

"Great." Her eyes closed again.

Antonio deactivated his flatchair's restraint straps. He hadn't seen much of Jorge on the flight. Nobody had. The man kept strictly to himself in his small cabin. The Crusade's council wanted him on board to ensure the crew's continuing cooperation once they realized there was no gold. It was Antonio who had suggested the arrangement; what bothered him was the orders Jorge had received concerning himself should things go wrong.

"Hold it." Victoria raised her hand. "This is a really weird one."

Antonio tapped his feet on a stikpad to steady himself. His neural nanonics accessed the analysis network again. Satellite eleven had located a particle with an impossible mass-density ratio; it also had its own magnetic field, a very complex one. "Holy Mother, what is that? Is there another ship here?"

"No, it's too big for a ship. Some kind of station, I suppose. But what's it doing in the disc?"

"Refining ore?" he said with a strong twist of irony.

"I doubt it."

"Okay. So forget it."

"You are joking."

"No. If it doesn't affect us, it doesn't concern us."

"Jesus, Antonio; if I didn't know you were born rich I'd be frightened by how stupid you were."

"Be careful, Victoria my dear. Very careful."

"Listen, there's two options. One, it's some kind of commercial operation-, which must be illegal because nobody has filed for industrial development rights." She gave him a significant look.

"You think they're mining pitchblende?" he datavised.

"What else? We thought of the concept, why not one of the black syndicates as well? They just didn't come up with my magnetic array idea, so they're having to do it the hard way."

"Secondly," she continued aloud, "it's some kind of covert military station; in which case they've tracked us from the moment we emerged. Either way, we're under observation. We have to know who they are before we proceed any further."

"A station?" Marcus asked. "Here?"

"It would appear so," Antonio said glumly.

"And you want us to find out who they are?"

"I think that would be prudent," Victoria said, "given what we're doing here."

"All right," Marcus said. "Karl, lock a communication dish on them. Give them our CAB identification code, let's see if we can get a response."

"Aye, sir," Karl said. He settled back on his acceleration couch.

"While we're waiting," Katherine said. "I have a question for you, Antonio.

She ignored the warning glare Marcus directed at her.

Antonio's bogus smile blinked on. "If it is one I can answer, then I will do so gladly, dear lady."

"Gold is expensive because of its rarity value, right?"

"Of course."

"So here we are, about to fill Lady Mac's cargo holds with 5,000 tonnes of the stuff. On top of that you've developed a method which means people can scoop up millions of tonnes any time they want. If we try and sell it to a dealer or a bank, how long do you think we're going to be billionaires for, a fortnight?"

Antonio laughed. "Gold has never been that rare. Its value is completely artificial. The Edenists have the largest stockpile. We don't know exactly how much they possess because the Jovian Bank will not declare the exact figure. But they dominate the commodity market, and sustain the price by controlling how much is released. We shall simply play the same game. Our gold will have to be sold discreetly, in small batches, in different star systems, and over the course of several years. And knowledge of the magnetic array system should be kept to ourselves."

"Nice try, Katherine," Roman chuckled. "You'll just have to settle for an income of a hundred million a year."

She showed him a stiff finger, backed by a shark's smile.

"No response," Karl said. "Not even a transponder."

"Keep trying," Marcus told him. "Okay, Antonio, what do you want to do about it?"

"We have to know who they are," Victoria said. "As Antonio has just explained so eloquently, we can't have other people seeing what we're doing here."

"It's what they're doing here that worries me," Marcus said; although, curiously, his intuition wasn't causing him any grief on the subject. "I see no alternative but a rendezvous," Antonio said.

"We're in a retrograde orbit, 32 million kilometres away and receding. That's going to use up an awful lot of fuel."

"Which I believe I have already paid for."

"Okay, we rendezvous."

"What if they don't want us there?" Schutz asked.

"If we detect any combat wasp launch, then we jump outsystem immediately," Marcus said. "The disc's gravity field isn't strong enough to affect Lady Mac's patterning node symmetry. We can leave any time we want."

For the last quarter of a million kilometres of the approach, Marcus put the ship on combat status. The nodes were fully charged, ready to jump. Thermo-dump panels were retracted. Sensors maintained a vigilant watch for approaching combat wasps.

"They must know we're here," Wai said when they were 8,000 kilometres away. "Why don't they acknowledge us?"

"Ask them," Marcus said sourly. Lady Mac was decelerating at a nominal one gee, which he was varying at random. It made their exact approach vector impossible to predict, which meant their course couldn't be seeded with proximity mines. The manoeuvre took a lot of concentration.

"Still no electromagnetic emission in any spectrum," Karl reported. "They're certainly not scanning us with active sensors."

"Sensors are picking up their thermal signature," Schutz said. "The structure is being maintained at 36 degrees Celsius."

"That's on the warm side," Katherine observed. "Perhaps their environmental system is malfunctioning."

"Shouldn't affect the transponder," Karl said.

"Captain, I think you'd better access the radar return," Schutz said.

Marcus boosted the fusion drives up to one and a half gees, and ordered the flight computer to datavise him the radar feed. The image which rose into his mind was of a fine scarlet mesh suspended in the darkness, its gentle oceanswell pattern outlining the surface of the station and the disc particle it was attached to. Except Marcus had never seen any station like this before. It was a gently curved wedge-shape structure, 400 metres long, 300 wide, and 150 metres at its blunt end. The accompanying disc particle was a flattened ellipsoid of stony iron rock, measuring eight kilometres along its axis. The tip had been sheared off, leaving a flat cliff half a kilometer in diameter, to which the structure was clinging. That was the smallest of the particle's modifications. A crater four kilometres across, with perfectly smooth walls, had been cut into one side of the rock. An elaborate unicorn-horn tower rose 900 metres from its centre, ending in a clump of jagged spikes.

"Oh Jesus," Marcus whispered. Elation mingled with fear, producing a deviant adrenaline high. He smiled thinly. "How about that?"

"This was one option I didn't consider," Victoria said weakly.

Antonio looked round the bridge, a frown cheapening his handsome face. The crew seemed dazed, while Victoria was grinning with delight. "Is it some kind of radio astronomy station?" he asked.

"Yes," Marcus said. "But not one of ours. We don't build like that. It's xenoc."

Lady Mac locked attitude a kilometer above the xenoc structure. It was a position which made the disc appear uncomfortably malevolent. The smallest particle beyond the fuselage must have massed over

a million tonnes; and all of them were moving, a Slow, random three-dimensional cruise of lethal inertia. Amber sunlight stained those near the disc's surface a baleful ginger, while deeper in there were only phantom silhouettes drifting over total blackness, flowing in and out of visibility. No stars were evident through the dark, tightly packed nebula.

"That's not a station," Roman declared. "It's a shipwreck."

Now that Lady Mac's visual-spectrum sensors were providing them with excellent images of the xenoc structure, Marcus had to agree. The upper and lower surfaces of the wedge were some kind of silver-white material, a fuselage shell which was fraying away at the edges. Both of the side surfaces were dull brown, obviously interior bulkhead walls, with the black geometrical outline of decking printed across them. The whole structure was a cross-section torn out of a much larger craft. Marcus tried to fill in the missing bulk in his mind; it must have been vast, a streamlined delta fuselage like a hypersonic aircraft. Which didn't make sense for a starship. Rather, he corrected himself, for a starship built with current human technology. He wondered what it would be like to fly through interstellar space the way a plane flew through an atmosphere, swooping round stars at a hundred times the speed of light. Quite something.

"This doesn't make a lot of sense," Katherine said. "If they were visiting the telescope dish when they had the accident, why did they bother to anchor themselves to the asteroid? Surely they'd just take refuge in the operations centre."

"Only if there is one," Schutz said. "Most of our deep space science facilities are automated, and by the look of it their technology is considerably more advanced."

"If they are so advanced, why would they build a radio telescope on this scale anyway?" Victoria asked. "It's very impractical. Humans have been using linked baseline arrays for centuries. Five small dishes orbiting a million kilometres apart would provide a reception which is orders of magnitude greater than this. And why build it here? Firstly, the particles are hazardous, certainly to something that size. You can see it's been pocked by small impacts, and that lior (???) looks broken to me. Secondly, the disc itself blocks half of the universe from observation. No, if you're going to do major radio astronomy, you don't do it from a star system like this one."

"Perhaps they were only here to build the dish," Wai said. "They intended it to be a remote research station in this part of the galaxy. Once they had it up and running, they'd boost it into a high-inclination orbit. They had their accident before the project was finished."

"That still doesn't explain why they chose this system. Any other star would be better than this one."

"I think Wai's right about them being long-range visitors," Marcus said. "If a xenoc race like that existed close to the Confederation we would have found them by now. Or they would have contacted us."

"The Kant," Karl said quickly.

