

THE UNIVERSE -- or nothing

by Meyer Moldeven

Copyright 1984 Meyer Moldeven yarnspinner7191@aol.com This work is under a Creative Commons License.

Table Of Contents

THE UNIVERSE -- or nothing

Table Of Contents

About Meyer Moldeven

Also by Meyer Moldeven

The Preface

The Prologue

Chapter ONE

Chapter TWO

Chapter THREE

Chapter FOUR

Chapter FIVE

Chapter SIX

Chapter SEVEN

Chapter EIGHT

Chapter NINE

Chapter TEN

Chapter ELEVEN

Chapter TWELVE

Chapter THIRTEEN

Chapter FOURTEEN

Chapter FIFTEEN

Chapter SIXTEEN

Chapter SEVENTEEN

Chapter EIGHTEEN

Chapter NINETEEN

Chapter TWENTY

Chapter TWENTY-ONE

Chapter TWENTY-TWO

Chapter TWENTY-THREE

Chapter TWENTY-FOUR

Chapter TWENTY-FIVE

Chapter TWENTY-SIX

Chapter TWENTY-SEVEN

Chapter TWENTY-EIGHT

Chapter TWENTY-NINE

Chapter THIRTY

Chapter THIRTY-ONE

Chapter THIRTY-TWO

Chapter THIRTY-THREE

Chapter THIRTY-FOUR

Chapter THIRTY-FIVE

Chapter THIRTY-SIX

Chapter THIRTY-SEVEN

Chapter THIRTY-EIGHT

Chapter THIRTY-NINE

Chapter FORTY

Chapter FORTY-ONE

Chapter FORTY-TWO

Chapter FORTY-THREE

Chapter FORTY-FOUR
Chapter FORTY-FIVE
Chapter FORTY-SIX
Epilogue
Afterwords
Appendix
The References
Words With(Out)
Diacritics
Creative Commons License
About "zen markup language"

About Meyer Moldeven

Meyer (Mike) Moldeven was a civilian logistics technician with the United States Air Force from 1941 until 1974. He was an aircraft emergency survival equipment specialist in the Pacific Area during World War II and a technical writer for several years afterwards.

During the Cold War he transferred to a USAF base in North Africa where he developed logistics plans for USAF-NATO emergency maintenance of disabled aircraft that would land along the North African coast after returning from missions in any future war with the USSR. During the U.S. post-Sputnik initiatives to create a national space program, he critiqued aerospace industries' logistics concepts on future space systems organization, infrastructure and support. Among the studies he critiqued was 'Space Logistics, Operations, Maintenance and Rescue' (Project SLOMAR).

During the Viet Nam War, he was the senior civilian in the Inspector General's Office at McClellan Air Force Base, a major logistics installation near Sacramento, California. As part of his 'added' duties during 'Viet Nam' Mike was a hotline volunteer in a suicide prevention center and consequently, an advocate for professionally-staffed 'suicide prevention' capabilities throughout the entire Department of Defense. He compiled documentation, published, and widely distributed copies of his book, "Military-Civilian Teamwork in Suicide Prevention" (1971, 1985 and 1994.)

Mike's updated essay on suicide prevention in the U.S. Armed Forces has been included in his collection of memoirs, "Hot War/Cold War -- Back-of-the-Lines Logistics", which is at: <http://hometown.aol.com/yarnspinner7191/myhomepage/military.html>

Also by Meyer Moldeven

Military-Civilian Teamwork in Suicide Prevention Write Stories to Me, Grandpa!
A Grandpa's Notebook

The Preface

"It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow."

-- Dr. Robert H. Goddard

"There is no way back into the past; the choice, as H. G. Wells once said, is the universe -- or nothing.

Though men and civilizations may yearn for rest, for the dream of the lotus-eaters, that is a desire that merges imperceptibly into death.

The challenge of the great spaces between the worlds is a stupendous one; but if we fail to meet it, the story of our race will be drawing to its close."

-- Arthur C. Clarke

The Prologue

The Present

A conclusion in the Report to the Club of Rome:

The Limits to Growth states: "...within a time span of less than 100 years with no major change in the physical, economic, or social relationships that have traditionally governed world development, society will run out of the nonrenewable resources on which the industrial base depends. When the resources have been depleted, a precipitous collapse of the economic system will result, manifested in massive unemployment, decreased food production, and a decline in population as the death rate soars. There is no smooth transition, no gradual slowing down of activity; rather, the economic system consumes successively larger amounts of the depletable resources until they are gone. The characteristic behavior of the system is overshoot and collapse."

Jeremy Rifkin, President of the Foundation on Economic Trends and the Greenhouse Crisis Foundation, in *Biosphere Politics: A New Consciousness for a New Century* (Crown Publishers, New York 1991) reports how industrialized and developed nations exploit the sea beds of the world for their rich deposits of industrial minerals and metals. He notes that the struggle between rich and poor nations and multinational corporations over minerals in the vast oceanic seabed is likely to be heated in the years to come, especially as reserves of land-based minerals approach exhaustion.

News media reported in October 2000 that the People's Republic of China announced plans to explore Earth's moon for useful substances. On October 15, 2003 the PRC launched into Earth orbit its first manned rocket.

In a speech on January 14, 2004 the President of the United States of America unveiled a new vision for space exploration. He called on the National Aeronautics and Space Administration (NASA) to

"...gain a new foothold on the moon and to prepare for new journeys to worlds beyond our own."

"We do not know where this journey will end," said the President, "yet we know this: Human beings are headed into the cosmos." White House Press Release, January 14, 2004.

##

The Future

The Interstellar Mining and Teleport System The System consists of two terminals, each of which includes an integral, fully robotized capability to conduct internal command-and-control, self-maintenance and repair, and logistical, teleportation, communications and other functions and operations essential to its unique mission. The terminal positioned in orbit above Alpha Centauri is designated the Extractor and the terminal positioned along the Solar System's rim is designated the Collector.

The Extractor selects and draws pre-designated elements, minerals and other usable substances from the Alpha Centauri star system, and collects, accumulates, converts and channels the matter into its spunnel transmission subsystem for direct interstellar transfer to the Collector.

The Collector receives the product, converts it into its original form, identifies, classifies, quantifies and records constituents and mass; refines and ejects the raw product for transport to and storage along the solar rim or at a location that Authority determines to be more suitable.

The Extractor and Collector terminals are constructed four million kilometers beyond Planet Pluto. During the System's research, development, test, evaluation, engineering, construction, launch and voyage phases, the terminals are spunnel-linked and tested both as separate machines with their support systems, and as the integrated master scheme.

During construction the System is linked to Planet Pluto, employing mass attractors, orbital dynamics controls and stabilizers, and other means, as

appropriate.

The System Authority possesses and Commands a Self-Defense Force under Powers delegated by the President of the United Inner Planetary System (UIPS). At launch, disengage the Extractor fleet from the Solar System's gravitational and other constraints employing Planet Pluto's outbound orbital momentum plus augmentation thrusters in a manner that the Extractor fleet retains its integrity in transit to destination, and on station in perpetuity.

Position the Extractor in orbit above Alpha Centauri at a location commensurate with data provided previously by drone scouts. Authority, at all times, maintains surveillance and exercises control over operations and support systems, and analyses of the Extractor's functions, structures and equipment.

The Collector is positioned along the solar rim, or elsewhere, as determined by Authority. The Collector is fixed to the Extractor's product launch nodes, functions and operations, and to the Extractor's orbital dynamics at destination.

The Extractor, operating at destination, analyzes, selects, and draws substance from proximate asteroids, comets, satellites, planetoids, space debris, swarms, star surfaces, subsurface and other accessible bodies and strata, reduces the substance to teleportable constituents (the product), loads the product into launch hoppers and dispatches it to the Collector.

Critical to the program's success is timing the Extractor's launch. Piggy-backed to Planet Pluto during construction, the Extractor uses the planet's orbital momentum for launch. The launch window is precise and short-lived along Planet Pluto's outbound orbit; there is only one launch opportunity in centuries for the Extractor. Disengaged from Pluto, the Extractor fleet accelerates along its course to optimum velocity through integrated thrust of augmented thrusters or other more advanced propulsion systems that are or become available in time to accomplish the Objective.

##

The Terminals and their command and control, supporting research and development schemes and projects, facilities, spunnel teleport and other logistics and communications networks, surface and space stations and outposts is formally designated The Interstellar Mining and Transport System. Authority acknowledges that the mission, launch and assets acquisition processes intrigued the whimsical fancy of the solar community during pre-program definition studies and the System was nicknamed "Slingshot".

THE UNIVERSE

-- or nothing

Chapter ONE

The recon-patroller's leg and torso-pads fine-tuned their tensions as Lieutenant Pete O'Hare shifted position. His eyes ranged the banks of flickering lights around him. An aberrant indicator caught his eye and he mind-stroked a sensor control. Satisfied, he moved on; the greens held firm.

Planet Pluto arced into view from starboard, half a million kay distant. The mottled moonlet, Charon, orbited the mother planet tightly. Only tanktown Coldfield's dome and its hard unblinking lights broke Pluto's drab crust. A dozen or so rutted trails formed a network that connected encapsulated outposts to each other and to Pluto's solitary city.

The recon-patroller's omni-directional screen displayed the huge cylinder that floated in space behind him, its gravity-enhanced rotation barely perceptible

to O'Hare's vision. Five-meter high orange letters glowed brightly along its blunt bow and stern, and on each quarter sector of its exposed surface, proclaiming the huge cylinder as the UIPS SLINGSHOT LOGISTICS DEPOT. Space transports, no two alike, rode their magnetic-beam's moorings along the Depot's flanks.

Space tugs and barges labored in all directions, taxis charged about, and space-cranes swayed above dozens of platforms that protruded from the Depot's hull.

Leviathans off-loaded to barges as other ships in a multitude of shapes and sizes grappled with cargo from flex-conveyers that snaked from the Depot's gaping portals. Slender, multi-armed space cranes raised and lowered crates, bundles and modules, and arranged, aligned, connected and disconnected gear and cargo in all directions.

Aggregations of netted or tethered girders, platforms, multi-meter-wide conduits in hundreds of shapes and lengths, and modules linked by stabilizer-beams crossed open spaces, pulled or pushed by robot tugs controlled from the station's cargo control centers. In trains or clusters, machines traversed the open stretches between the Depot's portals and nearby transports in their final step toward a long journey.

The brightly checkered Depot slipped from O'Hare's screen. A deployment station to O'Hare and hundreds of his colleagues, and to more than four centuries of his predecessors, the Depot was as much home to him as his permanent station afloat in space between Earth and Luna.

"Time," O'Hare silently flashed the code that opened his spunnel channel to Keeper. "This is a Slingshot Tac Ops from Red Fox to Keeper. I am hot to trot on Point Charlie off Fandango Force Field.

All coordinates green for Scout Operation Xray Delta slash Four. Time for go is 2112 slash 14

Solar. Keyed to transmit status on Spunnel Channel

9212, scramble 38. Confirm. Over."

The response was equally silent, registered directly in his consciousness. The message's clarity was unaffected by passage through hundreds of spunnel boosters that linked O'Hare to a shielded bunker beneath Luna's surface.

"Keeper to Red Fox. Your orders to scout Planet Pluto Zone confirmed. You are cleared to start at 2112 slash 14 Solar. Spunnel 9212 slash 38 is open for your transmissions. You are spunnel-psy monitored by Spacetrack Ceres. Out." O'Hare tensed, psy-blinked his view screen down to the instruments vital to his immediate mission, and mind-keyed several controls. The fifteen-meters-long vessel, with a barely two-meter beam, swooped low and snapped into its run barely fifteen meters across Pluto's desolate plains.

The view screen readouts showed subsurface galleries, several outlined in irregular outlines but empty, others reflected high-mass warship configurations. He focused to adjust his instruments for deeper penetration. Quite suddenly, O'Hare's vision blurred. His head and body swelled. In an instant, his brains, bones and guts burst and splattered the cockpit as his ship exploded.

##

Lieutenant Jake Ramirez smoothly accepted the target blip that registered on his mind-screen. It instantly displayed the target's dimensions, mass, spin, velocity and coordinates. As the data strung out Jake whistled, soft and low. He tapped the channel traffic override to the Depot's spunnel booster.

"Spunnel Flash to Keeper. Switch to Scramble 2."

Jake flipped the key and, without pause, mind-cast his alert.

"Blue Fox to Keeper on Scramble 2. Message keyed at 2115 slash 14 Solar. Request Spacetrack Ceres verify ship's position and readings. Field is about one-fourth by three-fourths kay, depth one-fourth kay. No organics. Neutronic penetray analysis shows that in addition to thermonuclear power plants the aggregate includes machined parts configured to Catalog 11 long range lasers, explosive decompressors, particle beamers and gun mounts.

I suspect this is a cache of contraband ordnance and spares positioned for pickup by Planet Pluto insurgents. Orders? Over."

"Keeper to Blue Fox. Spacetrack Ceres confirms unregistered objects proximate your position.

Ceres' sensors verify the findings. Space Force concludes the stores present an immediate threat to Slingshot. Your orders: Destroy the cache immediately using your Type K1 nuclear explosive missile setting: Baker Two Seven. Launch at not less than 15,000 kay. Remain on station and follow up. Search out and dissolve all residues; use your laser-doubles at setting 8. Report when task completed. Your Tac Ops and psych systems are monitored. Start now. Out."

Keeper's message simultaneously loaded into the recon-patroller's computer as authenticator for the mission and demolition and laser gun settings. The computer adjusted thrust and vector to bring the ship to the 'fire' point and engage the countdown and sequence to launch, arm the warhead, and follow up. Missile launch was at six seconds.

Without warning, the computer froze. The frame of the pilot's enclosure glowed red, then white. An instant later the ship disintegrated into thousands of metal and composite fragments, and shards of what had been human flesh and bone.

##

"Flash -- Spunnel Transmission Priority One. To Supreme Commander, United Inner Planetary System Space Force, Earth Headquarters, from Keeper, Luna Station. Attack report. Repeat: attack report.

Recon-patrollers R-19557, Red Fox, and R-87265, Blue Fox in Planet Pluto Special Zone on recon missions under Keeper control, were attacked and destroyed by particle beams; attack times: Red Fox 212014; Blue Fox 215514.

"Beamers fired from unidentified batteries, source Sectus Gorge, coordinates GT165, Planet Pluto. The UIPS patrollers were on directed Tac Ops missions: cite our messages to Red Fox and Blue Fox past half-hour, info recorded in Tac Ops Actions Register, your Headquarters. Regret to inform you that no life signals emanate from Red Fox and Blue Fox wreckage. Spacetrack Ceres will monitor for survivors. Ship recovery and investigation teams dispatched from Log Depot to both sites. Out."

##

"Flash To President, United Inner Planetary System from Supreme Commander, Space Force. This is my initial report of attacks on two of our recon-patrollers while on UIPS-directed missions in the Planet Pluto Special Zone. No survivors. I conclude that Plutonian weapons destroyed both ships. UIPS ships and support stations sunside of Neptune hold on Defense Alert Level Two.

Defense Alert One remains in effect at Slingshot construction site and throughout Plutonian Special Zone. Details follow."

##

"To President, UIPS from Commander, Space Force.

Copy to each Senior Elder of the General Assembly, to Ministers of

Intelligence and Diplomatic Protocols, and to Slingshot Director. This is follow-on to my initial report of attacks on our recon-patrollers in Planet Pluto Special Zone.

Recon-patroller Red Fox was destroyed while on assigned mission to scout Special Zone to locate launch and support sites for spacecraft that present a clear and present danger to Slingshot.