"Possibly," Marcus conceded. The Kant were an enigmatic xenoc race, with a technology far in advance of anything the Confederation had mastered. However, they were reclusive, and cryptic to the point of obscurity. They also claimed to have abandoned starflight a long time ago. "If it is one of their ships, then it's very old."

"And it's still functional," Roman said eagerly. "Hell, think of the technology inside. We'll wind up a lot richer than the gold could ever make us." He grinned over at Antonio, whose humour had blackened considerably.

"So what were the Kant doing building a radio telescope here?" Victoria asked.

"Who the hell cares?" Karl said. "I volunteer to go over, Captain."

Marcus almost didn't hear him. He'd accessed the Lady Mac's sensor suite again, sweeping the focus over the tip of the dish's tower, then the sheer cliff which the wreckage was attached to. Intuition was making a lot of junctions in his head. "I don't think it is a radio telescope," he said. "I think it's a distress beacon."

"It's four kilometres across!" Katherine said.

"If they came from the other side of the galaxy, it would need to be. We can't even see the galactic core from here there's so much gas and dust in the way. You'd need something this big to punch a

message through."

"That's valid," Victoria said. "You believe they were signalling their homeworld for help?"

"Yes. Assume their world is a long way off, three-four thousand light years away if not more. They were flying a research or survey mission in this area and they have an accident. Three quarters of their ship is lost, including the drive section. Their technology isn't good enough to build the survivors a working stardrive out of what's left, but they can enlarge an existing crater on the disc particle. So they do that; they build the dish and a transmitter powerful enough to give God an alarm call, point it at their homeworld, and scream for help. The ship can sustain them until the rescue team arrives. Even our own zero-tall technology is up to that."

"Gets my vote," Wai said, she gave Marcus a wink. "No way," said Katherine. "If they were in trouble they'd use a supralight communicator to call for help. Look at that ship, we're centuries away from building anything like it."

"Edenist voidhawks are pretty sophisticated," Marcus countered. "We just scale things differently. These xenocs might have a more advanced technology, but physics is still the same the universe over. Our understanding of quantum relativity is good enough to build faster than light starships, yet after 450 years of theoretical research we still haven't come up with a method of supralight communication. It doesn't exist."

"If they didn't return on time, then surely their homeworld would send out a search and recovery craft," Schutz said.

"They'd have to know the original ship's course exactly," Wai said. "And if a search ship did manage to locate them, why did they build the dish?"

Marcus didn't say anything. He knew he was right. The others would accept his scenario eventually, they always did.

"All right, let's stop arguing about what happened to them, and why they built the dish," Karl said. "When do we go over there, Captain?"

"Have you forgotten the gold?" Antonio asked. "That is why we came to this disc system. We should resume our search for it. This piece of wreckage can wait."

"Don't be crazy. This is worth a hundred times as much as any gold."

"I fail to see how. An ancient, derelict, starship with a few heating circuits operational. Come along. I've been reasonable indulging you, but we must return to the original mission."

Marcus regarded the man cautiously, a real bad feeling starting to develop. Anyone with the slightest knowledge of finance and the markets would know the value of salvaging a xenoc starship. And Antonio had been born rich. "Victoria," he said, not shifting his gaze. "Is the data from the magnetic array satellites still coming through?"

"Yes." She touched Antonio's arm. "The captain is right. We can continue to monitor the satellite results from here, and investigate the xenoc ship simultaneously."

"Double your money time," Katherine said with apparent innocence.

Antonio's face hardened. "Very well," he said curtly. "If that's your expert opinion, Victoria, my dear. Carry on by all means, Captain."

In its inert state the SII spacesuit was a broad sensor collar with a protruding respirator tube and a black football-sized globe of programmable silicon hanging from it. Marcus slipped the collar round his neck, bit on the tube nozzle, and datavised an activation code into the suit's control processor. The silicon ball began to change shape, flattening out against his chest, then flowing over his body like a tenacious oil slick. It enveloped his head completely, and the collar sensors replaced his eyes, datavising their vision directly into his neural nanonics. Three others were in the preparation compartment with him; Schutz, who didn't need a spacesuit to EVA, Antonio, and Jorge Leon. Marcus had managed to control his surprise when they'd volunteered. At the same time, with Wai flying the MSV he was glad they weren't going to be left behind in the ship.

Once his body was sealed by the silicon, he climbed into an armoured exoskeleton with an integral

cold-gas manoeuvring pack. The SII silicon would never puncture, but if he was struck by a rogue particle the armour would absorb the impact.

When the airlock's outer hatch opened, the MSV was floating 15 metres away. Marcus datavised an order into his manoeuvring pack processor, and the gas jets behind his shoulder fired, pushing him towards the small egg-shaped vehicle. Wai extended two of the MSV's three waido arms in greeting. Each of them ended in a simple metal grid, with a pair of boot clamps on both sides.

Once all four of her passengers were locked into place, Wai piloted the MSV in towards the disc. The rock particle had a slow, erratic tumble, taking 120 hours to complete its cycle. As she approached, the flattish surface with the dish was just turning into the sunlight. It was a strange kind of dawn, the rock's crumpled grey-brown crust speckled by the sharp black shadows of its own rolling prominences, while the dish was a lake of infinite black, broken only by the jagged spire of the horn rising from its centre. The xenoc ship was already exposed to the amber light, casting its bloated sundial shadow across the featureless glassy cliff. She could see the ripple of different ores and mineral strata frozen below the glazed surface, deluding her for a moment that she was flying towards a mountain of cut and polished onyx. Then again, if Victoria's theory was right, she could well be.

"Take us in towards the top of the wedge," Marcus datavised. "There's a series of darker rectangles there."

"Will do," she responded. The MSV's chemical thrusters pulsed in compliance.

"Do you see the colour difference near the frayed edges of the shell?" Schutz asked. "The stuff's turning grey. It's as if the decay is creeping inwards."

"They must be using something like our molecular binding force generators to resist vacuum ablation," Marcus datavised. "That's why the main section's still intact."

"It could have been here for a long time, then."

"Yeah. We'll know better once Wai collects some samples from the tower."

There were five of the rectangles, arranged in parallel, one and a half metres long and one metre wide. The shell material below the shorter edge of each one had a set of ten grooves leading away down the curve.

"They look like ladders to me," Antonio datavised. "Would that mean these are airlocks?"

"It can't be that easy," Schutz replied.

"Why not?" Marcus datavised. "A ship this size is bound to have more than one airlock."

"Yeah, but five together?"

"Multiple redundancy."

"With technology this good?"

"That's human hubris. The ship still blew up, didn't it?"

Wai locked the MSV's attitude 50 metres above the shell section. "The micropulse radar is bouncing right back at me," she informed them. "I can't tell what's below the shell, it's a perfect electromagnetic reflector. We're going to have communication difficulties once you're inside."

Marcus disengaged his boots from the grid and fired his pack's gas jets. The shell was as slippery as ice, neither stikpads nor magnetic soles would hold them to it.

"Definitely enhanced valency bonds," Schutz datavised. He was floating parallel to the surface, holding a sensor block against it. "It's a much stronger field than Lady Mac's. The shell composition is a real mix; the resonance scan is picking up titanium, silicon, boron, nickel, silver, and a whole load of polymers."

"Silver's weird," Marcus commented. "But if there's nickel in it our magnetic soles should've worked." He manoeuvred himself over one of the rectangles. It was recessed about five centimetres, though it blended seamlessly into the main shell. His sensor collar couldn't detect any seal lining. Halfway along one side were two circular dimples, ten centimetres across. Logically, if the rectangle was an airlock, then these should be the controls. Human back-ups were kept simple. This shouldn't be any different.

Marcus stuck his fingers in one. It turned bright blue.

"Power surge," Schutz datavised. "The block's picking up several high voltage circuits activating under the shell. what did you do, Marcus?"

"Tried to open one."

The rectangle dilated smoothly, material flowing back to the edges. Brilliant white light flooded out.

"Clever," Schutz datavised.

"No more than our programmable silicon," Antonio retorted.

"We don't use programmable silicon for external applications."

"It settles one thing," Marcus datavised. "They weren't Kant, not with an airlock this size."

"Quite. What now?"

"We try to establish control over the cycling mechanism. I'll go in and see if I can operate the hatch from inside. If it doesn't open after ten minutes, try the dimple again. If that doesn't work, cut through it with the MSV's fission blade."

The chamber inside was thankfully bigger than the hatch: a pentagonal tube two metres wide and 15 long. Four of the walls shone brightly, while the fifth was a strip of dark-maroon composite. He drifted in, then flipped himself over so he was facing the hatch, floating in the centre of the chamber. There were four dimples just beside the hatch. "First one," he datavised. Nothing happened when he put his fingers in. "Second." It turned blue. The hatch flowed shut.