Thirty-five seconds later, sister ship Blue Fox, on directed survey of the Planet Pluto Special Zone for unregistered space debris and contraband was similarly attacked and destroyed.

"Transmissions from the patrollers Tac Ops systems, and scansplays of their external observations ceased instantly at time of attack. Note that Spacetrack Ceres' reports of the events, confirmed by Keeper, indicate conclusively that in the last few milliseconds of functional stability before the ships' defenses were breached their damage report systems salvoed message bursts to spunnel boosters.

The signals confirm that each patroller had been the target of long-range particle beamers.

"The missions of the two patrollers have not been completed. Although the Red Fox scout mission can be rescheduled, we must be prepared for an increase in such attacks throughout the Special Zone. Blue Fox was four seconds from a missile launch to destroy a cache of contraband, and was attacked before it could complete the task. Consequently, Plutonian insurgents have now added significantly to their already large stores of space weapons.

"Repeat alerts have been spunned to Commanders of UIPS ships, posts and stations throughout the UIPS, and to all UIPS vessels that enter or are in the Outer Region; also to ships under way, and at space and surface moorings. Note that UIPS ships en route to Slingshot, the Log Depot, and work sites have been on Defense Alert Red since the Outer Region seceded from the old United Planetary System, therefore Slingshot readiness in their sectors remains unchanged.

"This completes Commander Space Force Attack Report."

Chapter TWO

Rymer Camari, President of the United Inner Planetary System entered his official residence's conference room in a brisk walk, a loose, gray ankle-length robe draped about his thin shoulders.

He nodded perfunctory greetings to his Ministers of Intelligence and Diplomatic Protocols, and to the Commander of the UIPS Space Forces as he took his seat at the head of the long table. An abundant mane of white hair framed his aged features; his stony glare reflected the rage they shared.

A panel in the wall slid upward to reveal a two-meter square well. A cylindrical view tank filled its available space. The tank cleared to the United Inner Planetary System's standard simulation.

Colored and geometric symbols glowed the real time positions of UIPS planets and their natural and artificial satellites and outposts, schema of space traffic lanes, space spunnel booster stations, the Asteroids, and the twenty Guardian Stations equidistant along the Asteroids' outer perimeter.

Stroking a key embedded nearby in the table the President brought the Strategic Concepts Computer on line. "Computer," he said, "integrate these proceedings into the database. Follow, analyze in depth across-the-board and display."

Turning to the Space Force Commander he said,

"What's the situation, Jim?" His voice was flat with the effort to control his anger.

Admiral Jim Selvin, shifted his stocky torso about to ease his discomfort. Battle-flinty eyes cast a quick baleful glance at his colleagues and turned to

face the President. Thin lips, slashed across his rough-hewn face, twisted as he spoke.

"There's little to add to what we had an hour ago," he said. "Two good pilots dead; two impossible-to-replace patrollers destroyed." Rubbing his chin vigorously, he grated, "We confirmed that the bandit beamer drew back into an underground tunnel that cuts into an ice gorge south of Coldfield. Their weapons' cache is even now being approached by unidentified tugs. No doubt that they're Narval's thugs and they're going to clamp a tow beam on the stores and haul them off to some subsurface storage or assembly shop. Once the weapons are assembled, installed and calibrated we could be on the receiving end of more nastiness."

Leaning forward over the table, he looked directly at the President. His hand transformed into a fist, and he pounded the table in cadence with his words.

"Mr. President," he said, "the real hell of it is we can't stop them, and we've got no one to blame but ourselves. It's downright unrealistic to keep our self-defense forces in the Special Zone so far below what's needed to protect our vital interests."

"What do you suggest, Jim," the President shrugged, "break our treaties with the Outer Region? What'll that get us?" Jim looked directly into the President's eyes. "But they're the ones violating the treaties," he growled. "If we've ever needed irrefutable evidence, we've just had it rammed down our throats. We'd better get off our duffs and do something." Allen Dynal, Minister for Intelligence, nodded in agreement, but did not speak. His turn was coming.

Selvin leaned back, turned his head to scowl at the view tank. Together, they contemplated the forming scene. The Admiral's outburst had given subject matter guidance to the computer. The display shifted to the Planet Pluto Special Zone. Two tiny red lights flashed rapidly at the coordinates where the attacks had occurred. A steady blue light tracked the hijacked stores. Selvin continued. "The entire sector from which this attack was launched is honeycombed with utility passages and subsurface supply and maintenance shops," he said. "They date back to when our earliest construction cadres went in. The subsurface should have been returned to its original state when we had no further use for the tunnels and galleries. We did start to collapse the ice walls and overheads; obviously, we didn't get very far."

Selvin sighed, heavily.

"Understandable," he went on. "Hundreds of junctions and cutouts were dug to serve one-time needs. They were never mapped. The same can be said for subsurface technical facilities. No question that many are still usable."

The view tank's image blurred, then cleared to show a broad expanse of Pluto's barren surface out to the planet's horizon. A white, steady glow identified Coldfield, the surrounding red and blue lines identified scores of subsurface passageways and rutted trails that curved away from the domed city in all directions.

"There's no doubt that the underground passages and caverns are being used by Narval as maintenance and operations hangars for his fleet," Selvin said returning his eyes to Camari. "Many have enough room to accommodate nuclear energy capsules, ship and equipment repair shops, and catapult launchers."

Pseudo-gravity enhancers during construction stabilized the floors. Foundations are secured deep in the frozen surfaces, and bonded well enough, so that even under the planet's low density, they'll take the weight of battle wagons."

The silence hung heavily as Selvin glared at the view tank. His voice rasped. "They must have installed heavy screens in the overheads. Many of our penetration readings are dim, even with our most advanced sensors."

"That's all I have for now, Mr. President," he said, leaning back. Absently, his stubby fingers drummed the tabletop. He caught himself and glanced about guiltily as he drew his hands back to the edge of the table.

Camari's eyes moved on to a somber-faced ancient who gravely returned his stare. "Let's hear the intelligence review, Allen," the President said.

The Minister for Intelligence placed his clasped hands before him on the table and spoke. His voice was hoarse, low and intense, and his eyes moved from the President to Jim Selvin, who faced him grimly.

The view tank flickered, clouded and cleared to an overview of the Outer Region. The scale reduced planets, satellites, and stations to the colored pinpoints of light with which they all were long familiar. The computer adjusted to focus on a magnified Plutonian sector. The Uranus and Neptune orbits, although contained within the tank displays, were cut out by the compression.

The Slingshot Construction Site rode the rim.

"Updating, the latest reports of military construction, commitments and political realignments among the Outer Nations are ominous," Allen said. "They're pledging themselves to each other through mutual assistance pacts and are building military spacecraft, weapons and support systems to back up their agreements."

Pointing thoughtfully with his right forefinger at his left palm, Allen updated the military assets of each opposing nation, and correlated its potential capabilities to economic resources over the coming decades and centuries until Slingshot reduced the solar system's deficits. He wove into his analysis the effects of orbital dynamics on normal and spinnel transit times from each Inner and Outer Region point-of-origin to the Slingshot work sites.

He moved on to the status of weapons research and development, and identified the locations of the Outer Region's weapons manufacturing sites and military training facilities.

"The long-term defense of Slingshot through purely military means," he added, following a deep breath, "especially in protecting our routes and the Log Depot, is, as Jim stated, not possible given the prevailing circumstances. The so-called members of the Independent Nations of the Outer Region are expanding their field of operations, and they get generous support from satellite collectives and individual sympathizers throughout the region.

"Our intelligence sources," Allen concluded, "report that many supporters of Plutonian objectives are, themselves, descendants of the insurrectionists that fomented the dissolution of our first interplanetary union. Now, it seems, their intent is to destroy Slingshot, and us as well."

Allen Dynal and Jim Selvin glanced at each other; they were not in disagreement.

Camari broke the hush that followed Dynal's words.

"We are well into an armed confrontation," he said.

"Nevertheless, whatever actions we take must minimize destruction to life and property, require no diversions from resources allocated to Slingshot, and in no way restrict Slingshot's construction and launch schedules."

Turning his head slightly, he nodded at the last of his three advisors. Chan Dahl, Minister of Diplomatic Protocols, laid his massive forearms on the table, palms down. His abrasive voice matched his heavy features and rotund body. He spoke rapidly in summary fashion: offering little that was new, Chan passed quickly over the diplomatic chasm that had formed between the UIPS and the Outer Region after the dissolution of the first United Planetary System. He summarized the complex alliances that had evolved among the independent governments beyond the Asteroids following the secession, and moved on quickly to the initiatives of his Ministry to reconcile inter-regional differences.

"The issue of the transit fee is critical," he said. "Each Outer Region nation has expressed vehement impatience to get on with its toll tax on the UIPS for each transport or other vessel that enters space contiguous to their planetary and satellite orbits. They insist that such space is legally within their natural boundaries, and that by merely passing through, we trespass. Restitution, they claim, is in order.

"Negotiations remain in limbo. The impasse will, quite likely, remain for some time. Our position is unchanged: the fees that they demand are without justification, an extortion to which we cannot submit."

Throughout the discussions, the Strategic Concepts Computer flashed a continuing display. As each topic was opened for discussion the view tank portrayed the corresponding regions, sectors, planets or satellites, shifting from one to the other as needed to clarify points under discussion or accompany the exploration for alternatives. The lower section of the tank registered the computer's quantification of speculations by the President's advisors, and their probabilities toward realization.

Finally, President Camari raised his hand. He pressed a softly glowing disk on the table. The view tank cleared. Resting his chin in the palm of one hand, Camari gently rubbed his temple with the fingertips of the other.

"Instructions to Strategic Concepts Computer," he began. "Summarize the facts adverse to our cause and our options for dealing with each. Arrange and rate the options according to their probabilities for results favorable to the UIPS, and separately, favorable to the interests of the Outer Region's Nations. Consider UIPS limitations in nonrenewable metals, minerals and other vital reserves until Slingshot begins to produce. Take the options into account and assume that Slingshot will succeed on schedule and will generate sufficient refined matter over time to meet the needs of both Regions.

"Project each option's draw down on resources committed to Slingshot, and estimate their impact on schedules. We may need to gamble here. Crank in the latest estimates on the years it will take for the Extractor to reach Alpha Centauri, get organized around the job, go online, and begin to produce. Compute out to the time that we will have rebuilt stockpiles within the Solar System."

Leaning slowly back into his chair as he spoke, Camari lowered his hands into his lap. His eyes moved from one advisor to the other. They returned his gaze, the bleakness in their eyes matching his own. "Try different combinations within the options and rate them," he continued. "Examine our treaties with the other powers and status of current negotiations and pending proposals. Show how each option, which has statistical probability for success up to

exponent three can adversely affect those treaties or negotiations."

Camari drew a deep breath. "We need to take a fresh look at where we are. We've also got to avoid political irritations that may exacerbate the situation further. On the other hand, revisions to treaties and to our positions at the negotiating tables may be essential. Slingshot may solve our disagreements, but we cannot wait.

"Review our readiness and activation sequences consistent with our Quick Reaction Capability to deal with contingencies in the Slingshot Special Zone. Work up details on what needs to be done and by whom to upgrade our QRC initiatives for each contingency that I keyed in as probable. Show costs in still accessible resources separately and integrate results with relevant commitments and schedules. Draft implementation plans and execution directives to commit resources. Update constantly, but keep all implementation directives on 'hold' until I direct otherwise.

"We meet again in two hours," Camari, said, rising from his chair. "Computer: be ready to give a presentation on each option and its variations within the parameters I specified and which surface through your analyses. Double-check resource requirements and schedules, and tactical options and their possible effects on UIPS forces and assets in the Special Zone. Maintain current. When I select the course of action and authenticate them with the Presidential Implementation Designators, release directives to implement the decisions. Monitor and report. This completes my instructions to Computer."

The President turned toward the door from which he had entered. Pausing, he glanced back at the Minister of Intelligence.

"Allen," he said, "give me a rundown, within the hour, on our intelligence assets throughout the Outer Region. I am especially interested in your ability to intensify earliest possible infiltration and disruption throughout Narval's domain."

The door slid shut as he passed through. The wall panel across the view tank cavity lowered as the advisors departed.

The Strategic Concepts Computer presented visual displays accompanied by a gently modulated audio. The analysis was incisive, the coverage comprehensive. At its conclusion, the President scanned the faces of his Ministers and the Commander of the Space Forces.

"Comments?"

Scores of questions probed and tested the computer's logic and conclusions. Questions became observations, which, following discussion, became revisions that, were instantly extended to corollaries. Often, objectives and programs were adjusted. Finally, it was done -- for the time being.

Rising from his seat, the President's eyes took in his grim advisors. Speaking softly, he passed decisions on several recommendations to his Ministers, Admiral Selvin, and into the Computer.

Done, they sat silently for several moments, weighing the decisions' potential effects.

Rising and making his way toward the doorway, Camari motioned to the Minister of Intelligence.

"I've read your report on our assets in the Outer Region, Allen. I have a special task for your Ministry."

He motioned the Minister for Intelligence to join him. They passed through and the door closed silently.

Chapter THREE

The Watch Commander drew a hand weapon from the rack, adjusted the power to low stun, and checked the safety. He slipped the sidearm into the sheath at his waist and scanned the monitors displaying his areas of jurisdiction.

The agri-ecol bays and industrial shops of the Guardian Station were orderly and busy. The officer's fingers ranged the console's keys.

Aud-viz transmissions from passageways, wardrooms, and work and recreation areas slipped across the screens in rapid succession. Inmates and guards moved about, operated equipment, or worked at their benches, each, in his or her own way, putting in their time on the station's business.

A keystroke brought up the eight people boarding the Station through the lower air lock. Two were station guards, their weapons sheathed but retainer clips disengaged for instant withdrawal.

A slight adjustment brought into sharp focus the closed features of the three men and three women in dun-colored coveralls, under escort. He studied their faces for a moment and turned away. The bank of screens shut down as he stepped across the doorway of the cubicle that served him as both command post and sleeping quarters. He strode briskly toward a hatch at the far end of the passageway.

The lead guard, who had appeared a moment before on the screen, stepped off the ladder leading from the lower level and glided forward in the light pseudo-gravity followed by the six prisoners he had escorted from the transport. The prisoners, without constraints, walked silently. All had their hair trimmed uniformly close to their heads. The men's faces were as hairless as the faces of the women.

The second guard brought up the rear.

The forward guard came abreast the Watch Commander, stopped, barked a command to halt, and turned to face his charges. They knotted forward, not anticipating the order, separated and spaced themselves.

"OK, inmates," the guard grinned, "up against the bulkhead, please. Relax. You're gonna get the official greeting to this paradise of the outback." Swinging about, he tossed a perfunctory salute in the officer's direction. At ease against the opposite bulkhead, he watched benignly as his charges shuffled about and lined up in no particular order. The guard at the other end stood astride the passageway in a casual stance. The Watch Commander cleared his throat with a slight cough to focus their attention.

"I'm Lieutenant Malcolm," he said. "I run the Reception Center on this station. You may or may not know where you are; let's be certain that you do."

The six faces stared at him. One of the men in the lineup, third from the head, shifted his gaze from the officer to the guards and back again. A bit above medium height, ropy necked and thick-shouldered he gave the impression of a male at ease, confident but wary. Below his gray-black bristle of close-cropped hair and space-bleached brows his deep-set green eyes moved on to calmly scan the deck, bulkheads and corridor. He returned eyes to the officer and the guards. He had the air of a leader.

The officer drew a deep breath and continued.

"The manifest of the transport from which you just disembarked listed you as 'cargo' transferred to this station from the temporary holding jails of Earth, Luna or Mars, or wherever you were being held. Don't let being recorded as 'cargo' bother you. Official visitors and guests are passengers, prisoners are cargo. If the transport's brigs were cramped, that's the name of the game; they're not built for comfort. Each of you did get a separate cell on board, I

understand. In that respect, at least, you all got better than routine treatment."

The last remark raised sardonic eyebrows on two faces in the line. The rest remained impassive.

Malcolm paused, then continued.

"Be prepared to be here for a while. You know your commitment period. Whatever happens to you here depends on your attitude and your compliance with orders, and on decisions by those conducting your rehabilitation."

Pacing the line he stopped before each prisoner and stared at him or her from under bushy black eyebrows. Relaxed against the wall, or tense and erect, they returned his gaze. Inspection completed, he nodded at the guard astride the passageway and turned back to address the line.

"You are inmates in the Social Rehabilitation Center of Guardian Station 15, about five million kays outbound from the Asteroid Belt's rim, or what was the Belt before the space-miners got through with it. This station was the mining operations center for this sector.

"Our internal security is good. We've had no attempts at breakout in a dozen years. In the attempt that was made before then, the inmate didn't clear the sector. When it was over, I might add, he was a bit the worse for the experience."

Malcolm paused to let his words sink in.

"This prison," he continued, "is where the rehab system confines its high-risk and special treatment prisoners. Inmates include persons convicted of piracy of spacecraft, smuggling controlled minerals and other substances, theft of government and important private properties, hijacking, espionage, armed robbery, gun-running to insurgents and terrorists in the Outer Region, and murder. That's the short list."

The prisoner's faces remained expressionless.

"Bear in mind..." the Lieutenant reached the end of the line and reversed direction, "that although the Guardian Stations are along the border between the Inner and Outer Regions, we're far from isolated.

For example, this station's present orbital coordinates accommodate Inner Region traffic to the Planet Pluto Special Zone through both normal space and spunnel express.

"Escorted Inner Region convoys regularly pass through this sector on their way to the Slingshot construction site. They include high-mass-loaded container ships, construction rigs under tow and objects too large for the spunnel are routed through this sector when we're lined up.

"Sometimes they stop to pick up and discharge passengers and cargo, or technicians to service our specialized posts along the way and at destination. We may have a half-dozen or so spacecraft alongside at any one time, just doing their jobs. When the moored ships are perceived as crowded, inmates dream of stowing away to somewhere else. That's no more than a dream; don't underestimate our surveillance systems. You've been warned."

He pointed at one prisoner, then another in a jabbing gesture.

"Our job is custodianship of those who can't adjust to the realities of our society, and rehabilitation and training of those who can be helped, eventually, to return to the outside world. There are other options for inmates who have special attributes. You will learn more of those in time."

Pausing, he scratched at his jaw.

"You are sojourners among us, and transient," he closed. "We will not abuse

you; on the other hand, we will not coddle you. We tell all new inmates, as I'm now telling you: cooperate, and you'll find your stay tolerable, resist, and take the consequences."

A stern, hard stare, a shrug and his features relaxed.

"OK, that's the official greeting for all newcomers. I know you've all had a long, boring trip on a beat-up transport. I expect you'll want to unwind a bit."

He glanced at the forward guard, back against the bulkhead, and turned back to the prisoners.

"First, we'll get you into some decent quarters, and let you clean up and rest. Get to know each other; you'll be together for a long time.

"The guards will escort you to your core compartment. Normally, you would have started orientation and psy-phys testing immediately.

Your schedule is different. Your first orientation lecture will be in two hours. Sergeant Jenkins," he motioned the lead guard forward, "will escort you to and from orientation. Don't play games with him; he knows them all."

"All yours, Jenks," he said. "Move 'em out."

Jenkins came forward, pointed to a hatch further along the passageway.

"Follow me."

Lieutenant Malcolm stepped aside. He watched the line move past silently and climb the companionway out of sight. None looked back.

Lining up in loose formation at the head of the companionway and responding to Jenkins signal the prisoners started along a passageway. The other guard brought up the rear.

They crossed spidery overpasses that spanned busy workshops and agriculture bays under cultivation.

People and service robots moved about; the new prisoners drew few glances.

Jenkins drew them to a halt in a wide corridor.

Ahead was a shimmering force field. He murmured words and placed the palm of his hand on a dull composite plate embedded in the wall. The force field faded to a haze. They passed through, and the haze resumed its shimmer behind them.

A portal came into view up ahead.

Jenkins motioned toward it and stepped aside as the prisoners passed him and on through the opening.

The guards did not follow.

Of a sudden minus their escorts, the inmates clustered inside the entry and stared about.

The compartment was generous by space habitat standards. Well-lighted, it stretched ten meters from wall to opposite wall. Parallel in the center of the room a double line of four gray tables stood fused to the deck, each with benches on each long side, similarly immobilized. Evenly spaced along the wall were curtained sleep-privacy enclosures.

Behind partitions on opposite sides of the compartment were entries to two standard wash-lavs. The furnishings were functional and clean.

One after the other, the prisoners drifted off to inspect the enclosures. All were back in less than a minute; they silently kept distance from each other.

The inmate who had so carefully examined the corridor while Malcolm talked, leaned against one of the tables and crossed his arms. He repeated his scan of the compartment, but this time one sector at a time, turning to take it all in yet pass over each cell-mate that entered his field of vision. His movements gave the group a focus; it was easier than to just stare at the walls and the austere furnishings.

"I don't get this," the table-leaner locked arms across his chest as he spoke

with a puzzled expression on his face. His voice was low, flat yet courteous. "We may as well get the formalities out of the way. Who are we? Names will do for starters. I'm Brad."

Faces relaxed a mite. One of the women sat on a bench. The ice may have cracked, but the silence held. Brad had their attention.

Seconds passed.

"Hodak."

The word welled up as a growl, low and rumbling from a squat, muscular man. His deeply embedded eyes circled the room from under a boulder-brow that bridged the space beneath his bald pate to blend with the stub nose, wide mouth and crinkled skin of a seemingly amiable face.

"I'm Zolan," said the third male. He was of medium height, slight of build, waxy features and a high brow with the pallid complexion of a spacer. As alert and tense as a coiled spring, Zolan leaned against a bulkhead, eyes moving rapidly from Brad to Hodak to the walls to fix on an opposite bulkhead.

"That takes care of the men." A woman's voice, melodious, dulcet. "I'm Adari." Sturdy, tightly curled hair and chocolate-toned skin. Her soft, rounded features were dimpled, cheerful, animated. Standing near a sleep enclosure, her grin was infectious. She brought long-absent grins, twinkles and nods from the others.

Repeating her name slowly, she smiled invitingly at the petite woman seated on a nearby bench.

"My, aren't we cautious," the little one said as she looked up and returned Adari's grin. "I am Kumiko," she shifted her eyes to take in the others, "and I regret to say that I am not particularly pleased to be among you." She paused, looked down. "Nothing personal, mind you, it's just that I did have other hopes."

Eyes shifted to the last of the group. Tall and slender, olive-skinned, she paced the narrow space between the wall and the cell's central section. Her turn, no longer to be put off.

"Myra," she said flatly.

The silence closed back in.

Chapter FOUR

The meeting hall was roughly triangular, the rows of form-fit seats molded into the deck which sloped downward toward a slightly raised platform jammed into a corner. Alongside the platform a meter-wide view tank rose from the deck to merge with the overhead. A single cable snaked from the view tank's base and disappeared into the nearby bulkhead.

The six inmates entered, milled about, silent, their features without expressions. In their own time, they each took seats, several empties apart. The first three rows remained vacant.

Hodak broke the silence. "The Blue Plate Special the Looie gave didn't sound right," he growled.

"I want to know more about what he was gettin' at with that crack about our schedule 'being different'."

Adari turned, eyebrows raised, to stare at him thoughtfully. She nodded slowly and turned back to join the others to focus on a figure perched on a high stool beside the view tank.

He looked tall, despite his being seated. A slate-gray uniform covered him from neck to ankles; his feet shod in high-top deck slippers that matched the

shade of his garment. He wore no insignia. Long, crowded features and tawny space-worn skin formed a face of planes and angles. His hairless head and long hands looked like they might have been hacked from a block of Mercurian tuscanite and left to weather for a few million years in the sun's glare. The hall quieted. Satisfied that he had their attention, the man stood. The mere suggestion of height, seated, did not do him justice. He unfolded like an articulated, mechanical crane. Fully extended, his towering frame rose more than two meters from heels to naked, gleaming scalp.

His first words took Hodak's challenge.

"You will know, Hodak." His voice was soft, and carried the gravity of authority.

His eyes moved from one to the other.

"What I say here applies to all of you," he said.

"I will not answer all of your questions, but you will be told all you need to know at this time."

He stepped down toward them from the dais, halting inside the curve of the first row of seats.

"I am Ram Xindral," he said, "your orientation lecturer, your trainer and, should you need one, your counselor. I am also your Control. Take specific note of the term 'control'. It has only one meaning: you are in a prison, but from here on take no orders from prison staff. You take your orders only from me; I am not 'prison' staff."

"What the hell!"

Hodak again, bouncing up, down, up again. Adari, her mouth open in surprise and alarm, also stood, paused, and moved to stand beside Hodak. Zolan remained seated, his hooded eyes on Xindral. Kumiko shifted position slightly and stared vacantly at the deck. Myra remained motionless, her face also closed. Brad, brows drawn into a frown, crossed his arms, waiting.

"Hah! This sure as hell isn't the standard orientation lecture for new inmates." Adari's jeering laugh burst from her in a sardonic cascade.

"No, Adari, it isn't," Ram said with a smile, "but hear me out."

The hall was suddenly charged with tension and wariness. Hodak remained on his feet, bent forward, hands gripping the back of the seat in front of him, challenge in his eyes.

Xindral clasped his hands behind his back. The gesture tightened his frame and seemed to increase his height. He faced away from them, strode back to stand beside the view tank and turned. Hodak grunted, sat, muttered under his breath; Adari took the seat alongside, leaned in toward Hodak, listened to him mumble, and grinned, nudged and nodded.

"Details later," Xindral continued. "Let's get this first part over with. I'll talk. Cut in with questions if you must, and bitch if it helps; we'll get to know each other better. If you take off on a tangent, so be it. I'll go along, within limits.

I didn't expect this to be a monologue, by far.

It'll take a while, but you'll get the information I intend you to have."

An uneasy shifting about ensued. The prisoners weren't buying. Brad sensed the apprehension in the others that he felt in himself. Xindral's opening remarks along with his aura projected formidable power despite his slender frame.

"Before we continue," Xindral said, "know that you are not quartered in the penal section of the station. The usual new arrivals don't get this sort of attention. Furthermore, the lectures given to them are confined to station routines. Their processing includes a few tests that are evaluated for basic

intelligence and skills. It helps the staff assign them to shops, rehab training, and eventually for return to the outside world.

You're not that lucky."

Xindral's last words jolted Hodak back on to his feet.

"Look, whoever the hell you are," he rumbled, jabbing a stubby finger at Xindral, "let's cut out the crap about our luck. First the Looie, now you, puttin' on this mystery act with fancy hints that don't make sense. You said we're allowed to ask questions. OK, here's one: am I an inmate in this prison or not?"

"You are, and you aren't," Xindral shrugged.

"That's my answer at this time. As we talk, the picture will clear."

Xindral's face flexed into a grin.

The animosity in the hall was palpable, exacerbated by Xindral's evasive response to a fair question.

As Hodak grumbled his way back down into his seat the elongated figure drew a flat, palm-sized control from a sheath fastened to his belt and pressed an embedded key.

The view tank's haze cleared to the standard solar schematic. The scene faded, replaced by a ring of tiny multicolored lights: the Asteroid Belt.

"This display is tailored to the general run of inmates processed through orientation, just to give them an idea where they are. Their familiarity with deep space is often limited, so station lectures start with fundamentals. We'll pass on this."

Brad tensed at Xindral's choice of words, and sensed the others had been similarly alerted.

He glanced sideways. His companions, as he, stared at one another as if seeing them for the first time. Were they of a kind?

Xindral continued as if he hadn't noticed.

"A footnote," he said. "The Belt's been cleared of almost all rocks and swarms, plus the big ones that we couldn't use for outposts. As you may recall from your school days, it wasn't easy hauling micro-spunnel terminals around the Belt and ramming rocks into the hoppers for transfer to meltdown and refining above Venus.

"In short, the big space sweeps of five to eight hundred years ago cleared away most of the residue in Belt orbits that had no beneficial purpose and were a hazard to traffic. The Belt was a good source for minerals -- while it lasted."

He paused to key the instrument in his hand.

"That's done," he said. "What's left are only a few of the big asteroids, like Ceres. They serve both regions as Solar Spacetrack Centers, communications relays, search and rescue operations, space lanes debris collection teams, urgent care hospitals, and for spunnel gateways management."

As he spoke the ring of lights in the tank flickered. Another ring formed, evenly spaced rods, each glowing a contrasting color.

"The Guardian Stations," Xindral said, "have been in position for more than six centuries. Twenty stations; no more are planned."

The tank zoomed in on five of the twenty rods in a quarter segment of the full

orbit; the rods expanded to form slowly rotating cylinders.

"The Guardians are apportioned among four generally equal sectors, any one of which serves the quadrant that it happens to transit at the time.

Responsibilities and missions overlap, and are passed along from the station moving out of a quadrant to the one entering it along the common orbital path. Using standard and hyperspace omnidirectional surveillance, each station's primary job is to monitor its sector: inward toward the Sun, and outward to the rim and beyond as far as our technical capabilities extend. The service areas change constantly in keeping with the alignments and dynamics of planets and their satellites, traffic-lane management, neutralizing debris intrusions, and conventional and spunnel teleport maintenance."

Xindral folded himself back on to the high stool as he spoke.

"After the political separation of the Inner and Outer Regions these Guardian Stations reverted to us by the treaty. Formally, they serve only the Inner Region's jurisdictions. Informally, however, the stations cover the entire system; to do otherwise would bring about enormous disruptions and disasters in space traffic and communications.

"The Guardians' functions include standard and spunnel communications, disaster relief, search and rescue of distressed spacecraft, intercepting and diverting comets-of-hazard, meteors, debris and other threats to traffic in the space-ways that serve the Inner Region's space colonies needs. Often the Outer Region's folks help when their interests are involved; just as often they don't.

It's one of the prices we pay for this political breach, and one of the most frustrating."

Zolan turned to aim a remark at Adari. She giggled and elbowed Hodak. He growled and twisted away.

Kumiko's eyes lifted from the deck to lazily roam the blank overhead.

Myra's face openly played non-listener. Brad continued to observe Xindral closely, glancing occasionally at the tank.

Aware that he was losing his audience, Xindral paused and stood quietly for a moment.

"Do my words bore you?" He leaned forward to take them all in. His voice, still soft, nevertheless exposed a cutting edge.

Zolan looked at Xindral as he contemptuously gave the tank the back of his hand.

"Who're you trying to kid?" His challenge was cast low, tight. "I don't know about the rest of these folks. I haven't asked any of them about themselves, nor have they tried to check me out.

But you wouldn't have brought us together without first investigating us for whatever your purpose might be. For example; you must know I'm a space communicator. So, frankly, your rambling on like this not only bores me, its phoniness is clear and insulting."

Hodak slapped his knee and laughed. He pointed at Zolan, then wagged his finger at Ram.

"Comm isn't my beat," he said. Thumbing over his shoulder at Zolan, he added, "but what he said goes for me."

Xindral brushed the keys on the control and returned it to its case. The view tank faded as he fixed his eyes on Zolan.

"Yes, Zolan, I am familiar with your background."

Shifting to Hodak, "Yours, too." His glance widened to include the others, "as I am with the backgrounds of you all."