Marcus crashed down onto the strip of dark composite, landing on his left shoulder. The force of the impact was almost enough to jar the respirator tube out of his mouth. He grunted in shock. Neural nanonics blocked the burst of pain from his bruised shoulder. Jesus! They've got artificial gravity. He was flat on his back, the exoskeleton and manoeuvring pack weighing far too much. Atever planet the xenocs came from, it had a gravit ' field about one and a half times that of Earth. He released the catches down the side of his exoskeleton, and wriggled his way out. Standing was an effort, but he was used to bigger gees on Lady Mac-, admittedly not for prolonged periods, though.

He stuck his fingers in the first dimple. The gravity faded fast, and the hatch flowed apart.

"We just became billionaires," he datavised.

The third dimple pressurized the airlock chamber; while the fourth depressurized it.

The xenoc atmosphere was mostly a nitrogen oxygen blend, with one percent argon and six percent carbon dioxide. The humidity was appalling, pressure was lower than standard, and the temperature was 42 degrees Celsius.

"We'd have to keep our SII suits on anyway, because of the heat," Marcus datavised. "But the carbon dioxide would kill us. And we'll have to go through biological decontamination when we go back to Lady Mac."

The four of them stood together at the far end of the airlock chamber, their exoskeleton armour lying on the floor behind them. Marcus had told Wai and the rest of the crew their first foray would be an hour.

"Are you proposing we go in without a weapon?" Jorge asked.

Marcus focused his collar sensors on the man who alleged he was a hardware technician. "That's carrying paranoia too far. No, we do not engage in first contact either deploying or displaying weapons of any kind. That's the law, and the Assembly regulations are very specific about it. In any case, don't you think that if there are any xenocs left after all this time they're going to be glad to see someone? Especially a space-faring species."

"That is, I'm afraid, a rather naive attitude, Captain. You keep saying how advanced this starship is, and yet it suffered catastrophic damage. Frankly, an unbelievable amount of damage for an accident. Isn't it more likely this ship was engaged in some kind of battle?"

Which was a background worry Marcus had suffered right from the start. That this starship could ever fail was unnerving. But like physical constants, Murphy's Law would be the same the universe over. He'd entered the air-lock because intuition told him the wreck was safe for him personally. Somehow he doubted a man like Jorge would be convinced by that argument.

"If it's a warship, then it will be rigged to alert any surviving crew or flight computer of our arrival. Had they wanted to annihilate us, they would have done so by now. Lady Mac is a superb ship, but hardly in this class. So if they're waiting for us on the other side of this airlock, I don't think any weapon you or I can carry is going to make the slightest difference."

"Very well, proceed."

Marcus postponed the answer which came straight to mind, and put his fingers in one of the two dimples by the inner hatchway. It turned blue.

The xenoc ship wasn't disappointing, exactly, but Marcus couldn't help a growing sense of anticlimax. The artificial gravity was a fabulous piece of equipment, the atmosphere strange, the layout exotic. Yet for all that, it was just a ship; built from the universal rules of logical engineering. Had the xenocs themselves been there, it would have been so different. A whole new species with its history and culture. But they'd gone, so he was an archaeologist rather than an explorer.

They surveyed the first deck, which was made up from large compartments and broad hallways. The interior was made out of a pale-jade composite, slightly ruffled to a snake-skin texture. Surfaces always curved together, there were no real corners. Every ceiling emitted the same intense white glare, which their collar sensors compensated for. Arching doorways were all open, though they could still dilate if you used the dimples. The only oddity were 50-centimetre hemispherical blisters on the floor and walls, scattered completely at random.

There was an ongoing argument about the shape of the xenocs. They were undoubtedly shorter than humans, and they probably had legs, because there were spiral stairwells, although the steps were very broad, difficult for bipeds. Lounges had long tables with large, rounded stool-chairs inset with four deep ridges.

After the first 15 minutes it was clear that all loose equipment had been removed. Lockers, with the standard dilating door, were empty. Every compartment had its fitted furnishings and nothing more. Some were completely bare.

On the second deck there were no large compartments, only long corridors lined with grey circles along the centre of the walls. Antonio used a dimple at the side of one, and it dilated to reveal a spherical cell three metres wide. Its walls were translucent, with short lines of colour slithering round behind them like photonic fish.

"Beds?" Schutz suggested. "There's an awful lot of them."

Marcus shrugged. "Could be." He moved on, eager to get down to the next deck. Then he slowed, switching his collar focus. Three of the hemispherical blisters were following him, two gliding along the wall, one on the floor. They stopped when he did. He walked over to the closest, and waved his sensor block over it. "There's a lot of electronic activity inside it," he reported.

The others gathered round.

"Are they extruded by the wall, or are they a separate device?" Schutz asked.

Marcus switched on the block's resonance scan. "I'm not sure, I can't find any break in the composite round its base, not even a hairline fracture; but with their materials technology that doesn't mean much."

"Five more approaching," Jorge datavised. The blisters were approaching from ahead, three of them on the walls, two on the floor. They stopped just short of the group.

"Something knows we're here," Antonio datavised.

Marcus retrieved the CAB xenoc interface communication protocol from a neural nanonics memory cell. He'd stored it decades ago, all qualified starship crew were obliged to carry it along with a million and one other bureaucratic lunacies. His communication block transmitted the protocol using a multispectrum sweep. If the blister could sense them, it had to have some kind of electromagnetic reception facility. The communication block switched to laserlight, then a magnetic pulse.

"Nothing," Marcus datavised.

"Maybe the central computer needs time to interpret the protocol," Schutz datavised.

"A desktop block should be able to work that out."

"Perhaps the computer hasn't got anything to say to us."

"Then why send the blisters after us?"

"They could be autonomous, whatever they are."

Marcus ran his sensor block over the blister again, but there was no change to its electronic pattern. He straightened up, wincing at the creak of complaint his spine made at the heavy gravity. "Okay, our

hour is almost up anyway. We'll get back to Lady Mac and decide what stage two is going to be."

The blisters followed them all the way back to the stairwell they'd used. As soon as they started walking down the broad central hallway of the upper deck, more blisters started sliding in from compartments and other halls to stalk them.

The airlock hatch was still open when they got back, but the exoskeletons were missing.

"Shit," Antonio datavised. "They're still here, the bloody xenocs are here."

Marcus shoved his fingers into the dimple. His heartbeat calmed considerably when the hatch congealed behind them. The lock cycled obediently, and the outer rectangle opened.

"Wai," he datavised. "We need a lift. Quickly, please."

"On my way, Marcus."

"Strange way for xenocs to communicate," Schutz datavised. "What did they do that for? If they wanted to make sure we stayed, they could have disabled the airlock."

The MSV swooped over the edge of the shell, jets of twinkling flame shooting from its thrusters.

"Beats me," Marcus datavised. "But we'll find out."

Opinion on the ship was a straight split; the crew wanted to continue investigating the xenoc ship, Antonio and his colleagues wanted to leave. For once Jorge had joined them, which Marcus considered significant. He was beginning to think young Karl might have been closer to the truth than was strictly comfortable.

"The dish is just rock with a coating of aluminium sprayed on," Katherine said. "There's very little aluminium left now, most of it has boiled away in the vacuum. The tower is a pretty ordinary silicon-boron composite wrapped round a titanium load structure. The samples Wai cut off were very brittle."

"Did you carbon date them?" Victoria asked.

"Yeah." She gave her audience a laboured glance. "Give or take a decade, it's 13,000 years old."

Breath whistled out of Marcus's mouth. "Jesus."

"Then they must have been rescued, or died," Roman said. "There's nobody left over there. Not after that time."

"They're there," Antonio growled. "They stole our exoskeletons."

"I don't understand what happened to the exoskeletons. Not yet. But any entity who can build a ship like that isn't going to go creeping round stealing bits of space armour. There has to be a rational explanation."

"Yes! They wanted to keep us over there."

"What for? what possible reason would they have for that?"

"It's a warship, it's been in battle. The survivors don't know who we are, if we're their old enemies. If they kept us there, they could study us and find out."

"After 13,000 years, I imagine the war will be over. And where did you get this battleship idea from anyway?"

"It's a logical assumption," Jorge said quietly.

Roman turned to Marcus. "My guess is that some kind of mechanoid picked them up. If you look in one of the lockers you'll probably find them neatly stored away.

"Some automated systems are definitely still working," Schutz said. "We saw the blisters. There could be others."

"That seems the most remarkable part of it," Marcus said. "Especially now we know the age of the thing. The inside of that ship was brand new. There wasn't any dust, any scuff marks. The lighting worked perfectly, so did the grayity, the humidity hasn't corroded anything. It's extraordinary. As if the whole structure has been in zero-tau. And yet only the shell is protected by the molecular bonding force generators. They're not used inside, not in the decks we examined."

"However they preserve it, they'll need a lot of power for the job, and that's on top of gravity generation and environmental maintenance. Where's that been coming from uninterrupted for 13,000

years?"

"Direct mass to energy conversion," Katherine speculated. "Or they could be tapping straight into the sun's fusion. Whatever, bang goes the Edenist He3 monopoly."