In response, the prisoners silently glared defiance.

"Zolan's observation is correct and on point," Xindral said, ignoring their disdain. "We're not fooling one another. Simply stated, you have much in common. You are professional space men and space women, and highly qualified at that. Your skills and resourcefulness remain with you and I am aware of them."

Slouchers straightened. Hodak and Adari looked around and their faces broke into grins, which were returned. Tension remained, but subtly altered. "A couple of points," said Xindral. "First, you are all from sunside of the Belt and you are not known, as far as my sources can determine, where I don't want you to be. Second, together, you represent a cross-section of space professions and experience vital to the success of an important and urgent task. What you are going to be asked to do will place your lives at risk. You will need to rely on each other, personally and professionally, under difficult circumstances."

Brad had enough.

"Now let's just wait a minute!"

Brad was on his feet, instantly joined by the others.

Xindral, head cocked slightly to one side, sat and listened.

"Zolan said it first," said Brad. "None of us speaks for the others, so what I say is for myself. Who are you to force me -- us -- into a life-risk situation?"

The words, tightened in long-suppressed rage, spewed forth.

"You just counted off a couple of 'points'." Brad raised his hand, index finger raised. "Now here's one for you. I'm here because I was convicted of a so-called offense against society. No way do I consider myself a criminal; furthermore, I don't know if these others," motioning in their direction, "consider themselves criminals or not."

Again, I say, not my business. I'm here to serve a prison sentence, and that doesn't include doing odd jobs where my life goes on the line."

Brad and Xindral faced each other across tension-charged space. The momentary confrontation passed, Brad, obviously fed up with Xindral's evasions, crossed his arms across his chest and waited. The tall man studied him.

"Your point is well made," he said. "You have forced the issue forward, and your challenge must be answered before we go much further."

Here are a few of the pieces. Think about them."

He stepped back on to the platform and took his seat.

"You were selected only after a searching investigation into your backgrounds," he said.

"We considered your records, personalities, and your capabilities: phys and psy, professional skills, job performance, resiliency, whatever the task I assign to you will likely call for."

"You are now a UIPS task group, for want of a better designation. One of you will be appointed Commander. You will be given a job to do. You will depend on each other in most difficult circumstances: your records for reliability under stress were among the selection criteria."

You were acceptable."

"As to your appointment, that was made by an authority outside this station, actually, outside the Correctional Service of which this penal institution is a part. From the time you were moved into the holding cells for transfer here, you came under the jurisdiction of a Ministry that is involved with the most vital interests of the UIPS."

The specifics of your mission will be covered in our next session."

"The hell you say." Hodak bounced again. "You're still dangling us on a

string. Lay the whole bit out. Now!"

Nods and grunts followed Hodak's demand.

"Very well," Xindral said, after a short pause.

"Actually, there's no reason to delay your marching orders."

His voice flattened.

"By direction of the President of the United Inner Planetary System you are appointed to the Strategic Penetrations Detachment of the Ministry of Intelligence. Your unit identifier is 'Sentinels'. Your unit commander is Brad Curtin, present.

"Copies of your orders are in a secured file in the Ministry of Intelligence. A copy is temporarily posted in your core compartment. When you read it, note that all requests for release or reassignment are denied." Xindral folded back into his normal, slightly bowed posture. His audience, frozen, stared at him blankly.

"That's it for now." Xindral ordered, the flatness gone. "Return to your compartment and report back here in an hour. Brad, please stand by."

Chapter FIVE

His jaws clamped tight, eyes glaring, Brad sensed his companions rise to their feet around him.

Kumiko first, stood and wordlessly glided to the closed passage portal. Her back to the others, she waited for the panel to clear. Zolan, on his feet, mouth agape, stared at Xindral.

Adari, still seated, gawked in bewildered disbelief from Xindral to Brad to Hodak. Hodak glowered, gestured rudely and cursed furiously and loudly.

Myra stood, silent behind an icy mask. Xindral, perched on his stool, arms in his lap, impassively observed their reactions.

The scene held for several seconds. Xindral broke the silence.

"Your formal orientation and training begins when you return. First I must speak with your Commander.

Please excuse us."

He turned and touched a disk on the bulkhead. The entryway cleared and Jenkins appeared.

"Escort our friends back to their compartment, Jenks. Commander Curtin will remain with me.

Return the group in an hour."

"Yes, sir."

Myra, Adari, Hodak and Zolan milled about for a moment, then joined Kumiko at the portal. Passing through, they spoke and gestured animatedly to each other. The portal clouded over.

Xindral hefted his stool forward, placed it alongside Brad, and folded his long frame onto it facing the view tank.

"Just so you know, Brad," he said gently, bridging the silence between them, "those of us who work in Strategic Penetrations carry no formal rank. If we did, yours would be the equivalent of a Lieutenant Commander in the United Inner Planetary System Space Force. Mine would be a notch or so above."

He shifted his frame about and bent a long leg to bring his foot up to the lower rung. His tone shifted into neutral. Cool.

"My friends call me Ram. OK?"

Brad nodded, eyeing him. Ram drew back a bit and contemplated the control in his grasp. After a moment he stroked the keys. A rainbow of colors swirled and drifted off, replaced by an ash-gray sphere. Planet Pluto spread across half the tank with its flat stretches of methane frost broken by low, jagged chasms, hillocks and craters. Charon and the Slingshot Logistics Depot hung off near the edge of the tank's flattened top.

Brad glanced at the scene, and back to Ram.

"Brad," Ram spoke slowly, quietly, "a trite expression, repeated all too often during our history, is 'humankind now faces its greatest crisis'. The statement has been declared so often across the ages that it's lost meaning, obviously because it changes in context and perception from one event, century or millennium to the next. I suppose those who said it, believed it. Nevertheless, even if the term 'crisis' never really applied in the past, it does in these times for humankind's destiny.

"The deficits in our nonrenewable assets, and the many other natural substances we depend on, if not resolved within the next few centuries, could force us back into caves, and I don't use that word 'figuratively'. Ceramics, composites, and other substitutes are fine as far as they go, but they do only a tiny part of the job.

"We'll soon be running short of substitutes for our substitutes. Building bigger and better colonies in space over the past thousand years or so has consumed far more of our resources than expected.

Earth is almost barren and many space colonies in both regions can no longer meet existing needs from their regions, let alone those of the future.

"In short, our dispersed civilizations must have access to sources for minerals and other industrial substances, not only now but in perpetuity, in order to survive and evolve. Our species isn't built to accept inactivity or slipping backward. If we don't move on to something new and challenging, then we'll drift into extinction. You've heard this all dozens of times; I won't dwell on it further."

Ram stood, paced, and turned his head to keep Brad in sight as he paced and reversed direction. Brad's eyes fixed on the view tank and stayed there.

There was nothing new in Ram's words, so far.

"Slingshot schedules are in their most critical phase. We have a launch window for the Extractor.

It's not much of a window. If we miss it, Slingshot fails. It's that simple. The launch cannot be aborted; there'll be no second chance. People across the system, by the millions, are committed to the schedule. You, and your crew now serve in that legion."

"What's going on here?" Brad cut in. "Are you telling me we've been pressed into this job with no choice of our own?"

His anger showing, Brad thumbed over his shoulder toward the entryway, then at his chest.

"Tell me, Ram," Brad demanded, "how did it happen that we six, three men and three women, are here at this time for this purpose?"

"We'll get to that in time." Ram said, "I've reviewed your trial record, but I'd like to hear it from you -- straight. What happened?"

Brad stared at Ram for several seconds, obviously making up his mind. Finally, he shrugged, and contemplated his hands.

"Well, then you know I was Captain of a space freighter," he began. "My job

was to transport high-mass mining equipment, ores and refined stuff between Mercury, Venus and Luna.

"When this mess happened, we were Luna-bound with a full load of worn out track-layers, rock-crushers, drill robots, filters and other tools in the forward and aft storage bays, and ingots well-secured in stress-certified compartments.

The ship was at capacity, but within legal limits.

Mass and balance had been certified by Space Traffic Control before they cleared us from Venus orbit. The ship was in order.

"We were only about twenty-million kay from the Luna Space Traffic Control Zone, but still in max drive. Plenty of time to kick-in vector and deceleration programs."

Brad paused, shifted position, rubbed his jaws, sighed deeply, glanced sideways at Xindral and, his voice tighter, continued.

"That's when that strung-out jock in a space-buggy took us on for a game of 'chicken'.

"The buggy was a single-seater, tiny, barely ten meters bow to stern, but the way she whipped around us, it was plain to my duty officer that she was charged by a micro deep space drive.

My duty officer hit the alarm; I got to the bridge within ten seconds after the buggy's first pass.

"I checked our status and proximity-to-mass in vicinity; then my ship's scope analyses of the buggy's thrust and gyrations. She was obviously overpowered for mass, especially in the confined lanes plowed by slow freighters like mine.

"My three-hundred-meter freighter with all storage bays packed bulkhead to bulkhead with high mass, is barely maneuverable under the best of circumstances.

Evasive action against some hot shot in a souped up space-buggy was out of the question.

"It got worse. Not only did the jock ignore my warnings; he lined up alongside my bridge and danced on his thrusters. He flipped from relative vertical to horizontal, then corkscrewed us lengthwise fore to aft and back. To add insult, he whirled his buggy on its tail like a damn dervish, right alongside where I stood on my bridge and then cut across my bow. That hotshot was one good pilot, I'll grant him that.

"After a minute or so of that, the buggy circled my ship, close. The pilot probably liked what he saw, because he surface-snaked us again bow to stern. That must have been boring; he peeled away, tore ahead a quarter-million kay, skewed around, and came straight at my bow, curdling space. When collision was just about unavoidable, he did an up and over. In doing that, he cut us much too close, snapped off a dozen masts, sensors and nav guides.

"The jock must have gone berserk; he took us on for full 'chicken'. He shot ahead about a million kay, flip-flopped, and came at us head-to-head, taunting us with his collision signals. Our computer showed him as boosting all the way."

Another long pause. Brad looked directly at Xindral.

"We collided, head on," he said. "That brightly colored, beautiful little flitter buried itself deep in our forward cargo bay. My rescue team went in, but we knew ahead of time what we'd find.

It was there: chunks of metal, shards of bone, and scraps of flesh splattered

on mining gear, rock-crushers, and other odd pieces of equipment.

"The Space Guard hearings were followed by a quick trial. The jock was the son of a politician, so here I am."

Brad looked away, then back at Ram.

"Your turn," he said. "What's the story on how we became the 'chosen'?"

"The selection was certainly not random," Ram stood and stretched to his full height as he spoke. "Despite the billions of citizens in the UIPS, we're all tagged and catalogued. It's a simple job for the computers to correlate any unique manpower requirements the government might have to the UIPS index, cross-check phys-psy profiles, professions and technical skills plus experience, competence, reliability and anything else that we crank in as rating factors. You mentioned 'three men and three women'; your mission can not exclude gender compatibility consistent with the prevailing psychosocial construct -- this is what we are.

"In my line of work, our data bank produces an optimal selection of personalities, skills and identities for the best possible teams we might need to support our contingency plans. Old stuff; we've been doing that throughout history. Why you folks? The computer selected you, showed where each of you was located and why, and that you were all, shall we say, relatively unknown and available.

None of you will be missed."

Brad and Ram locked eyes as Ram added, "As far as the mission goes, you and your colleagues were sent here for confinement and rehab, whatever the reason and however rehab was to be done. It's just that your team has been diverted. Coddling and other amenities of confinement are not part of our program. If you feel you're being treated unfairly, that's unfortunate. We need every qualified man and woman we can get. The prime requisite is that the team, meaning you and your colleagues, have and share the intelligence, initiative, guts and whatever else it takes to do the job."

"That's another point right there," Brad shot back. "You've assigned us a mission, you tell us it's dangerous, and then add, as an aside, you've judged us up to it, whatever in hell that's supposed to mean. But let me tell you, if I'm the guy to run it, I want to know a lot more. I've got to have confidence each team member will be there when the chips are down. So, what can I expect?"

For a moment, Ram gazed shrewdly at Brad. His eyes twinkled, and his features mustered a sly grin.

"You seem to have slipped into the role of team Commander," he said.

Brad looked away, hesitated a moment, and rubbed his jaw thoughtfully.

"Well," he said, "I agree with what you've said about the mess we're in. No question in my mind that Slingshot is our only option. Obviously, I have nothing else on my schedule. Just doing time in this tin can would be a bore. But that doesn't justify your pushing me -- us -- around. OK, that's said, let's get back to my crew. I'll not pry where I've no business to, but who are they?"

"Their psychological profiles are available to you," said Ram. "I agree, you'll know all you need to know about them to get the job done. I can give you a quick rundown on each now, if you wish."

"I do."

"Myra is a logistician and a Medic certified to Level 4 in space-related trauma, physical and psychological. She was Med-Exec to a research team in a mini-tank town off Venus. Somehow, she got involved with the leader of a gang running controlled substances around the Inner Region. When the net was pulled in, there she was. Tried as an accessory and judged guilty. Nowhere near

criminal in my judgment. She's quite bitter because she was used, and then convicted and sentenced on what she feels are false charges."

"I understand her bitterness."

"Nothing we can do. Your engineer, Hodak, is a damned good heavy-duty spacecraft maintenance engineer. Also lots of experience on a broad range of space support equipment used in surface ops.

He's been all over the Inner Region, and worked on Ceres where he was the spaceport's Chief of Maintenance for about ten years. Got into a fight off Mars while on R & R and killed a guy. Convicted of manslaughter. He's an expert in the martial arts and in using exotic weapons. Space-wise."

"Understood. Next?"

"Zolan. As he said, a communicator and, I might add, from way back. As a child, he was classified 'gifted' and treated accordingly by the system. At the age of twelve, he came up with design refinements for spinnel cracking and transmission that raised eyebrows among the top pros in the field. His skill caused his downfall: he was convicted of illegally penetrating and modifying a database that was integrating a highly sensitive project. Just enjoying the challenge, he claimed.

The project engineer didn't get wise until too late. During the trial he told off his former bosses; called them incompetent and not qualified to pass judgment on him or his work. Anyhow, he got a couple of years to cool off."

"Does this job call for his kind of communications expertise?"

"Yes, and more. Zolan is an extremely important asset for your mission. You'll agree, I think, when we get to your orders and the operation. I should add that, when your training is over, you will all be good communicators. But Zolan is at the hub."

"That leaves Adari and Kumiko. What's their input?"

"Adari is your navigator. She knows both Regions like the palm of her hand, and her record shows she's well versed in nav for the entire system. She got drunk on duty and borrowed the ship's recreation funds without permission to have a gambling holiday on Luna's Station Vegas. She returned broke as well as hung over. To add to her problems, some joker on Vegas gave her a whiff of Titan's deep strata gas.

Almost blew her mind, but she's OK now. Spent a year in hospital on Guardian 18. No permanent damage. Now, she's doing time on the funds charge.

Excellent navigator and gutsy."

"Kumiko?"

"Ah, little Kumiko," Ram smiled. "Last, but far from least. Kumiko is a former officer of the UIPS

Space Force and an expert in space armaments.

She can break down entire systems, and repair and reassemble them, blindfolded, from micro-miniatures to the big stuff. For some reason, her talent made her rather defiant of authority. Took manual control of her ship's guns when her patrol's sensors tagged unknowns inbound across no-mans-land sunside of the Jovian orbit. The unknowns were under a heavy screen and wouldn't cooperate with the Space Guard's self-identification requirements. Her Commander told her to punch a tiny hole in the screens, just enough to identify.

"Instead, she not only blew the screens away, she scorched the bow of a UIPS cruiser on a classified mission. The cruiser was out-of-line, of course; they should have responded to the query; protocols call for them to do so. But Kumiko went too far.

She was forced to resign from the Service, and offered a choice to either join

a penetration team to the Outer Region or work in an arsenal under tight supervision. She made her choice."

"Quite a group."

"All different, yet six of a kind," he said. "None of you, by far, are hardened offenders of the law.

The crimes you were convicted of were, how shall I put it, less than deliberately malicious."

"Hah!" Brad's bitter snort curdled in his gullet.

Xindral shrugged. His manner changed; tightened.

He motioned toward the view tank.

"Let's get on with it, Brad," he said. "There's a lot we need to cover."

Chapter SIX

Brad leaned back, drew his legs in and stretched them straight, heels to the deck. His eyes followed Ram to the dais and as he turned to face him.

"You and your crew will start intensive training in intelligence operations using our most advanced methods. It will cover infiltration, interrogation, psychological defenses against psychic probes and other means that might be used to acquire information from you, under duress or otherwise. You will absorb intelligence countermeasures and counter-countermeasures, identification of military spacecraft and weapons used by both the UIPS and INOR, analysis of our military capabilities and those of our adversaries, covert communications through conventional, unconventional and spunnel channels, and other tricks of the trade. Your quick reaction reflexes will be enhanced through means that will not be apparent to you."

"What does that last part mean?"

"I'll get to it. First, your mission. Your escape from this Station has been arranged. The pieces are being moved into place. Your immediate destination is tanktown Coldfield on Planet Pluto."

The view tank's image of Pluto expanded as did the gray-black contrasts of the planet's surface.

A white light in a mottled area blinked, drawing Brad's momentary attention. His eyes returned to Ram.

"Your initial field of operations is centered in Coldfield," Ram pointed to the light. "Where you go from there depends on the contacts you develop and how well you exploit each opportunity. The tank town has a permanent population of about fifty thousand plus about ten thousand transients. Mix with the transients for starters."

"Get to the mission, Ram," Brad cut Xindral short.

Ram sighed. "We've sent a succession of formal diplomatic missions to INOR," he said, "including a few to the renegades that now run Planet Pluto. We've asked them repeatedly to not interfere with the Slingshot program. We've emphasized to each INOR government that Slingshot is as important to them as it is to us. They're not listening. We're still pressing diplomatic means, meanwhile, our logistics is being disrupted by Pluto's President Narval's hoodlums."

"How does this team fit in?"

"If we send in a military force to sweep away these scoundrels, our action will be seen as an imperialist intrusion into the Outer Region. It will create such resentment among the governments out there that the Slingshot schedule

cannot help but suffer serious harm. Getting INOR's cooperation will also become more difficult than ever.

"Maybe, if we gather enough hard evidence of a conspiracy and confront them with it, they'll change their ways. Right now, they're blaming the attacks on partisans over whom they say they have no control. We don't buy that. We need you to gather and send confirmations to us and, while you're doing that, disrupt the plans and weapons being marshaled against us. Use whatever initiatives you can devise on site. Go where you need to, do whatever it takes to frustrate our adversaries."

"What happens if we fail?"

"Failure is unacceptable. As long as you or any of your people are alive and useful to us we'll get through to you and we'll expect you to keep us current on developments."

"Big order."

"Yes, it is."

"I am, or rather, I was, skipper of a space freighter," Brad said, tenting his hands. "I know almost nothing of military operations, intelligence gathering, and especially covert actions, whatever those might entail. I'm not familiar with space weapons except for garden-variety small arms. Other than Kumiko, I gather that the members of this team are not experts in the weapons and explosives we are likely to encounter or use. You're sending us in against a rough crowd, from the way you describe them. Aren't you risking a lot on us?"

"Absolutely."

"I refuse."

"You're not being given the choice. Neither are the others."

"I can withhold my cooperation."

"I repeat, Brad, you have no choice."

Ram paused, eyeball to eyeball with Brad, whose eyes had gone cold. Ram's voice went as flat as when he had read the group their orders.

"You will be psychologically adjusted as you progress through this indoctrination. The 'adjustment', for want of a better term, is necessary for several reasons. It applies to the entire team."

Brad stared.

"What does that mean?"

"Just that we can't afford to let normal human weaknesses and scruples interfere the mission."

"The hell you say," Brad raised his voice. "You're telling me we're expendable?"

"You're in covert intelligence work, Brad, and you'll be in the enemy's camp. Doesn't that answer your question?"

"Come on, dammit."

Meeting Brad's eyes, Ram shrugged.

"Each of you will be full to the brim with motivational boosters to keep you

oriented to the mission. You won't stray, whatever the temptations. We'll install undetectable barriers against psychic probes; then there are..."
"Damn you, Ram." Brad cut in, his voice crackling with rage. "You sons of bitches are going to robotize us. Expendable is bad enough; you're programming us into suicide."

"Not quite, Brad. Hear me out."

Ram paced restlessly as he spoke, his tall, slender frame swaying, his head changing direction to maintain eye contact.
Brad rose and stood erect, legs apart, fists on hips, fury pouring out in his body language.

"Your team has just been assembled," Ram said,
"yet we don't have a moment to lose to get you in place and operational. Orientation and training will allow no more than four sleeps. The special knowledge and skills each of you needs for this mission will be implanted into your conscious and subconscious minds, and, as it suits our needs, into your survival instincts. We have a long history at this game."

Brad rose and strode angrily up the aisle to the door and pressed the panel that would slide it open. The panel did not function. Other than raise his eyes to follow him to the door, Ram continued talking as if Brad had remained nearby. After a moment's hesitation, Brad returned to his seat.

Ram paused and gazed at Brad sympathetically.

"If you're all going to operate like a well-lubed machine, without appearing to be doing so," he said, "you'll need all the gimmicks we can hang on to each of you."

Ram shrugged and went on, "News of your escape will be broadcast system-wide; all part of the cover."

They'll be suspicious for quite a while, but you've got to infiltrate, despite the risks.

"The mission has many subtleties; you must all understand how they interact. Above all, you must never, despite the most extreme interrogation, betray the mission. In that sense, yes, you are expendable. Small comfort, I know, but insurance against betrayal will entail a simple psy-mod."

"Is there to be a complex one?"

"Yes."

"Let's have it all, man."

"If you are to join these terrorists, pirates, or whatever they are, your characters must be suitable to blend with theirs. On the one hand, you will be loyal to each other and to us; on the other, you, and I mean each of you, will lie, cheat, bribe, subvert, sabotage, and kill for the mission, and if it serves our greater purpose, act convincingly against us. That's one complex psy-mod."

"There's more?"

"There's communications and one other. About comm, off-planet messages from Planet Pluto, especially through spunnel channels, are under the tight control of Pluto's insurgent government.

Transmission facilities are under constant heavy guard. You'll all be checked out by the Pluto's security people to make sure none of you are carrying prohibited comm gear or are otherwise wired."

"The 'other'."

"Last resort. It's need-to-know, if and when needed. When you become aware of the crisis to which it applies it will surface in your consciousness and in the mind of one other member of your team. You'll each know what to do."

"Sounds like a jolly crowd."

Ram grinned.

"I'm sure you'll all have a party. Back to comm: the Log Depot and the Terminal work sites have spunnel centers. Zolan will have the access codes to the Log Depot. At all costs, keep the construction site from becoming involved in this intelligence operation. If word got out that we used the Terminals for covert intelligence or military transmissions, the Outer Region governments would blow their collective tops.

We can rationalize using the Log Depot if we experience piracy and harassment of our transports and citizens. It'll be extremely dangerous to go beyond that."

"No chance of using the Pluto comm center?"

Brad asked.

"Don't count on it." Ram replied grimly.

"What happens afterward, assuming that we survive? Also, can what you're doing to each of us be reversed so that we can return to what, for us, would be normal?"

"In the order you raise them: first, after this is over you will all be free citizens, records cleared, and we'll help you to return to your former lives, or reasonably close to what they were; second, the mods are reversible and you will all be de-programmed.

"You mention survival, Brad. You may be searching for assurance that you'll come through alive. I can't give you that assurance, for you or for your team. In all sincerity, I think that you and your team have less than an even chance for survival.

Understand then, the name of the game is dare, but not stupidly."

Chapter SEVEN

Arms folded across his chest, Brad half-listened to Hodak reeling off status from screens that lined the Raven's flaked, time-battered bridge. The indicators in Brad's line-of-sight, at least those that still functioned, displayed erratic and uncertain status of systems and accessories in the main power plant, fluids pressure pumps, oxygen generators and other vital gear. More than slightly precarious, according to the dials and blinking lights, but the records would show that the ancient utility had been accepted at the spunnel gateway in the void between the Asteroid Belt and Jupiter, despite its technical difficulties.

Sneaking into the tail end of a crowded convoy of Slingshot-bound transports gave them the 'jump' they needed. The Neptune spunnel exit would do fine and provide a seemingly reasonable story under interrogation, if it came to that.

Stripped to her vitals, all but the simplest decisions diverted from her computer, the Raven reminded Brad of his old freighter when he first took her over. The Raven's maintenance records showed that she had slipped to less than marginal.

Hodak's expertise with duct tape and hand tools would get credit for the successful escape.

Planet Pluto, in her ashen melancholy, lay dead ahead. Sprawled across the frozen methane plain a couple of points to starboard Coldfield's lights

shimmered through its frost-crusted, barely translucent dome. Stretching away from the twenty-kilometer-wide city, the mottled terrain spread in all directions, slashed by ravines and man-made, soil-fused excavations, roads and bridges. Mooring towers, launch and landing pads spotted the barren landscape across which crawled processions of utility tugs. Near-space cargo and passenger shuttles and taxis landed at and departed from pads adjacent pressurized air docks into the city. Deep-space transports and utilities rode high, immobilized by fore-and-aft mag-beams at the pinnacles of two-hundred-meter mooring towers.

The Raven drifted closer. Brad noted the hard orange glow of energy packs encapsulated in vehicles moving about on the dome and surrounding land surfaces. Adjusted magnification defined the vehicles as personnel carriers, flatbed trailers, dome fissure-fusers, and methane frost scrapers. Coldfield was a busy place.

Charon drifted into view from over the horizon as the Raven nosed forward. Only Lamplight's dome and high-intensity flashers that pinpointed its landing pads, gateways and walkways broke the moonlet's solid gray-green landscape. Further out, the logistics depot slid slowly across the sky like a glowing green-and-orange sausage.

Zolan keyed a signal to Pluto Traffic Control as the Raven crossed the line into the planet's jurisdiction. He added the ship's name and call sign.

Several minutes passed without response.

Zolan leaned back from the console and winked at Brad. News of their presence had preceded them and the locals were likely wondering why had the ship appeared in their skies.

The receiver squawked, "Raven. Stand by for escort."

A yellow-and-green-striped space tug drifted alongside and flashed its 'Follow Me' signal. Brad nodded at Zolan who acknowledged the tug's instruction. Adari trimmed the Raven's controls and clamped a mag beam on the tug. She and the tug driver exchanged salutations and prattled navigational details as the escort moved off with the Raven following like an elephant leashed to a flea. Adari logged their destination: Slot 09 along Coldfield marker 13K.

Their passage was slow. Despite the heavy traffic of tugs, taxis, and other small craft the lanes were orderly and the flow steady. Traffic thinned as the ship drifted across surface-parked lots for small vessels and disappeared entirely as the Raven closed on its mooring towers.

The escort rattled off the coordinates and the Raven fixed her position. Adari released the mag-beam. The tug slipped around to starboard and mag-nosed the clumsy vessel into its slot. A command from the tug and mooring beams glowed at the fore-and-aft towers to immobilize the Raven.

Adari and the tug driver exchanged rough civilities and the escort was up and away.

"Lock down, fore and aft," Brad intoned. "Safety check mooring beams and vital connections. Secure all internal hatches and passages. Set environment controls at minimal levels for an indefinite stay. Report."

He keyed the order into the log, added the time of entry, and keyed the record closed using his suspended Space Master's code.

Myra assembled records required by port officials.

Hodak and Adari consulted checklists as they trooped from one compartment to the next; Hodak opened and closed switches, turned wheels and secured and sealed valves as Adari observed and verified. She surveyed each station, mumbled,

"confirmed," and initialed the appropriate items on her copy of the checklist.

Zolan closed down the deep space communications system and inspected their suit's intercoms. Kumiko drew six handguns from a rack, checked firing controls and charges, and fitted the weapons to suits.

Zolan called for a taxi.

##

"Lock-sealing the effective range on personal weapons is the first order of business for all newcomers."

The officious clerk in the Port Registration Office was skinny, short, stooped and sallow; and he squinted as if he had just emerged from darkness into glare. The deep wrinkles around his mouth twitched from cast-iron grin to scowl and back as he pointed from Brad's holster to the waist-high counter that separated them.

Brad drew his sidearm, checked the safety and set it on the counter. His companions followed suit. The clerk hefted each weapon in turn, double-checked the safety, and positioned it under a penetray scanner to check for illegal modifications and, using a hand-held standard, reset the range to Coldfield's limits.

"Five meters, max," he said as he worked, "and minimum-effect level at all times. Set it any way you want when you leave the dome, but reset it as soon as you come back in. We do the first one for the record; after that it's up to you. Penalty for violation depends on circumstances; minimum is a couple of sleeps in the brig."

He peered at them across the counter.

"We know who you are and where you came from," he said. "Keep out of trouble and you'll get by OK."

As he finished each weapon inspection he returned it to the countertop, pointing the muzzle into a shielded enclosure and stepped back behind a barrier. The owner picked up the sidearm, rechecked the safety and the setting, and slipped it back into its sheath.

"Hope you were listening when I said we know who you are," said the clerk, scowling, looking from one to the other. "If you didn't hear me the first time, I'll repeat it: keep out of trouble and you'll get by OK. Y'hear?" Brad scowled back, silent. Hodak grinned; Myra and Kumiko nodded and vigorously pointed at themselves.

"I hate trouble," Myra said with solemn sincerity.

"Me too," Kumiko chimed in. "I hate trouble."

I really do."

Adari laughed, leaned over the counter, and rumped the little man's scant hair. He jerked away.

"Wouldn't think of it, Buster," she boomed.

She drew her hand back, looked at the palm, and rubbed it on her suit as she turned away.

Zolan ignored the scene.

Hodak leaned over the counter and waved the clerk closer.

"So you know where we're from, do you?" His voice was a friendly growl and he got a curt nod in reply.

"Then you know we came here for sanctuary,"

Hodak said. "How do we get it?"

"Your entry permit is provisional; permanent party status depends on how you

adjust to our rules."

"This is the only place left to us," Hodak added a whine to his voice. "We're not about to start trouble and wear out our welcome." Switching to a hoarse whisper, he added, "Look, man, we need a place to put our stuff, and then we want to look around. Maybe we can find action in our kind of work that'll build up our credits. We've talked it over." He thumbed to include his companions.

"We're available, and we can't afford to be choosy.

The Inner Region doesn't mean a thing to us. Know what I mean?"

"Sure."

The clerk repeated his grin-scowl, snickered, and slapped Hodak on the shoulder.

"What's the word on living accommodations under the dome?" Adari cut in.

"Gotta register for permanent quarters, and you'll need a permit to build a place of your own. They're almost impossible to get. Try for 'temporary' until you know your way around. Good place to start is the Condor over on Con-man Slash."

"How do we get there?" Kumiko asked.

"Taxi to dome air lock 22," he replied. "Inside, take the second transit strip. The off-ramps are Smuggler's Alley, Faithhealer's Spread, Plunder Cove, Bunco Crawl, and then Con-Man Slash.

It's in the center of town; you can't miss it."

He waved them toward the air lock. "On your way, folks; you're cleared."