"We have to go back," Marcus said.

"NO!" Antonio yelled. "We must find the gold first. When that has been achieved, you can come back by yourselves. I won't allow anything to interfere with our priorities."

"Look, I'm sorry you had a fright while you were over there. But a power supply that works for 13,000 years is a lot more valuable than a whole load of gold which we have to sell furtively," Katherine said levelly.

"I hired this ship. You do as I say. We go after the gold."

"We're partners, actually. I'm not being paid for this flight unless we strike lucky. And now we have. We've got the xenoc ship, we haven't got any gold. What does it matter to you how we get rich, as long as we do? I thought money was the whole point of this flight."

Antonio snarled at her, and flung himself at the floor hatch, kicking off hard with his legs. His elbow caught the rim a nasty crack as he flashed through it.

"Victoria?" Marcus asked as the silence became strained. "Have the satellite arrays found any heavy metal particles yet?"

"There are definitely traces of gold and platinum, but nothing to justify a rendezvous."

"In that case, I say we start to research the xec wreck properly." He looked straight at Jorge. "How about you?"

"I think it would be prudent. You're sure we can continue to monitor the array satellites from here?"

"Yes."

"Good. Count me in."

"Thanks. Victoria?"

She seemed troubled by Jorge's response, even a little bewildered, but she said: "Sure."

"Karl, you're the nearest thing we've got to a computer expert. I want you over there trying to make contact with whatever control network is still operating."

"You got it."

"From now on we go over in teams of four. I want sensors put up to watch the airlocks when we're not around, and start thinking about how we communicate with people inside. Wai, you and I are going to secure Lady Mac to the side of the shell. Okay, let's get active, people."

Unsurprisingly, none of the standard astronautics industry vacuum epoxies worked on the shell. Marcus and Wai wound up using tether cables wrapped round the whole of the xenoc ship to hold Lady Mac in place.

Three hours after Karl went over, he asked Marcus to join him.

Lady Mac's main airlock tube had telescoped out of the hull to rest against the shell. There was no way it could ever be mated to the xenoc airlock rectangle, but it did allow the crew to transfer over directly without having to use exoskeleton armour and the MSV. They'd also run an optical fibre through the xenoc airlock to the interior of the ship. The hatch material closed around it forming a perfect seal, rather than cutting through it.

Marcus found Karl just inside the airlock, sitting on the floor with several processor blocks in his lap. Eight blisters were slowly circling round him; two on the wall were stationary.

"Roman was almost right," he datavised as soon as Marcus stepped out of the airlock. "Your exoskeletons were cleared away. But not by any butler mechanoid. Watch." He lobbed an empty recording flak case onto the floor behind the blisters. One of them slid over to it. The green composite became soft, then liquid. The little plastic case sank through it into the blister.

"I call them cybermice," Karl datavised. "They just scurry around keeping the place clean. You won't see the exoskeletons again, they ate them, along with anything else they don't recognize as part of the ship's structure. I imagine they haven't tried digesting us yet because we're large and active; maybe they

think we're friends of the xenocs. But I wouldn't want to try sleeping over here."

"Does this mean we won't be able to put sensors up?"

"Not for a while. I've managed to stop them digesting the communication block which the optical fibre is connected to."

"How?"

He pointed to the two on the wall. "I shut them down."

"Jesus, have you accessed a control network?"

"No. Schutz and I used a micro SQUID on one of the cybermice to get a more detailed scan of its electronics. Once we'd tapped the databus traffic it was just a question of running standard decryption programmes. I can't tell you how these things work, but I have found some basic command routines. There's a deactivation code which you can datavise to them. I've also got a reactivation code, and some directional codes. The good news is that the xenoc programme language is standardized." He stood and held a communication block up to the ceiling. "This is the deactivation code." A small circle of the ceiling around the block turned dark. "It's only localized, I haven't worked out how to control entire sections yet. We need to trace the circuitry to find an access port."

"Can you turn it back on again?"

"Oh yes." The dark section flared white again. "The codes work for the doors as well; just hold your block over the dimples."

"Be quicker to use the dimples."

"For now, yes."

"I wasn't complaining, Karl. This is an excellent start. What's your next step?"

"I want to access the next level of the cybermice programme architecture. That way I should be able to load recognition patterns in their memory. Once I can do that I'll enter our equipment, and they should leave it alone. But that's going to take a long time; Lady Mac isn't exactly heavily stocked with equipment for this kind of work. Of course, once I do get deeper into their management routines we should be able to learn a lot about their internal systems. From what I can make out the cybermice are built around a molecular synthesizer." He switched on a fission knife, its ten-centimetre blade glowing a pale yellow under the ceiling's glare. It scored a dark smouldering scar in the floor composite.

A cybermouse immediately slipped towards the blemish. This time when the composite softened the charred granules were sucked down, and the small valley closed up.

"Exactly the same thickness and molecular structure as before," Karl datavised. "That's why the ship's interior looks brand new, and everything's still working flawlessly after 13,000 years. The cybermice keep regenerating it. Just keep giving them energy and a supply of mass and there's no reason this ship won't last for eternity."

"It's almost a Von Neumann machine, isn't it?"

"Close. I expect a synthesizer this small has limits. After all, if it could reproduce anything, they would have built themselves another starship. But the principle's here, Captain. We can learn and expand on it. Think of the effect a unit like this will have on our manufacturing industry."

Marcus was glad he was in an SII suit, it blocked any give-away facial expressions. Replicator technology would be a true revolution, restructuring every aspect of human society, Adamist and Edenist alike. And revolutions never favoured the old.

I just came here for the money, not to destroy a way of life for 800 star systems. "That's good, Karl. Where did the others go?"

"Down to the third deck. Once we solved the puzzle of the disappearing exoskeletons, they decided it was safe to start exploring again."

"Fair enough, I'll go down and join them."

"I cannot believe you agreed to help them," Antonio stormed. "You of all people. You know how much the cause is depending on us."

Jorge gave him a hollow smile. They were together in his sleeping cubicle, which made it very

cramped. But it was one place on the starship he knew for certain no sensors were operational; a block he'd brought with him had made sure of that. "The cause has become dependent on your project. There's a difference."

"What are you talking about?"

"Those detector satellites cost us a million and a half fuseodollars each; and most of that money came from sources who will require repayment no matter what the outcome of our struggle."

"The satellites are a hell of a lot cheaper than antimatter."

"Indeed so. But they are worthless to us unless they find pitchblende."

"We'll find it. Victoria says there are plenty of traces. It's only a question of time before we get a big one."

"Maybe. It was a good idea, Antonio, I'm not criticising. Fusion bomb components are not easily obtainable to a novice political organization with limited resources. One mistake, and the intelligence agencies would wipe us out. No, old-fashioned fission was a viable alternative. Even if we couldn't process the uranium up to weapons-quality, we can still use it as a lethal large-scale contaminant. As you say, we couldn't lose. Sonora would gain independence, and we would form the first government, with full access to the Treasury. Everyone would be reimbursed for their individual contribution to the liberation."

"So why are we mucking about in a pile of xenoc junk? Just back me up, Jorge, please. Calvert will leave it alone if we both pressure him."

"Because, Antonio, this piece of so-called xenoc junk has changed the rules of the game. In fact we're not even playing the same game any more. Gravity generation, an inexhaustible power supply, molecular synthesis, and if Karl can access the control network he might even find the blueprints to build whatever stardrive they used. Are you aware of the impact such a spectrum of radical technologies will have upon the Confederation when released all together? Entire industries will collapse from overnight obsolescence. There will be an economic depression the like of which we haven't seen since before the invention of the ZTT drive. It will take decades for the human race to return to the kind of stability we enjoy today. We will be richer and stronger because of it; but the transition years, ah ... I would not like to be a citizen in an asteroid settlement that has just blackmailed the founding company into premature independence. Who is going to loan an asteroid such as that the funds to re-equip our industrial stations, eh?"

"I ... I hadn't thought of that."

"Neither has the crew. Except for Calvert. Look at his face next time you talk to him, Antonio. He knows, he has reasoned it out, and he's seen the end of his captaincy and freedom. The rest of them are lost amid their dreams of exorbitant wealth."

"So what do we do?"

Jorge clamped a hand on Antonio's shoulder. "Fate has smiled on us, Antonio. This was registered as a joint venture flight. No matter we were looking for something different. By law, we are entitled to an equal share of the xenoc technology. We are already trillionaires, my friend. When we get home we can buy Sonora asteroid; Holy Mother, we can buy the entire Lagrange cluster."

Antonio managed a smile, which didn't quite correspond with the dew of sweat on his forehead.

"Okay, Jorge. Hell, you're right. We don't have to worry about anything any more. But.."

"Now what?"

"I know we can pay off the loan on the satellites, but what about the Crusade council? They won't like this. They might-"

"There's no cause for alarm. The council will never trouble us again. I maintain that I am right about the disaster which destroyed the xenoc ship. It didn't have an accident. That is a warship, Antonio. And you know what that means, don't you? Somewhere on board there will be weapons just as advanced and as powerful as the rest of its technology."

It was Wai's third trip over to the xenoc ship. None of them spent more than two hours at a time

inside. The gravity field made every muscle ache, walking round was like being put on a crash exercise regimen.

Schutz and Karl were still busy by the airlock, probing the circuitry of the cybermice, and decrypting more of their programming. It was probably the most promising line of research; once they could use the xenoc programme language they should be able to extract any answer they wanted from the ship's controlling network. Assuming there was one. Wai was convinced there would be. The number of systems operating-life-support, power, gravity-had to mean some basic management integration system was functional.

In the meantime there was the rest of the structure to explore. She had a layout file stored in her neural nanonics, updated by the others every time they came back from an excursion. At the blunt end of the wedge there could be anything up to 40 decks, if the spacing was standard. Nobody had gone down to the bottom yet. There were some areas which had no obvious entrance- presumably engineering compartments, or storage tanks. Marcus had the ;ams tracing the main power lines with magnetic sensors, trying to locate the generator.

Wai plodded after Roman as he followed a cable running down the centre of a corridor on the eighth deck.

"It's got so many secondary feeds it looks like a fishbone," he complained. They paused at a junction with five branches, and he swept the block round. "This way." He started off down one of the new corridors.

"We're heading towards stairwell five," she told him, as the layout file scrolled through her skull.

There were more cybermice than usual on deck eight; over 30 were currently pursuing her and Roman, creating strong ripples in the composite floor and walls. Wai had noticed that the deeper she went into the ship the more of them there seemed to be. Although after her second trip she'd completely ignored them. She wasn't paying a lot of attention to the compartments leading off from the corridors, either. It wasn't that they were all the same, rather that they were all similarly empty.

They reached the stairwell, and Roman stepped inside. "It's going down," he datavised.

"Great, that means we've got another level to climb up when we're finished."

Not that going down these stairs was easy, she acknowledged charily. If only they could find some kind of variable gravity chute. Perhaps they'd all been positioned in the part of the ship that was destroyed.

"You know, I think Marcus might have been right about the dish being an emergency beacon," she datavised. "I can't think of any other reason for it being built. Believe me, I've tried."

"He always is right. It's bloody annoying, but that's why I fly with him."

"I was against it because of the faith gap."

"Say what?"

"The amount of faith these xenocs must have had in themselves. It's awesome. So different from humans. Think about it. Even if their homeworld is only 2,000 light years away, that's how long the message is going to take to reach there. Yet they sent it believing someone would still be around to receive it, and more, act on it. Suppose that was us; suppose the Lady Mac had an accident a thousand light years away. Would you think there was any point in sending a lightspeed message to the Confederation, then going into zero-tall to wait for a rescue ship?"

"If their technology can last that long, then I guess their civilization can, too."

"No, our hardware can last for a long time. It's our culture that's fragile, at least compared to theirs. I don't think the Confederation will last a thousand years.

"The Edenists will be here, I expect. So will all the planets, physically if nothing else. Some of their societies will advance, possibly even to a state similar to the Kant; some will revert to barbarism. But there will be somebody left to hear the message and help."

"You're a terrible optimist."

They arrived at the ninth deck, only to find the doorway was sealed over with composite.

"Odd," Ronian datavised. "If there's no corridor or compartment beyond, why put a doorway here at all?"

"Because this was a change made after the accident."

"Could be. But why would they block off an interior section?"

"I've no idea. You want to keep going down?"

"Sure. I'm optimistic enough not to believe in ghosts lurking in the basement."

"I really wish you hadn't said that."

The tenth deck had been sealed off as well. "My legs can take one more level," Wai datavised. "Then I'm going back."

There was a door on deck I I. It was the first one in the ship to be closed.

Wai stuck her fingers in the dimple, and the door dilated. She edged over cautiously, and swept the focus of her collar sensors round. "Holy shit. We'd better fetch Marcus."

Decks nine and ten had simply been removed to make the chamber. Standing on the floor and looking up, Marcus could actually see the outline of the stairwell doorways in the wall above him. By xenoc standards it was a cathedral. There was only one altar, right in the centre. A doughnut of some dull metallic substance, eight metres in diameter with a central aperture five metres across; the air around it was emitting a faint violet glow. It stood on five sableblack arching buttresses, four metres tall.

"The positioning must be significant," Wai datavised. "They built it almost at the centre of the wreck. They wanted to give it as much protection as possible."

"Agreed," Katherine replied. "They obviously considered it important. After a ship has suffered this much damage, you don't expend resources on anything other than critical survival requirements."

"Whatever it is," Schutz reported. "It's using up an awful lot of power." He was walking round it, keeping a respectful distance, wiping a sensor block over the floor as he went, "here's a power cable feeding each of those legs."

"Is it radiating in any spectrum?" Marcus asked.

"Only that light you can see, which spills over into ultraviolet, too. Apart from that, it's inert. But the energy must be going somewhere."

"Okay." Marcus walked up to a buttress, and switched his collar focus to scan the aperture. It was veiled by a grey haze, as if a sheet of fog had solidified across it. When he took another tentative step forward the fluid in his semicircular canals was suddenly affected by a very strange tidal force. His foot began to slip forwards and upwards. He threw himself backwards, and almost stumbled. Jorge and Karl just caught him in time.

"There's no artificial gravity underneath it," he datavised. "But there's some kind of gravity field wrapped around it." He paused. "No, that's not right. It pushed me."

"Pushed?" Katherine hurried to his side. "Are you sure?"

"Yes."

"My God."

"What? Do you know what it is?"

"Possibly. Schutz, bang on to my arm, please."

The cosmonik came forward and took her left arm. Katherine edged forward until she was almost under the lambent doughnut. She stretched up her right arm, holding out a sensor block, and tried to press it against the doughnut. It was as if she was trying to make two identical magnetic poles touch. The block couldn't get to within 20 centimetres of the surface, it kept slithering and sliding through the air. She held it as steady as she could, and datavised it to run an analysis of the doughnut's molecular structure. The results made her back away. "So?" Marcus asked.

"I'm not entirely sure it's solid in any reference frame we understand. That surface could just be a boundary effect. There's no spectroscopic data at all, the sensor couldn't even detect an atomic structure in there, let alone valency bonds."

"You mean it's a ring of energy?"

"Don't hold me to it, but I think that thing could be some kind of exotic matter."

"Exotic in what sense, exactly?" Jorge asked.

"It has a negative energy density. And before you ask, that doesn't mean antigravity. Exotic matter only has one known use, to keep a wormhole open."

"Jesus, that's a wormhole portal?" Marcus asked.

"It must be."

"Any way of telling where it leads?"

"I can't give you an exact stellar coordinate; but I know where the other end has to emerge. The xenocs never called for a rescue ship, Marcus. They threaded a wormhole with exotic matter to stop it collapsing, and escaped down it. That is the entrance to a tunnel which leads right back to their homeworld."

Schutz found Marcus in the passenger lounge in capsule C. He was floating centimetres above one of the flat chairs, with the lights down low.

The cosmonik touched his heels to a stikpad on the decking beside the lower hatch. "You really don't like being wrong, do you?"

"No, but I'm not sulking about it, either." Marcus moulded a jaded grin. "I still think I'm right about the dish, but I don't know how the hell to prove it."

"The wormhole portal is rather conclusive evidence."

"Very tactful. It doesn't solve anything, actually. If they could open a wormhole straight back home, why did they build the dish? Like Katherine said, if you have an accident of that magnitude then you devote yourself completely to survival. Either they called for help, or they went home through the wormhole. They wouldn't do both."

"Possibly it wasn't their dish, they were just here to investigate it."

"Two ancient unknown xenoc races with FTL starship technology is pushing credibility. It also takes us back to the original problem: if the dish isn't a distress beacon, then what the hell was it built for?"

"I'm sure there will be an answer at some time."

"I know, we're only a commercial trader's crew, with a very limited research capability. But we can still ask fundamental questions, like why have they kept the wormhole open for 13,000 years?"

"Because that's the way their technology works. They probably wouldn't consider it odd."

"I'm not saying it shouldn't work for that long, I'm asking why their homeworld would bother maintaining a link to a chunk of derelict wreckage?"

"That is harder for logic to explain. The answer must lie in their psychology."

"That's a cop-out; you can't simply cry alien at everything you don't understand. But it does bring us to my final query, if you can open a wormhole with such accuracy across God knows how many light years, why would you need a starship in the first place? What sort of psychology accounts for that?"

"All right, Marcus, you got me. Why?"

"I haven't got a clue. I've been reviewing all the file texts we have on wormholes, trying to find a solution which pulls all this together. And I can't do it. It's a complete paradox."