He watched them suit up and enter the air lock.

When he heard the whisper of the outer door, he lifted a comm device, pressed buttons and spoke hurriedly.

Chapter EIGHT

Clearing the outer door, Zolan leaned against the buffer, tightened his bootstrap with one gloved hand, the other pressed against the wall to steady himself. Seconds later, he pulled away, shook his leg to settle the boot for comfort, and caught up with Brad.

Grasping Brad's elbow activated the secure to-suit circuit. Myra, Hodak, Adari and Kumiko crowded in close and energized a camouflaging mix of artificial jive and loud laughs on the nature of the terrain, the location of the Transit Strip, the tank town's appearance in the distance, whatever served as a barrier to electronic penetration.

"The clerk passed the word about us," Zolan said.

"Gave full descriptions and said to notify someone called 'Scarf'. By the way, he did a lot more than check our weapons while we stood at the counter.

We were scanned down to our bones. He's sending the file to his control, including the main portal's lock combination on the Raven. He'll have a lifter ready for someone who's to arrive soon. Looks like they're going to search the ship."

"Fine," Brad nodded. "Nothing there to cause us a problem. Pass the word as we move along.

No changes in plans until some contacts develop.

Then we'll regroup and go on from there."

Boarding a robo-taxi that had just discharged suited figures at a nearby mooring tower, the Sentinels lined up along the taxi's portal. Zolan consulted a placard on the instrument panel and punched in the coordinates for Air Lock 22. As the flitter rose and headed toward the dome Brad thought back as he

weighed their chances.

The processes of intense physical training and weapons drills, the concentrated telepathic loading of Plutonian political history and its government's despotic apparatus had been cleared from their consciousness; the substance remained. Nor were they aware of any new or altered neuro-muscular capabilities or functions. They knew they had a job to do, and what the job was. They were on their own: no mercy from one side, no help from the other.

More than three-score sleeps had passed since their choreographed escape; only the events flashed through his mind; why they happened did not.

The Raven, on a lengthy umbilical-catwalk, had been tethered to the Guardian Station, ostensibly for maintenance after a servicing round of nearby communications boosters. The ship was skeleton-staffed. Brad and his companions had been secretly transferred beforehand to a cubicle adjacent access to the catwalk.

At Brad's signal, the Sentinels moved quickly.

Hodak, acting as clumsily as he could, slammed and locked the passageway safety doors with the loudest noises he could generate, broadcasting the unusual activity to all within hearing range and for electronic sensor pickup. They had lurched and stumbled noisily along the catwalk, Adari suppressing giggles. As the last of the six cleared in through the Raven's air lock, Hodak had hit "Emergency," on appropriate switches and the ship-to-station servicing lines went through quick-disconnect. Portals closed and locked.

Within seconds, Brad was on the bridge and his crew at rehearsed departure stations. The caretaker officer and his two aides stepped aside, silent, businesslike. They were Ram's men.

Adari hit the tether-disconnect. Disengaged, the catwalk coiled in toward the station as the ship edged away. Signaling Hodak for minimal repulse and acceleration to increase the drift, Brad ordered all hands immediately into accelo-nets. He increased thrusters to 'low' and, following a moment's pause into 'intermediate'. As soon as he sensed they could handle the acceleration he stepped the thrust up to successive levels.

The old tub creaked, pitched, rolled and yawed; lights flickered and dimmed; systems slipped into yellow or borderline red on half a dozen indicators, all recorded on the ship's log. The Raven all but flapped wings, and true to her name, took off. To the hundreds who watched from the station's portholes, the escape was real. The cover might hold.

The alarms went out from the Guardian Station to Sector Space Guard, and from there to a patroller conveniently distant.

Messages spunneled throughout the sector and to Earth and Luna: "Escape of dangerous felons,"

"Sabotage of station surveillance system,"

"Station 15 unable to respond in time," or

"Immediate pursuit and capture essential" with abundant 'Expedites' and 'ASAPs' scattered throughout the text.

The scenario was exquisite. The word was out, and within hours, had spread system-wide.

##

A couple of million kay out, Ram's men boarded a well-stocked lifeboat and headed back to a prearranged pick-up. The Raven settled into outbound, Brad aware of an opportunity to merge with traffic at a not too distant spunnel gate.

##

Brad brought his mind back to the present as the flitter settled on the landing pad near air lock

22. Entering the pressure compartment and attaining atmospheric balance the Sentinels removed their suits and sealed them in wall lockers. The switch of weapons and holsters to clips on their inner coveralls completed, they strolled out of the storage room and mingled with a throng of citizen commuters. Moments later they were on a moving transit strip on their way to beautiful downtown Coldfield.

The strip cut across and through narrow streets and alleys lined with huts fused from the gray detritus of the planet.

Occasionally, a mall or square appeared along the transit route, lined with workshops, playgrounds, and colorful private houses or apartment complexes. Occasionally, they passed a dwarf tree or a flowering shrub in an earth-filled container.

Running and leaping alongside the moving strip as it passed slowly through stations, hawkers waved and shouted at the commuters and passers-by, inviting them to examine and purchase the novelties and artefacts they waved about or in nearby open air stalls. From above, lighted globes, strung close beneath the dome, cast a harsh, grotesque glare across the city.

People swarmed, and a raucous clamor shrilled along the tightly packed streets and alleys. Men, women and children in all shapes and sizes: tall, short, stocky, slender, organic, bionic, robotic, and combinations thereof. Hairstyles ranged from totally shaved skulls to elaborate hair-puffs, and garments from dreary, simple shifts to flamboyant, complex robes that twisted, circled, and knotted around their wearers.

This was Planet Pluto post-secession: a mixture of migrants from across the system. The tank town took them all, for itself or for Slingshot, or both. Those who stayed procreated, natural or clone, according to their customs or inclinations. The effect was a mixture of breeds whose interactions had brought out a bewildering patchwork of hybrid cults, philosophies and arts. Behavior ran the gamut; newcomers accepted or were overwhelmed. Kumiko pointed ahead. The Condor loomed, a sprawling, multi-storied, down-at-the heels apartment-hotel, its surface colors akin to the low, drab rise on which it stood.

Disembarking the strip, the companions assembled, slipped into an alley and entered a portal into the crowded lobby. Joining the laughing, chattering throng, they squeezed their way to the desk robot, and registered as a group. Individual identicards ejected from an aperture, assigning them to a small apartment with sleeping cubicles off a common room. The communal lavatory and electronic bio-shower were down the hall. Entering the apartment and tossing their gear into a corner, they kept up a running chatter. Hodak's main concern was where their next meal was coming from.

"Gotta find jobs or we don't eat," he barked as he hoisted his pack on to a sleep pad and tore at its flaps.

Kumiko and Adari opened and slammed cabinets, checked housekeeping supplies and "ooh-ed" and

"ah-ed" each discovery. Myra and Brad stomped into a sleeping cubicle and heaved the sleeping pads first one way, then the other.

"Look in the corners," Hodak bawled across the narrow hall, "that's where the

little buggers build their nests."

Myra shrieked and drew her sidearm as Brad stepped back. She set the ray-spread to conic and ran the beam from one end of the pad to the other, into the corners and along the walls. They inspected the results, laughed loudly, and went on to the next cubicle to repeat their exuberant performance. Zolan strolled from one room to the next, sharing the action with his noisy friends, meanwhile scanning the walls, ceiling, floor, lighting fixtures, visi-screens and cabinets.

He rounded toward Brad and brushed against him. His fingers pressed their message. The others, watching, drew the correct conclusion.

The rooms were bugged, sight and sound.

Chapter NINE

Brad and Hodak pushed into the Charnel Pit, Coldfield's popular tavern.

The bar-room was noisy, grimy and crowded.

Incense streamers slid and coiled along the soil-fused floor, their dissipating pungency unable to disguise the acrid stench of sweaty bodies and unwashed garments.

The long bar was hidden by leaners. Narrow aisles snaked among benches and clustered tables around which boisterous, elbowing humanity teemed. A coarsely seamed face along the bar turned, observed Brad and Hodak as they glanced around from inside the doorway. Whispers went down the line, jumped to the tables and around the room.

The tumult ground down as necks craned. A hum rose and fell as Brad and Hodak were inspected, commented upon, and judged. It didn't take long for the noise to return to its former level: the amenities of bar-rooms everywhere. From where he stood, Hodak failed to see a table with a couple of empty chairs. They waited.

Shortly, nudging Brad's arm, he nodded toward a table newly vacated against a wall.

They shoved and twisted through the narrow spaces to the table in time for Hodak to slam his hand, palm down, flat on the tabletop, glaring off a trio of competitors.

They sat, and Hodak pressed the glow-disk in the center of the table to summon the robo-dispenser.

Meanwhile, they surveyed the throng.

Some types were recognizable; others would need to be guessed at. Mostly, they were familiar: spacefarers and space tug cowboys in tight-fitting foundation suits, construction stiffs in fitted helmets and spacer harnesses, clerks and tradesmen in business tunics, and street people in coarsely woven, grimy open-necked shirts and shorts.

Slingshot technicians' jumpsuits were marked by distinctive shoulder patches. Scattered in knots, or leaning against walls and supports, men and women, bare to the waist and sporting sheer breechcloths or none at all, flaunted their wares.

Brad recognized spoilsmen plying their trades.

They were the dandies attired in colorful, skin-tight sports suits: thieves, pickpockets, high-tech gear rustlers, black marketeers, professional gamblers, and experts in all the scams that are or ever were.

Hand and shoulder weapons were everywhere: lashed to thighs or slung across backs, flat on tables or stacked along the bar. Churning and jostling, the swarm shifted constantly: singly, in couples and groups; from fledglings newly

on the wing to old timers diminished by adversity. Most were in their prime: hard of face and body, wary, unbridled and self-seeking. They mixed freely.

At a table further along the wall near to where Brad and Hodak sat, Drummer gently swirled the contents of his drinking goblet. He was gaunt, well past middle years, with a high-boned countenance.

His head was capped by snow-white hair trimmed straight across at his shoulders. Dressed simply, Drummer wore a dark cloak over a white, open-necked blouse tucked into loose breeches that ended a bit below his knees. He did not bear a weapon.

Drummer stared about and searched for strangers that might serve his purpose. When he heard that the Raven was at planet-fall, he had called for and reread all available newscasts and reports to refresh his recollections of their crimes, personal backgrounds, and escape.

Were they really escaped prisoners? Or were they agents of the UIPS? If they were fugitives they might be suckered into President Narval's mercenaries where their spacer skills would help fill the gaps. If they were revealed to be UIPS agents, they would be quickly disposed of, or manipulated and exploited through false leads to Narval's benefit. When no longer useful they would be terminated.

The newscasts and intelligence summaries on the escape were insufficient. Drummer's position as one of Narval's closest advisors, and his own private and secret ambitions, compelled him to learn more about the newcomers. How could they fit into his schemes?

Drummer ordered a fresh drink from a passing robo-dispenser. It arrived in a large snifter.

Cradling the rounded bottom in his palm, he swished the gold-hued liquid with a gentle motion, eyes moving from the drink to the crowd to Brad and Hodak, and randomly round again.

A hard-muscled sledgehammer of a man barged into the Charnel Pit, sullen anger knotting his beefy face. His military uniform was skin-tight: a black tunic belted over blood-red breeches. The military helmet he wore was also halved black and red as were his holster and the handgrip of the protruding weapon. His black cavalier boots were made for swaggering. Formidable.

Deep, red-rimmed eyes glared from under the helmet's visor, searching for an open space along the bar. The line was solid.

"Open ranks," he snarled, and leaned heavily into the instant gap.

The barman rushed forward and raised his hand in respectful greeting.

"Honored to see you, Major Scarf," he said,

"what'll it be?"

"Firehouse Red, and I don't mean the runny slops you peddle to the bar flies."

The barman dashed off and returned with a long-necked flagon and a large tumbler. He poured a slow-flowing, crimson liquor that bubbled as it settled. The barman set the brimming tumbler close to the Major's massive, thick-fingered hand.

The Firehouse Red disappeared in a single, spasmodic swallow, for all its slow-flowing nature.

The barman stood by. The instant the tumbler slammed down, he refilled it, the ritual repeated in silence.

##

Finally, the sledgehammer hesitated, belched, and, with a satisfied sneer, scratched his crotch. The barman filled the tumbler a third time and turned away. Instantly, the flagon was yanked from his hand. The barman glanced back at the flagon, Major Scarf's face, grinned sheepishly, and kept going.

Placing the flagon alongside on the bar, Scarf raised the half-filled tumbler,

fondled it, and tossed a scornful glance up and down the line. Few met his eyes, and those who did looked elsewhere as soon as he fixed on them. With a snort of contempt he wheeled to face the room. Removing his heavy helmet and lowering it to the ground alongside his leg, he leaned back to rest his elbows on the bar's edge.

His eyes scanned the room, sectoring the crowd and scrutinizing each person. Taking in the tables along the wall, he paused at Brad and Hodak, and scowled at them steadily through half-closed eyes.

Brad and Hodak returned Scarf's gaze with expressions cold and closed. The Major's eyes moved on and fixed on Drummer. His face twisted into a malevolent grin.

Chapter TEN

"Hey, everybody, quiet." Scarf's spit-and-phlegm bellow tamped the bar-room noise. It ground down.

Pointing at the solitary figure seated at the wall table, Scarf smirked and barked, "Give us the magic words, Drummer."

The crowd's eyes went from Scarf to Drummer and back. No one spoke.

"Drummer knows," Scarf added sarcasm to his tone, raising his finger to tap his temple. "The future is open to him."

Drummer sat, transfixed, staring at Scarf. His free hand closed into a tense fist, then opened to cap his knee.

"C'mon, Drummer," Scarf went on, derisively, "tell us what you're going to do to make things right for all of us, and how we'll all be prosperous after Slingshot cuts away."

His voice became harsher, gibing.

"You've been sittin' on that Plutonian Council for years, Drummer, pushing your pet ideas to loosen up controls here and give more civil liberties there. You call yourself a Progressive, whatever the hell that's supposed to mean. To me, you're a revolutionist, undermining Narval's government, and trying to cram your politics down our throats."

Scarf moved away from the bar, drink in hand.

Taking a long noisy swallow, he fixed his eyes on Drummer from above the rim.

Lowering his drink, he belched again and wiped his mouth with his sleeve.

Placing the tumbler on a nearby table he took another step toward Drummer.

"Being on the Council saves your neck for now, Drummer," he said with venom.

"Soon as Narval gets wise to you, and kicks your tail off, I'll be coming after you."

He reached Drummer's table.

"On second thought, why wait that long," his voice changed to a snarl. "Now's as good a time as any."

He grasped the front of Drummer's cloak and jerked him to his feet.

"Tell me, old man, what can you do that Narval can't?"

The onlookers' silence hung heavily. The stale incense rose in eddies and diffused the shadows cast by the glowing wall sconces.

"Show's over, Scarf," said Drummer in a low voice, trying to twist away. "I've got to be on my way."

He placed his hand over Scarf's huge paw to loosen its grip.

They were of equal height, but Scarf, more than twice Drummer's mass and build, would have none of it.

"The hell you do," he growled, tightening his hold.

Scarf began to shake Drummer, at first slowly, then with growing violence. Drummer, unable to maintain balance, slipped to his knees. Scarf jerked upward, raising Drummer on unsteady feet. Ramming his face close, he cursed in a loud, coarse monotone, swinging Drummer in one direction, then another. Unable to disengage, Drummer was confused. His cloak tore, his hair fluttered about his face, and specks of spittle flew from his lips.