"There's only one thing left then, isn't there?"

Marcus turned to look at the hulking figure of the cosmonik. "What?"

"Go down the wormhole and ask them."

"Yeah, maybe I will. Somebody has to go eventually. What does our dear Katherine have to say on that subject? Can we go inside it in our SII suits?"

"She's rigging up some sensors that she can shove through the interface. That grey sheet isn't a physical barrier. She's already pushed a length of conduit tubing through. It's some kind of pressure membrane, apparently, stops the ship's atmosphere from flooding into the wormhole."

"Another billion fuseodollar gadget. Jesus, this is getting too big for us, we're going to have to prioritize." He datavised the flight computer, and issued a general order for everyone to assemble in capsule A's main lounge.

Karl was the last to arrive. The young systems engineer looked exhausted. He frowned when he caught sight of Marcus.

"I thought you were over in the xenoc ship."

"No."

"But you .. ." He rubbed his fingers against his temples. "Skip it."

"Any progress?" Marcus asked.

"A little. From what I can make out, the molecular synthesizer and its governing circuitry are combined within the same crystal lattice. To give you a biological analogy, it's as though a muscle is also a brain."

"Don't follow that one through too far," Roman called.

Karl didn't even smile. He took a chocolate sac from the dispenser, and sucked on the nipple.

"Katherine?" Marcus said.

"I've managed to place a visual-spectrum sensor in the wormhole. There's not much light in there, only what soaks through the pressure membrane. From what we can see it's a straight tunnel. I assume the xenocs cut off the artificial gravity under the portal so they could egress it easily. What I'd like to do next is dismount a laser radar from the MSV and use that."

"If the wormhole's threaded with exotic matter, will you get a return from it?"

"Probably not. But we should get a return from whatever is at the other end."

"What's the point?"

Three of them began to talk at once, Katherine loudest of all. Marcus held his hand up for silence.

"Listen, everybody, according to Confederation law if the appointed commander or designated controlling mechanism of a spaceship or free-flying space structure discontinues that control for one year and a day then any ownership title becomes null and void. Legally, this xenoc ship is an abandoned structure which we are' entitled to file a salvage claim on."

"There is a controlling network," Karl said.

"It's a sub-system," Marcus said. "The law is very clear on that point. If a starship's flight computer fails, but, say, the fusion generators keep working, their governing processors do not constitute the designated controlling mechanism. Nobody will be able to challenge our claim."

"The xenocs might," Wai said.

"Let's not make extra problems for ourselves. As the situation stands right now, we have title. We can't not claim the ship because the xenocs may return at some time."

Katherine rocked her head in understanding. "If we start examining the wormhole they might come back, sooner rather than later. Is that what you're worried about?"

"It's a consideration, yes. Personally, I'd rather like to meet them. But, Katherine, are you really going to learn how to build exotic matter and open a wormhole with the kind of sensor blocks we've got?"

"You know I'm not, Marcus."

"Right. Nor are we going to find the principle behind the artificial gravity generator, or any of the other miracles on board. What we have to do is catalogue as much as we can, and identify the areas that need researching. Once we've done that we can bring back the appropriate specialists, pay them a huge salary, and let them get on with it. Don't any of you understand yet? When we found this ship, we stopped being starship crew, and turned into the highest-flying corporate executives in the galaxy. We don't pioneer any more, we designate. So, we map out the last remaining decks. We track the power cables and note what they power. Then we leave."

"I know I can crack their programme language, Marcus," Karl said. "I can get us into the command network."

Marcus smiled at the weary pride in his voice. "Nobody is going to be more pleased about that than me, Karl. One thing I do intend to take with us is a cybermouse, preferably more than one. That molecular synthesizer is the hard evidence we need to convince the banks of what we've got."

Karl blushed. "Uh, Marcus, I don't know what'll happen if we try and cut one out of the composite. So far we've been left alone-, but if the network thinks we're endangering the ship. Well .. ."

"I'd like to think we're capable of something more sophisticated than ripping a cybermouse out of the composite. Hopefully, you'll be able to access the network, and we can simply ask it to replicate a molecular synthesizer unit for us. They have to be manufactured somewhere on board."

"Yeah, I suppose they do. Unless the cybermice duplicate themselves."

"Now that'd be a sight," Roman said happily. "One of them humping away on top of the other."

His neural nanonics time function told Karl he'd slept for nine hours. After he wriggled out of his sleep pouch he air-swam into the crew lounge and helped himself to a pile of food sachets from the galley. There wasn't much activity in the ship, so he didn't even bother to access the flight computer until he'd almost finished eating. Katherine was on watch when he dived into the bridge through the floor hatch. "Who's here?" he asked breathlessly. "Who else is on board right now?"

"Just Roman. The rest of them are all over on the wreck. Why?"

"Shit."

"Why, what's the matter?"

"Have you accessed the flight computer?"

"I'm on watch, of course I'm accessing."

"No, not the ship's functions. The satellite analysis network Victoria set up."

Her flat features twisted into a surprised grin. "You mean they've found some gold?"

"No way. The network was reporting that satellite seven had located a target deposit three hours ago. When I accessed the network direct to follow it up I found out what the search parameters really are. They're not looking for gold, those bastards are here to get pitchblende."

"Pitchblende?" Katherine had to run a search programme through her neural nanonics encyclopedia to find out what it was. "Oh Christ, uranium. They want uranium."

"Exactly. You could never mine it from a planet without the local government knowing; that kind of operation would be easily spotted by the observation satellites. Asteroids don't have deposits of pitchblende. But planetoids do, and out here nobody is going to know that they're scooping it up."

"I knew it! I bloody knew that fable about gold mountains was a load of balls."

"They must be terrorists, or Sonora independence freaks, or black syndicate members. We have to warn the others, we can't let them back on board Lady Mac."

"Wait a minute, Karl. Yes, they're shits, but if we leave them over on the wreck they'll die. Even if you're prepared to do that, it's the captain's decision."

"No it isn't, not any more. If they come back then neither you, me, nor the captain is going to be in any position to make decisions about anything. They knew we'd find out about the pitchblende eventually when Lady Mac rendezvoused with the ore particle. They knew we wouldn't take it on board voluntarily. That means they came fully prepared to force us. They've got guns, or weapons implants. Jorge is exactly what I said he was, a mercenary killer. We can't let them back on the ship, Katherine. We can't."

"Oh Christ," she was gripping the side of her acceleration couch in reflex. Command decision. And it was all hers.

"Can we datavise the captain?" he asked.

"I don't know. We've got relay blocks in the stairwells now the cybermice have been deactivated, but they're not very reliable; the structure plays hell with our signals."

"Who's he with?"

"He was partnering Victoria. Wai and Schutz are together; Antonio and Jorge made up the last team."

"Datavise Wai and Schutz, get them out first. Then try for the captain."

"Okay. Get Roman, and go down to the airlock chamber; I'll authorize the weapons cabinet to release some maser carbines ... Shit!"

"What?"

"I can't. Marcus has the flight computer command codes. We can't even fire the thrusters without him."

Deck 14 appeared no different from any other as Marcus and Victoria wandered through it. The corridors were broad, and there were few doorways.

"About 60 percent is sealed off," Marcus datavised. "This must be a major engineering level."

"Yeah. There's so many cables around here I'm having trouble cataloguing the grid." She was wiping a magnetic sensor block slowly from side to side as they walked.

His communication block reported it was receiving an encrypted signal from the Lady Mac. Sheer surprise made him halt. He retrieved the appropriate code file from a neural nanonics memory cell.

"Captain?"

"What's the problem, Katherine?"

"You've got to get back to the ship. Now, Captain, and make sure Victoria doesn't come with you."

"Why?"

"Captain, this is Karl. The array satellites are looking for pitchblende, not gold or platinum. Antonio's people are terrorists, they want to build fission bombs."

Marcus focused his collar sensors on Victoria, who was waiting a couple of metres down the corridor. "Where's Schutz and Wai?"

"On their way back," Katherine datavised. "They should be here in another five minutes."

"Okay, it's going to take me at least half an hour to get back." He didn't like to think about climbing 14 flights of stairs fast, not in this gravity. "Start prepping the ship."

"Captain, Karl thinks they're probably armed."

Marcus's communication block reported another signal coming on line.

"Karl is quite right," Jorge datavised. "We are indeed armed; and we also have excellent processor blocks and decryption programmes. Really, Captain, this code of yours is at least three years out of date."

Marcus saw Victoria turn towards him. "Care to comment on the pitchblende?" he asked.

"I admit, the material would have been of some considerable use to us," Jorge replied. "But of course, this wreck has changed the Confederation beyond recognition, has it not, Captain?"

"Possibly."

"Definitely. And so we no longer require the pitchblende."

"That's a very drastic switch of allegiance."

"Please, Captain, do not be facetious. The satellites were left on purely for your benefit; we didn't wish to alarm you."