Brad and Hodak watched the action from where they sat. Scarf's sudden outburst was of more than passing interest. He had called his victim "Drummer," a name familiar to Brad through the many intelligence briefings he had been given during indoctrination; also, "Scarf" was a name used in the immigration clerk's call from the landing site.

Other than military, who and what was Scarf, and why was he tormenting Drummer? More important, could this bar-room brawl be exploited to the Sentinels' advantage? They desperately needed contacts within Narval's regime. Their mission did not allow the luxury of time. An opportunity had just fallen into his lap. Brad leaned toward Hodak.

"The bruiser," he said. "Take him down, but easy."

Hodak shot a quick glance at Brad, rose and shambled between the tables until he was behind the sledgehammer.

Tapping Scarf on the shoulder, he said quietly, "Hey, c'mon, let the old geezer alone. He was just minding his..." Scarf reacted with incredible speed for his size. Shoving Drummer away, he whirled, arm extended. Powered by the force of his pivot, the edge of his rigid hand aimed directly at Hodak's throat. Hodak stepped back and to the side, gripped Scarf's thick wrist in his muscle-corded hands. Using his attacker's momentum, Hodak twisted and bent. The Major's huge body catapulted through the air and crashed on to a table and its several chairs, sending the occupants spinning.

A hand appeared from nowhere and pulled Scarf's pistol from its holster. In seconds, Brad was back at his table. The bar-room went deathly silent.

Scarf bounded up, spitting saliva, floor dust and curses. He reached for his weapon and gaped when he felt emptiness. Recovering, hunched forward, he charged Hodak, murder in his eyes.

Freed, Drummer stepped back to the wall, shaken, not understanding what was happening. He searched for a safe place. Focusing on the struggle he recognized Hodak as one of the escaped prisoners he had been speculating about. Taking a chance, he moved toward the table from where Brad watched the action and the crowd. Hodak, waiting for Scarf's charge, stood balanced until the last fraction of a second, then stepped aside. Scarf passed like a juggernaut and smashed into the bar.

Leaning heavily over the bar, breathing in convulsive gasps, Scarf turned his head to glare at Hodak. Running his hand down his thigh he felt again for his weapon. Eyes narrowed to slits, he searched along the filth-strewn floor. Scanning, his eyes passed the table where Brad sat, stopped, and snapped back.

The weapon, distinctive by its red and black grip, lay there. He saw Brad

watching, and Drummer nearby, back to the wall.

Scarf lunged at Hodak, arms grappling. Hodak danced back and away. As Scarf passed, Hodak grasped his wrist and elbow, twisted, and curved Scarf's arm back and up between his shoulder blades.

Hodak was gentle. With his free hand he probed and manipulated nerve centers in Scarf's neck and shoulders. Scarf dropped to his knees, then slipped back on to his rump, legs spread, arms slack, face perplexed. It was enough.

He sat there, shaking his head to clear it. Looking up, he saw Hodak standing a short distance away, and beyond, a ring of faces, several grinning, others frightened and wary. Shifting his eyes to where his weapon lay, Scarf glared at Brad and Drummer.

The silence was broken by the shuffle of Scarf groping upright, using a nearby table for support.

He lurched to the bar and leaned over it for several seconds. Straightening, he grasped his helmet with one hand, wrapped the other around the flagon of Firehouse Red, and stalked out of the Charnel Pit.

Chapter ELEVEN

The bar-room's heavy vapors seemed to cease their dreary ballet. An uneasy cackle, strident and jarring, erupted from a corner, accompanied by the flat slap of a hard hand against the bar's rough counter. The tension dissolved into a ripple of raucous laughter. The hubbub resumed, and quickly returned to its former level.

Myra, followed by Zolan, Adari and Kumiko, entered the bar-room, spotted Brad and Hodak, and moved toward them, snatching empty stools along the way. Placing the stools, they encircled the table.

Their eyes took in Scarf's heavy-duty red-black weapon, and then Brad and Hodak, elbows on table, scanning the crowd. They saw Drummer nearby and noted his disheveled appearance.

They rose silently, rearranged their seats, and sat again, backs against the wall. Kumiko fixed her eyes on the entryway; Adari scanned in the opposite direction, taking in the bar. Zolan and Myra joined Brad and Hodak to observe the roisterers resume their bar-room habits.

Drummer still showed his embarrassment, apprehension and rage. His eyes darted from the doorway to Hodak to Brad. Brad turned his head slightly to take him in, then pointed to an overturned stool nearby.

"Pull up and sit a while."

"You in charge?" Drummer asked.

"No," Brad said, "we're each on our own. Just socializing."

He motioned at the stool again.

"C'mon, join us."

Drummer looked closely at Brad, then at the others who ignored him. Brad's expression was bland, neutral.

Drummer felt certain that Scarf would return soon with reinforcements. He had to get out, fast, and he needed an escort to safety. Beyond that, he wanted to know why the squat powerhouse, now sitting calmly at the table, had intervened. He must have realized that his interference had been made at great personal risk.

Drummer righted the stool and stared intently at Hodak as he sat. Hodak,

sensing Drummer's scrutiny, glanced sideways at him, winked straight-faced, and returned to observe the crowd.

Drummer finally turned to Brad, convinced he was the leader of this pack.

"We'd better get out of here, now," he said, his tone urgent. "Scarf'll be back as soon as he collects a few of his goons."

"What was it about?" Brad asked.

"No time for talk," Drummer replied, gesturing his impatience. "We've got to get away from here, and I mean right now."

"Sure, but who is that guy?"

"Major Scarf, Chief of Internal Security for President Narval. He has his own troops, and I don't doubt that he's lining them up right now."

Drummer's fingertips tapped the table in nervous staccato. "Let's get out of here. Now."

Brad stood, and the others rose with him. "Lead the way," he motioned Drummer toward the doorway. "We're not familiar with the territory."

"Leave that to me," said Drummer.

Brad hefted Scarf's weapon, slipped it into 'safe' and, passing the bar, handed it to the bartender with a nod that was returned with a respectful wave.

Chapter TWELVE

Mixing with the street people, Drummer in sight up ahead, they moved swiftly. Adari trailed Drummer;

Brad next followed by Myra and Kumiko. Zolan and Hodak brought up the rear. Drummer successfully resisted the temptation to look back.

Zolan tensed, activating the mind-mike in his armpit. Brad acknowledged by stepping up his pace.

He passed Adari and drew alongside Drummer.

"Your buddy, Scarf, must have had a friend in the bar," he said. "We're being tailed."

"Another hundred meters. Cut into the alley on the left."

Drummer responded. "It'll take us through a maze that still confounds the street people. We'll have a better chance in there to lose whoever is following."

A corner loomed. They squeezed into a narrow, rubble-strewn passageway between high, rough walls. Stumbling along the barely lighted shaft they entered an alley, equally shabby, crowded with street people, refuse, and abandoned machinery.

They sped along the alley, noting its darkened, fuser-formed doorways, some empty, others clogged with trash. Inside, they saw the shadowy outlines of men, huddled women and children.

Drummer twisted from one alley into the next, and then another.

He ducked through a gap in one wall, squeezed along a narrow hallway and exited into an open space. They packed up close, running and stumbling.

Drummer slowed next to a wall of composite blocks.

Several were missing, leaving a space through which they squirmed. It was tighter than they had experienced. In near darkness, they had reached a dead

end.

Ahead was loose rubble forming a heap about two meters high. Drummer clawed his way around the side. He motioned the others forward and slipped out of sight.

Following one behind the other, they saw an opening in the surface. Responding to Drummer's beckoning, they dropped into its darkness. The fall was less than a couple of meters. A light glowed from a wall to just enough to illuminate Drummer.

They were in a small, roughly rounded chamber.

The walls were fused rubble, irregular and jagged.

The floor was a mixture of Plutonian detritus.

Drummer knelt beside a rock that protruded from the wall. He twisted the rock, pulled, and pushed it sideways. Reaching into the vacated space, he placed his palm on a flat, smooth disk.

A low hum from the wall. A fissure formed where the wall met the trash-laden floor. The breach lengthened and curved, its ends meeting the wall.

The section dropped away into darkness.

"Move, move," Drummer snarled his impatience.

"Scarf has this entire sector blocked out by now.

He'll throw his gangs into the alleys and cover every square meter. These subsurface crawl spaces and links are our only way. Feel for the ladder."

He lowered himself through the opening and vanished.

Brad was committed. His glance ordered the others to follow Drummer. Hodak passed his light to Brad and dropped through first, then Zolan followed Myra, Adari and Kumiko. Brad dropped through and pushed the cover up until it snapped. Closed.

He felt vibrations above him, then, after several seconds, silence.

"Must be spreading the dust of our tracks and the outline of the cover," Zolan murmured, looking up from immediately below.

The ladder was rickety, and the shaft narrow and long. When Brad reached bottom, he was in a low gallery, about two meters square, hacked out of the rock. They were in the hub of a dozen passageways that led off in as many directions from low entries.

Drummer bent and disappeared through one of the entries. One after the other, they followed.

The entry led into a utility service tunnel, the walls lined with scores of braided cables and banks of wall switches and junctions. Neutro-lighted sconces glowed at intervals, providing dim direction to their flight.

Scuttling in single file and dodging cables slung between supporting columns, they covered distance swiftly. Brad moved up behind Drummer, replacing Hodak who dropped back to rear guard immediately behind Zolan.

"Scarf knows about these utility passages, and that we would head for them," Drummer gasped over his shoulder. "What he doesn't know is which access and branches we took and where we'll surface. A slight advantage, if we act quickly."

They scampered and slithered for more than half an hour. "Looks like we're the only ones down here," said Brad.

Drummer halted to recover breath. The line closed up.

"Normal," Drummer gasped. "These passages were abandoned years ago, after we

switched to local transmission from control modules suspended beneath the dome. Too much trouble to collapse the subsurface tunnels, I suppose. Also, we had to consider the surface effects of a collapse.

Couldn't afford the chance. As you see, the network is still useful."

He shot a quick glance at Brad, then ahead along their route.

"Don't get the impression I've got to run from Scarf," Drummer said, heaving another deep breath,

"or even to avoid him under ordinary circumstances.

Obviously, he was drunk. My presence in the bar-room gave him an opportunity to enhance his image.

Your companion's intervention, I admit, relieved the pressure, but the method he chose may prove unfortunate."

"Why this melodramatic escape?"

"To avoid a confrontation in which Scarf, backed up by his troops, would be in complete control; a confrontation in which you couldn't possibly hold your own. The encounter has already caused me embarrassment. I don't relish a repetition."

Drummer paused. "And there's another reason."

"Oh?"

"I know who you are, and the circumstances that brought you and your associates to Planet Pluto.

I want to know more."

"Why?"

"My answer to that depends on what I learn about you and your companions."

Drummer slowed to a fast walk, searching spaces between the bundles of the thick cables.

"So that you know," he said, "we're heading for my villa-dome about five kays from the city."

Drummer grunted that he'd found what he had searched for. Clawing under a flap, he uncovered a depression in the wall alongside a cable junction. He pressed himself in behind the junction and into a cranny, motioning to Brad. One by one, they squeezed through, and found themselves at the foot of a flex-ladder. Drummer climbed; they followed.

They emerged through a manhole into a kiosk next to a transit strip. Darting from the kiosk Drummer boarded the strip and nodded back to Brad to join him. Within moments they were all gliding toward an air lock leading to the outside.

Entering the air lock, they hurried into space suits from the public service rack, checked each other's seals and oxygen reserves, tested the communications and pressurization systems and crowded into the pressure-equalization chamber. Air lock and suit pressures up, balanced and checked, Drummer jerked a lever and, a moment later, they ducked under the rising panel to the outside.

Running along the ramp Drummer flashed his suit lamps at a parked robo-taxi. The signal activated the craft and it was in ready status when they reached it. Boarding first, Drummer keyed in coordinates. As the last Sentinel scrambled through the hatch he hit the lift button. The taxi rose and curved away.

Chapter THIRTEEN

The black skies and drab mounds of Planet Pluto were spotted with color. From where he stood on Drummer's enclosed patio, Brad looked through the

transparent shields at ice-gray Charon low over scarred ridges to the west. Shifting his eyes slightly brought into focus the panorama of Coldfield's dome and its multi-colored lights. The orange-green cylinder of the Slingshot Logistics Depot gleamed in the black sky.

The Fandango force field around the depot shimmered. A wide gap separated the transports loading and unloading at the portals inside the force field from those outside waiting in line or in clustered formations until moorings inside became available.

The short taxi ride from Coldfield had been uneventful. The formalities of introductions behind them, the host and his guests had refreshed themselves, dined and rested.

Drummer joined Brad and followed his gaze to the orange-green cylinder and its gaggle of transports and tugs. The silence was brief.

Drummer said, "I've had your ship searched."

Brad shrugged, eyes scanning the scene outside, and replied dryly, "Hope it was worth your while. To us, it was transportation. Any old tub would have done.

As it turned out, we were lucky."

"I'll accept that it's an 'old tub'. I gathered as much from the reports I received," Drummer said,

"but I understand the primary systems are in good condition, considering the vessel's history and the spunnel shocks the ship must have experienced on the way. How does it all fit together?"

"How does it concern you?" Brad turned to face Drummer.

"Come, now." Drummer shook his head impatiently.

"Let's not act naive; it doesn't go with the rest of you. But," he added waving his finger at Brad as he turned away, "just so you don't make a habit of responding to my questions with diversions, be aware that I am a member of President Narval's Council of Advisors. Despite the incident with Scarf, I have considerable authority and resources at my command.

"I've checked through my confidential sources in the Inner Region," he went on, "and confirmed you are all convicted criminals that escaped from a Guardian Station prison. Now, for starters, how did you manage to get a lift by spunnel and make it this far without tearing that old wreck apart? Those vessels don't have navigational gear for trips to the rim, nor do they carry the required gear and supplies. Straight answer."

"We're spacers," Brad said. "One of us is an experienced maintenance engineer. Another is a space navigator. We've all knocked about the space-ways a bit on assorted jobs. I was Captain of a freighter before the Space Guard and the Transport Board took my ship away from me on trumped up charges, and then sent me up for five years of rehab. We teamed up on the Guardian Station, worked out the details, kept our noses clean and our eyes open, and, when the chance came, grabbed it. We did have a few breakdowns, but we kept her moving along until we could attach the ship to a convoy through the spunnel. We took our chances and made it."

Drummer shook his head. A muscle twitched in his jaw.

"The reports I received identified your former professions and gave me the rest of your personal histories. Frankly, it has me wondering: a ship's captain, paramedic-logistics type, a maintenance engineer, communications specialist, navigator, and a weapons technician. Wasn't it odd to have these special skills fall into place?"

"Not really," Brad countered. "I could have made up any kind of crew I wanted. The station has lots of spacers under lock and key. These folks happened to fit in with my plans, and they were as anxious to get out as I was. It worked.

Now, what's the problem?"

"The problem," Drummer replied, "is that a half-dozen escaped convicts with exceptional space skills make it to Planet Pluto; that one of them defends a high level official in a tavern brawl, making for himself a mortal enemy of their sanctuary's chief security officer. To cap it, the escaped convicts are now guests in the home of the official that they defended in the bar-room scrape who, I might add, also happens to be a member of the President's Council. See the problem?"

"Crank this in," Brad remarked, "the citizen, who considers himself a high government official, moves about without a bodyguard thus inviting confrontations. Also, his attacker's arrival at the bar-room couldn't possibly have been predicted, let alone his drunken behavior and my colleague and I happening to be there. Add who it was that took the initiative for departure from the tavern, and that it was the high government official that invited the escaped convicts to his home. He wasn't threatened or coerced into extending his hospitality."

Drummer grinned, nodded. "You ordered Hodak to intervene. Why?"

"First, tell me more about Scarf."