"Thank you for your consideration."

"Captain," Katherine datavised. "Schutz and Wai are in the airlock."

"I do hope you're not proposing to leave without us," Jorge datavised. "That would be most unwise."

"You were going to kill us," Karl datavised.

"That is a hysterical claim. You would not have been hurt."

"As long as we obeyed, and helped you slaughter thousands of people."

Marcus wished Karl would stop being quite so blunt. He had few enough options as it was.

"Come now, Captain," Jorge said. "The Lady Macbeth is combat-capable; are you telling me you have never killed people in political disputes?"

"We've fought. But only against other ships."

"Don't try and claim the moral high ground, Captain. War is war, no matter how it is fought."

"Only when it's between soldiers; anything else is terrorism."

"I assure you, we have put our old allegiance behind us. I ask you to do the same. This quarrel is foolish in the extreme. We both have so much to gain."

And you're armed, Marcus filled in silently. Jorge and Antonio were supposed to be inspecting decks 12 and 13. It would be tough if not impossible getting back to the airlock before them. But I can't trust them on Lady Mac.

"Captain, they're moving," Katherine datavised. "The communication block in stairwell three has acquired them, strength one. They must be coming up."

"Victoria," Jorge datavised. "Restrain the captain and bring him to the airlock."

I advise all of you on the ship to remain calm, we can still find a peaceful solution to this situation."

UNARMED combat programmes went primary in Marcus's neural nanonics. The black, featureless figure opposite him didn't move.

"Your call," he datavised. According to his tactical analysis programme she had few choices. Jorge's order implied she was armed, though a scan of her utility belt didn't reveal anything obvious other than a standard fission blade. If she went for a gun he would have an attack window. If she didn't, then he could probably stay ahead of her. She was a lot younger, but his geneered physique should be able to match her in this gravity field.

Victoria dropped the sensor block she was carrying, and moved her hand to her belt. She grabbed the multipurpose power tool and started to bring it up.

Marcus slammed into her, using his greater mass to throw her off balance. She was hampered by trying to keep her grip on the tool. His impact made her sway sideways, then the fierce xenoc gravity took over. She toppled helplessly, failing fast. The power tool was swinging round to point at him. Marcus kicked her hand, and the unit skittered away. It didn't slide far, the gravity saw to that.

Victoria landed with a terrible thud. Her neural nanonics medical monitor programme flashed up an alert that the impact had broken her collar bone. Axon blocks came on line, muting all but the briefest pulse of pain. It was her programmes again which made her twist round to avoid any follow-on blow, her conscious mind was almost unaware of the fact she was still moving. A hand scrabbled for the power tool. She snatched it and sat up. Marcus was disappearing down a side corridor. She fired at him before the targeting programme even gave her an overlay grid.

"Jorge," she datavised. "I've lost him."

"Then get after him."

Marcus's collar sensors showed him a spray of incendiary droplets fizzing out of the wall barely a metre behind him. The multipurpose tool must be some kind of laser pistol. "Katherine," he datavised. "Retract Lady Mac's airlock tube. Now. Close the outer hatch and codelock it. They are not to come on board."

"Acknowledged. How do we get you back?"

"Yes, Captain," Jorge datavised. "Do tell."

Marcus dodged down a junction. "Have Wai stand by. When I need her, I'll need her fast."

"You think you can cut your way out of the shell, Captain? You have a fission blade, and that shell is held together by a molecular bonding generator."

"You touch him, shithead, and we'll fry that wreck," Karl datavised. "Lady Mac's got maser cannons."

"But do you have the command codes, I wonder. Captain?"

"Communication silence," Marcus ordered. "When I want you, I'll call."

Jorge's boosted muscles allowed him to ascend stairwell three at a speed which Antonio could never match. He was soon left struggling along behind. The airlock was the tactical high ground, once he had secured that, Jorge knew he'd won. As he climbed his hands moved automatically, assembling the weapon from various innocuous-looking pieces of equipment he was carrying on his utility belt.

"Victoria?" he datavised. "Have you got him?"

"No. He broke my shoulder, the bastard. I've lost him."

"Go to the nearest stairwell, I expect that's what he's done. Antonio, go back and meet her. Then start searching for him."

"Is that a joke?" Antonio asked. "He could be anywhere."

"No he's not. He has to come up. Up is where the airlock is."

"Yes, but--"

"Don't argue. And when you find him, don't kill him. We have to have him alive. He's our ticket out. Our only ticket, understand?"

"Yes, Jorge."

When he reached the airlock, Jorge closed the inner hatch and cycled the chamber. The outer hatch dilated to show him the Lady Macbeth's fuselage 15 metres away. Her airlock tube had retracted, and the fuselage shield was in place.

"This is a no-win stand-off," he datavised. "Captain, please come up to the airlock. You have to deal with me, you have no choice. The three of us will leave our weapons over here, and then we can all go back on board together. And when we return to a port none of us will mention this unfortunate incident again. That is reasonable, surely?"

Schutz had just reached the bridge when they received Jorge's datavise.

"Damn! He's disconnected our cable from the communication block," Karl said. "We can't call the captain now even if we wanted to."

Schutz rolled in midair above his acceleration couch and landed gently on the cushioning. Restraint webbing slithered over him.

"What the hell do we do now?" Roman asked. "Without the command codes we're bloody helpiess."

"It wouldn't take that long for us to break open the weapons cabinet," Schutz said. "They haven't got the captain. We can go over there and hunt them down with the carbines."

"I can't sanction that," Katherine said. "God knows what sort of weapons they have."

"Sanction it? We put it to the vote."

"It's my duty watch. Nobody votes on anything. The last order the captain gave us was to wait. We wait." She datavised the flight computer for a channel to the MSV. "Wai, status please?"

"Powering up. I'll be ready for a flight in two minutes."

"Thank you."

"We have to do something!" Karl said.

"For a start you can calm down," Katherine told him. "We're not going to help Marcus by doing anything rash. He obviously had something in mind when he told Wai to get ready."

The hatchway to the captain's cabin slid open. Marcus air-swam out and grinned round at their stupefied expressions. "Actually, I didn't have any idea what to do when I said that. I was stalling."

"How the hell did you get back on board?" Roman yelled.

Marcus looked at Katherine and gave her a lopsided smile. "By being right, I'm afraid. The dish is a distress beacon."

"So what?" she whispered numbly.

He drifted over to his acceleration couch and activated the webbing. "It means the wormhole doesn't go back to the xenoe homeworld."

"You found out how to use it!" Karl exclaimed. "You opened its other end inside the Lady Mac."

"No. There is no other end. Yes, they built it as part of their survival operation. It was their escape route, you were right about that. But it doesn't go somewhere; it goes somewhen."

Instinct had brought Marcus to the portal chamber. It was as good as any other part of the ship. Besides, the xenocs had escaped their predicament from here. In a remote part of his mind he assumed that ending up on their homeworld was preferable to capture here by Jorge. It wasn't the kind of choice he wanted to make.

He walked slowly round the portal. The pale violet emanation in the air around it remained constant, hazing the dull surface from perfect observation. That and a faint hum were the only evidence of the massive quantity of power it consumed. Its eternal stability a mocking enigma.

Despite all the logic of argument he knew Katherine was wrong. Why build the dish if you had this ability? And why keep it operational?

That factor must have been important to them. It had been built in the centre of the ship, and built to last. They'd even reconfigured the wreck to ensure it lasted. Fine, they needed reliability, and they were masters of material science. But a one-off piece of emergency equipment lasting 13,000 years? There must be a reason, and the only logical one was that they knew they would need it to remain functional so they could come back one day.

The SII suit prevented him from smiling as realization dawned. But it did reveal a shiver ripple along his limbs as the cold wonder of the knowledge struck home.

On the Lady Mac's bridge, Marcus said: "We originally assumed that the xenocs would just go into zero-tall and wait for a rescue ship; because that's what we would do. But their technology allows them to take a much different approach to engineering problems."

"The wormhole leads into the future," Roman said in astonishment.

"Almost. It doesn't lead anywhere but back to itself, so the length inside it represents time not space. As long as the portal exists you can travel through it. The xenocs went in just after they built the dish and came out again when their rescue ship arrived. That's why they built the portal to survive so long. It had to carry them through a great deal of time."

"How does that help you get here?" Katherine asked. "You're trapped over in the xenoc wreckage right now, not in the past."

"The wormhole exists as long as the portal does. It's an open tube to every second of that entire period of existence, you're not restricted which way you travel through it."

In the portal chamber Marcus approached one of the curving black buttress legs. The artificial gravity was off directly underneath the doughnut so the xenocs could rise into it. But they had been intent on travelling into the future.

He started to climb the buttress. The first section was the steepest; he had to clamp his hands behind it, and haul himself up. Not easy in that gravity field. It gradually curved over, flattening out at the top, leaving him standing above the doughnut. He balanced there precariously, very aware of the potentially lethal fall down onto the floor.

The doughnut didn't look any different from this position, a glowing ring surrounding the grey pressure membrane. Marcus put one foot over the edge of the exotic matter, and jumped.

He fell clean through the pressure membrane. There was no gravity field in the wormhole, although every movement suddenly became very sluggish. To his waving limbs it felt as if he was immersed in some kind of fluid, though his sensor block reported a perfect vacuum.

The wormhole wall was insubstantial, difficult to see in the meagre backscatter of light from the pressure membrane. Five narrow lines of yellow light materialized, spaced equidistantly around the wall. They stretched from the rim of the pressure membrane up to a vanishing point some indefinable distance away.

Nothing else happened. Marcus drifted until he reached the wall, which his hand adhered to as though the entire surface was one giant stikpad. He crawled his way back to the pressure membrane. When he stuck his hand through, there was no resistance. He pushed his head out.

There was no visible difference to the chamber outside. He datavised his communication block to search for a signal. It told him there was only the band from one of the relay blocks in the stairwells. No time had passed.

He withdrew back into the wormhole. Surely the xenocs hadn't expected to crawl along the entire length? In any case, the other end would be 13,000 years ago. Marcus retrieved the xenoc activation code from his neural nanonics, and datavised it.

The lines of light turned blue.

He quickly datavised the deactivation code, and the lines reverted to yellow. This time when he emerged out into the portal chamber there was no signal at all.

"That was ten hours ago," Marcus told his crew. "I climbed out and walked back to the ship. I passed you on the way, Karl."

"Holy shit," Roman muttered. "A time machine."

"How long was the wormhole active for?" Katherine asked.

"A couple of seconds, that's all."

"Ten hours in two seconds." She paused, loading sums into her neural nanonics. "That's a year in 30 minutes. Actually, that's not so fast. Not if they were intending to travel a couple of thousand years into the future."

"You're complaining about it?" Roman asked.

"Maybe it speeds up the further you go through it," Schutz suggested. "Or more likely we need the correct access codes to vary its speed."

"Whatever," Marcus said. He datavised the flight computer and blew the tether bolts which were holding Lady Mac to the wreckage. "I want flight readiness status, people, please."

"What about Jorge and the others?" Karl asked.

"They only come back on board under our terms." Marcus said. "No weapons, and they go straight into zero-tall. We can hand them over to Tranquillity's serjeants as soon as we get home." Purple course vectors were rising into his mind. He fired the manoeuvring thrusters, easing Lady Mac clear of the xenoc shell.

Jorge saw the sparkle of bright dust as the explosive bolts fired. He scanned his sensor collar round until he found the tethers, narrow grey serpents flexing against the speckled backdrop of drab orange particles. It didn't bother him unduly. Then the small thrusters ringing the starship's equator fired, pouring out translucent amber plumes of gas.

"Katherine, what do you think you're doing?" he datavised.

"Following my orders," Marcus replied. "She's helping to prep the ship for a jump. Is that a problem for you?"

Jorge watched the starship receding, an absurdly stately movement for an artifact that big. His respirator tube seemed to have stopped supplying fresh oxygen, paralysing every muscle. "Calvert. How?" he managed to datavise.

"I might tell you some time. Right now, there are a lot of conditions you have to agree to before I allow you back on board."

Pure fury at being so completely outmanoeuvred by Calvert made him reach automatically for his weapon. "You will come back now," he datavised.

"You're not in any position to dictate terms."

Lady Macbeth was a good 200 metres away. Jorge lined the stubby barrel up on the rear of the starship. A green targeting grid flipped up over the image, and he zeroed on the nozzle of a fusion drive tube. He datavised the X-ray laser to fire. Pale white vapour spewed out of the nozzle.

"Depressurization in fusion drive three," Roman shouted.

"The lower deflector coil casing is breached. He shot us, Marcus, Jesus Christ, he shot us with an X-ray."

"What the hell kind of weapon has he got back there?" Karl demanded.

"Whatever it is, he can't have the power capacity for many more shots," Schutz said.

"Give me fire control for the maser cannons," Roman said. "I'll blast the little shit."

"Marcus!" Katherine cried. "He just hit a patterning node. Stop him."

Neuroiconic displays zipped through Marcus's mind. Ship's systems coming on line as they shifted over to full operational status, each with its own schematic. He knew just about every performance parameter by heart. Combat sensor clusters were already sliding out of their recesses. Maser cannons powering up. It would be another seven seconds before they could be aimed and fired.

There was one system with a faster response time.

"Hang on," he yelled.

Designed for combat avoidance manoeuvres, the fusion drive tubes exploded into life two seconds after he triggered their ignition sequence. Twin spears of solar-bright plasma transfixed the xenoc shell, burning through deck after deck. They didn't even strike anywhere near the airlock which Jorge was cloistered in. They didn't have to. At that range, their infrared emission alone was enough to break down his SII suit's integrity.

Superenergized ions hammered into the wreck, smashing the internal structure apart, heating the atmosphere to an intolerable pressure. Xenoc machinery detonated in tremendous energy bursts all through the structure, the units expending themselves in spherical clouds of solid light which clashed and

merged into a single wavefront of destruction. The giant rock particle lurched wildly from the explosion. Drenched in a cascade of hard radiation and subatomic particles, the unicorn tower at the centre of the dish snapped off at its base to tumble away into the darkness.

Then the process seemed to reverse. The spume of light blossoming from the cliff curved in on itself, growing in brightness as it was compressed back to its point of origin.

Lady Mac's crew were straining under the five gee acceleration of the starship's flight. The inertial guidance systems started to flash priority warnings into Marcus's neural nanonics.

"We're going back," he datavised. Five gees made talking too difficult. "Jesus, five gees and it's still pulling us in." The external sensor suite showed him the contracting fireball, its luminosity surging towards violet. Large sections of the cliff were flaking free and plummeting into the conflagration. Fissures like black lightning bolts split open right across the rock.

He ordered the flight computer to power up the nodes and retract the last sensor clusters.

"Marcus, we can't lump," Katherine datavised, her face pummelled into frantic creases by the acceleration. "It's a gravitonic emission. Don't."

"Have some faith in the old girl." He initiated the jump.

An event horizon eclipsed the Lady Macbeth's fuselage.

Behind her, the wormhole at the heart of the newborn micro-star gradually collapsed, pulling in its gravitational field as it went. Soon there was nothing left but an expanding cloud of dark snowdust embers.

They were three jumps away from Tranquillity when Katherine ventured into Marcus's cabin. Lady Mac was accelerating at a tenth of a gee towards her next jump coordinate, holding him lightly in one of the large blackfoam sculpture chairs. It was the first time she'd ever really noticed his age.

"I came to say sorry," she said. "I shouldn't have doubted."

He waved limply. "Lady Mac was built for combat, her nodes are powerful enough to jump us out of some gravity fields. Not that I had a lot of choice. Still, we only reduced three nodes to slag, plus the one dear old Jorge damaged."

"She's a hell of a ship, and you're the perfect captain for her. I'll keep flying with you, Marcus."

"Thanks. But I'm not sure what I'm going to do after we dock. Replacing three nodes will cost a fortune. I'll be in debt to the banks again."

She pointed at the row of transparent bubbles which all held identical antique electronic circuit boards. "You can always sell some more Apollo command module guidance computers."

"I think that scam's just about run its course. Don't worry, when we get back to Tranquillity I know a captain who'll buy them from me. At least that way I'll be able to settle the flight pay I owe all of you."

"For Heaven's sake, Marcus, the whole astronautics industry is in debt to the banks. I swear I never could understand the economics behind starflight."

He closed his eyes, a wry smile quirking his lips. "We very nearly solved human economics for good, didn't we?"

"Yeah. Very nearly."

"The wormhole would have let me change the past. Their technology was going to change the future. We could have rebuilt our entire history."

"I don't think that's a very good idea. What about the grandfather paradox for a start? How come you didn't warn us about Jorge as soon as you emerged from the wormhole?"

"Scared, I guess. I don't know nearly enough about quantum temporal displacement theory to start risking paradoxes. I'm not even sure I'm the Marcus Calvert that brought this particular Lady Macbeth to the xenoc wreck. Suppose you really can't travel between times, only parallel realities? That would mean I didn't escape into the past, I just shifted sideways."

"You look and sound pretty familiar to me."

"So do you. But is my crew still stuck back at their version of the wreck waiting for me to deal with Jorge?"

"Stop it," she said softly. "You're Marcus Calvert, and you're back where you belong, flying Lady Mac."

"Yeah, sure."

"The xenocs wouldn't have built the wormhole unless they were sure it would help them get home, their true home. They were smart people."

"And no mistake."

"I wonder where they did come from?"

"We'll never know, now." Marcus lifted his head, some of the old humour emerging through his melancholia. "But I hope they got back safe."