Drummer shrugged.

"He's been with Narval since the beginning of the regime. Did, and still does, most of the dirty work that keeps any government in power, and he's better at it than most. He has a special hatred for dissidents to Narval's policies and uses spies, informers and killers to infiltrate their organizations and tear them apart. By the way, he also had your ship searched. Watch out for him. Now, my question."

"When Scarf began to hassle you, I had no idea of his identity or position. His words and actions in the bar-room gave me an impression that, if we got you out of that mess, you might reciprocate by helping us to get permission to remain on the planet, and maybe steer us to jobs. It was a chance. Now, as to your problem with us: is it insurmountable?"

Drummer studied Brad's face, trying to read his thoughts. "Not really, insofar as getting you and your friends temporary resident status," he said.

"Scarf will not be easy with you and your friends, especially my rescuer, Hodak. I'll talk to my associates. The skills you have might be useful to us. Since you're a former ship's captain, I'll consider you spokesman for your colleagues."

Chapter FOURTEEN

President Narval invited all INOR ambassadors to meet with him in his conference suite; the subject was not announced in advance. The ambassadors sought guidance from their home governments. In response, they were instructed to attend, make no commitments, and report back immediately on the proceedings.

As the appointed time neared, the Presidential Security Guard, augmented by a detachment of heavily armed police, moved into the conference area. They took up positions at doors leading from the President's Suite, along the connecting corridors, and inside the Conference Room. All rooms, corridors and exterior approaches leading to the meeting site were physically and electronically searched, and the identity disks of all individuals passing through the area scrutinized and verified.

Shortly before the meeting, the President's Council entered and took seats along the wall, leaving the chairs around the table for the guests. A lackey scampered about, lifted the lids of beakers, peered in, made minute changes in the alignment of goblets, and scuttled out.

A view tank rose from a well at the front of the room, glowed, and cleared to

show the Special Zone. Charon and its background of stars had been dimmed to reduce the clutter. In the foreground, the Slingshot Logistics Depot and its maze of ships, tugs, articulated cranes and flex-conveyers were portrayed busily engaged in loading and unloading the moored vessels, and the new arrivals that waited for their turn.

A flurry rippled through the room as a door panel slid back into its slot and the Ambassadors strode in from an anteroom. They were men and women of varying appearance: tall and short, slender and rotund, and cadaverous and fleshy. More than half wore the military uniforms and ranks of their nation, and the rest were in the colorful robes of their offices and governments. Mostly in their middle years, they had the hard, arrogant look of ruthless power, survivors of craft and intrigue. Faces suspicious and wary, they took places around the table. None spoke.

A brusque announcement cut the silence. "The President of Planet Pluto." President Narval, haughty in appearance and adorned in red-black robes of office, entered to the sound of sliding chairs and rustling garments as all present rose to their feet. Narval's massive body, pear-shaped and tapering into short legs and diminutive feet, shuffled forward in top-heavy gait. Drummer entered behind Narval and moved to stand silently beside a lectern adjacent the view tank.

Sunken between ponderous shoulders, Narval's hairless head was small and neckless, his face smooth-pale with thin-lipped mouth and a stumpy nose. Cold, deep-embedded eyes constantly shifted focus and direction. His small hands, fingers laden with rings, appeared to drip from his sleeves.

##

Lumbering to his raised chair at the head of the table, Narval laboriously stepped up and sat, lifted his hand to his mouth and nibbled at a fingernail. Finally, satisfied, he held the finger up, examined it and redirected his attention to his audience.

President Reen Narval had earned the fear and respect that he enjoyed. A victor of scores of battles for control of the planet's criminal syndicates and political machinery, Narval had left a trail of blood and broken bones behind him as a warning to challengers. Challengers to his rule did not survive.

A man of many talents, Narval had migrated to Planet Pluto from an independent colony orbiting Callisto. He had accepted expulsion from the place of his birth as the alternative to the court's sentence of labor in Callisto's encapsulated subsurface mines.

Educated and trained to practice law in the Outer Region's inter-satellite and interplanetary courts he had, instead, become a serious liability to his government and to his community.

At his disbarment, the investigating officer of the Callisto Ethical Practices Board had presented irrefutable evidence of Narval's numerous conflicts of interests, extortions, frauds and other crimes in the performance of his responsibilities as an officer-of-the-court. Removed from the judicial arena, he was proven to have also cheated in the Callisto gambling halls, swindled citizens of sound repute, and twice convicted of murder.

Callisto and its orbiting colonies were wide open, but Reen Narval was too much for them. He was told to quickly depart Callisto's jurisdiction or take the consequences.

He left gracelessly, found a haven on Planet Pluto, and applied his many talents with vigor. Organizing Coldfield's fragmented criminal elements, he ruled with an iron fist. Solidly entrenched, he imposed tactics of terror on the population and encountered little resistance. He rose to the top, balanced on a mound of cracked skulls and crushed bodies.

Soon after INOR came into being, Narval proclaimed Planet Pluto's independence, with himself as President. Despite the UIPS urgent need for Planet Pluto to support Slingshot, the newly formed, but weakened government of the Inner Region was unable to influence a populace under the fist of a ruthless despot.

"I will govern well, and we shall prosper," President Narval glibly promised the Plutonian citizenry. "I have studied and practiced interplanetary law for many years. I shall demand justice for our planet and for all our people. We will not be slaves to the imperialists of the Inner Region."

The new President organized a brotherhood with like morals, and bestowed on them ministries of great personal influence and profit. A bureaucracy rose and flourished; the spoils systems and corruption matched those of ancient Earth. Reen Narval, President of Planet Pluto, was caught in a dilemma. Slingshot construction was approaching completion. The Terminals and Planet Pluto would come to a parting of the ways before the end of the century.

Employment and extortionate profits from Slingshot services and industries would plummet as Planet Pluto continued outbound along its eccentric orbit into interstellar space. The economy would wither, and the inhabitants move elsewhere.

Narval had to provide for himself. For the moment, he held a good hand, and the stakes made the game worthwhile, providing it was himself that shuffled the deck and dealt the cards.

Leaning back in his chair, Narval scanned the faces at the table.

"I have dispatched a message to the President of the United Inner Planetary System," he announced solemnly. "It will open a new and better relationship between INOR and the UIPS."

The Ambassadors stared at him, aghast. Several rose partially out of their seats, looked at others at the table, reconsidered, sat, and glared grimly straight ahead rather than toward the head of the table. Narval smirked. A bombshell, indeed.

"Until now we have played children's games with the UIPS," he continued, raising his voice to the level and tone of a despot's traditional bellow to repel an imagined enemy. "That time is past. We must move on to a strategy that is more aggressive than petty raids on UIPS shipping or to merely destroy a few of their insignificant patrols.

"The build-up of INOR's military forces has reached the level at which, together, we have the strength to influence the final stages of Slingshot construction. That includes the launch schedule of the Extractor station to Alpha Centauri. We must use this new power to benefit all nations in the Outer Region. In short, the warships and weapons in Planet Pluto's military fleet, along with those of your governments, are a force that the UIPS can not ignore."

Narval motioned to Drummer.

"The Proclamation."

Bringing his hand close, he inspected its palm and fingers.

Selecting a fingernail, he commenced nibbling at it, giving the task his full attention.

Drummer rose to his feet, drew a scrolled document from the sleeve of his robe and unrolled it. Holding the scroll low so that his listeners could see his face, he read from the scroll without hesitation or inflection.

"The President of Planet Pluto sends greetings to the President of the United Inner Planetary System and to all citizens of the Inner Region.

"I, President Reen Narval, hereby declare and proclaim that Planet Pluto, as an independent and properly constituted member of the Independent Nations of the Outer Region (INOR), has the legal and inalienable right to use and to defend INOR territory under my jurisdiction consistent with time-honored custom and interplanetary law.

"The Government of Planet Pluto, now and henceforth, assumes for itself as lawful all dominant rights of independent nations to possess and control all territory, properties, materials, supplies and all other resources on and beneath the surface of Planet Pluto. Such rights extend off-planet to national boundaries established in conformance with treaties in effect for delineating planetary and satellite jurisdictions in near and contiguous space.

"Through this Proclamation, we, the Government of Planet Pluto, exercise our rights and impose our legitimate authority.

"On the other hand, we are realists. It is not possible for us, at this stage of Plutonian national and industrial development, to assume the operation and servicing of vital life and community support systems, nor has the Planet Pluto Government the technical skills and facilities at this time to produce and deliver infrastructure and commodities essential for a self-sustaining economy."

Drummer raised his eyes and quickly scanned the INOR ambassadors seated along each side of the conference table. His voice raised slightly for emphasis.

"We, therefore," he intoned, "conditionally grant to the Government of the United Inner Planetary System license to install, operate, and service all life and general infrastructure support systems in Coldfield, and in all posts, camps and stations on the surface of Planet Pluto, its satellite Charon and throughout its contiguous space.

"We are, furthermore, gracious hosts. We herewith grant conditional permission for all spaceports, landing pads and mooring towers, and their associated technical accoutrements and equipment, to remain open to UIPS traffic. This conditional permission is granted providing qualified UIPS technicians and administrators under the oversight of Plutonian citizens staff these facilities. The Plutonian overseers will be afforded training by the UIPS to qualify them to assume the primary's operational and management responsibilities in all functions within two Earth years from the date of this Proclamation. The Government of Planet Pluto, as sovereign, will provide for station security and will exercise oversight and offer guidance through its appointed administrators.

"The Government of Planet Pluto hereby levies an inventory tax on all materials and products arriving in Plutonian territories from the UIPS. The tax base includes all raw materials, partial and fully fabricated structures, technical equipment, and components thereof which are or yet to be committed to Slingshot. The Slingshot Logistics Depot, which occupies space within Plutonian jurisdiction, and all UIPS cargo transports entering Plutonian space, are subject to this inventory tax.

"Our inventory tax is merely an extension of the passage tax on ships intruding on INOR's jurisdictions and which is currently being negotiated by the UIPS and INOR governments.

We anticipate the successful completion to these negotiations.

"This Decree is in effect. Your cooperation is welcomed."

##

Drummer released the lower end of the scroll and watched it curl up. He finished rolling the document, bound it with a ribbon, and tucked it into his sleeve. He stood silent, eyes on Narval.

Narval rose as he spoke slowly, his tone disdainful. "I suggest that you communicate with your Governments concerning my message to President Camari. Add my expression of trust that they appreciate the advantages of presenting a common front."

Waddling toward the door, he beckoned Drummer to follow.

Chapter FIFTEEN

Narval slouched back into his overstuffed chair.

Drummer faced him from across the enormous ebony-composite desk.

Bringing his hand close, Narval searched for a fingernail that demanded his attention.

"President Camari must accept that we have the military forces to impose our will on Slingshot," he said, momentarily shifting his eyes to Drummer.

"If he does not accept my offer I want to ram it down his throat. Have you come up with an action to implement our new policy?"

"I have."

"Lay it out."

"With no advance notice, impose the inventory tax on all Slingshot supplies on board the Depot and on UIPS vessels on both sides of the Fandango force field. The first step is to conduct our own inventory of UIPS property in Plutonian space; to do that we must have on site access to the Depot's records, and spot check the records against the assets. The presence of our military forces in space close to the Depot will back up our inventory staff. Businesslike, formal, and highly visible."

"Why don't you use that tactic on the dozens of Slingshot laboratories and assembly centers here on Pluto's surface? Seems to me that would be less risky."

"For good reasons, Mr. President. We need an exercise that is sufficiently visible, even spectacular, to make both the UIPS and our INOR allies respect our will and capabilities to use organized military forces throughout our legitimate jurisdiction. A surface operation on Pluto will be barely noticed and not impress them with our military strength."

"How do you expect the Depot to react?"

"At first, with confusion. The Depot Commander will try to bluff. Meanwhile, he'll spunnel an alarm to Earth and insist on guidance. We must not accept delay."

"What if you meet resistance?"

"Overcome it. Set an example. After all, we are exercising our rights as a sovereign nation."

"And after the inventory?"

"If peacefully accomplished, we withdraw. We'll spunnel formal documentation to the UIPS on the amount of taxes due, the schedule for payment and penalties for delinquencies."

"The penalties?"

"I have several in mind. Fines for minor delays, blockade of the depot and, eventually, military action should they get nasty."

"How soon can you launch?"

"Three days."

"Do it."

Drummer turned to leave. Narval raised his jeweled hand. Drummer paused and turned back.

"What's this I've heard from Scarf about you taking a pack of escaped Inner Region convicts under your wing?"

"There's more to it than that," replied Drummer.

He filled in the gaps.

Narval scrutinized his fingernails as Drummer talked.

"I'm surprised to hear you patronize drinking establishments where such raffish elements gather,"

Narval murmured around the focus of his attention.

"I feel it my duty to get about, to see, and to listen. There is much to learn by observing our people going about their daily lives. The Charnel Pit is one of the few places in Coldfield where people gather to relax and talk."

Narval peered sideways at Drummer from narrowed eyes.

"Hm, you see and you listen to the people. What else, I wonder? Do the people also see and listen to you? What do you tell them, Drummer?"

"I tell them nothing, President Narval. I don't know what you mean."

"Well, let it go for now. Back to your little brood. You say they're experienced spacers, and you've checked the facts of their escape. You know we're short-handed in technicians for the military fleet. Can we use them?"

"I'm not certain that I trust them," Drummer responded.

"Test them."

"How?"

"Take them along on the inventory operation."

"...and?"

"As I say, test them. Force whoever is leading them into a difficult situation. Keep him close to you and watch how he works himself out of it. If he does well, throw him to another pack of wolves. Get him and his gang involved, deeper. Make them prove themselves. When you're satisfied, bring them up to a level where we're squeezing from them all they have that's useful to us."

"Scarf is after them."

"Leave Scarf to me, Drummer. That's all."

##

Scarf entered and waited for Narval to notice him.

Narval's eyes were fixed on his hands. He spoke without looking up.

"Drummer has given me his side of the incident in the bar-room," he said, his voice cutting with sarcasm. "The hangers-on in that sinkhole have, by now, spread their version all over Coldfield, Lamplight, as well as the depot and Slingshot."

You came out of it looking like a fool in a confrontation that enhances Drummer's image to the detriment of the President's Chief of Security."

Narval raised his head. His small eyes drilled into Scarf.

"I don't trust Drummer," he said. "I suspect him of trying to subvert my rule. He's too popular in the Council and among the officers and men of the military fleet. I can't chance direct action against him at this time. For the moment,

I need his expertise in military strategy and managing our resources.

"I'm looking to you to find or create enough evidence so that, when I'm ready, we can undermine Drummer's reputation. As it is, you've built him up by embarrassing your high position in my government. Do your job right, and my problem with Drummer will fade away. I'm not pleased at all with your progress so far."

Scarf's face was flushed.

"Yes, sir," he said. "My intent was to accost Drummer in a public place, draw him out, and make him look foolish. The circumstances in the Charnel Pit were fine, or so I thought. Intervention by an outsider was totally unexpected. When I get my hands on that convict, I have plans for him."

"Hold off, Scarf. You can have him when I'm done with the pack, including Drummer. Until then, put your anger aside."

"Yes, sir."

"Now, listen carefully."

Narval leaned forward, eyes on Scarf. He described Drummer's upcoming inventory operation. Stubby fingers smoothed the desk surface.

"I'll tell Drummer that I want you to go along on the inventory," he said.

"Think up a reason;

I don't care what it is so long as it gets you aboard. The real reason is to keep your eyes on Drummer, the operation, and these convicts he's harboring. I want to know everything that happens.

Do you understand?"

"Yes, sir. I do." Scarf's eyes lit up. He continued eagerly. "If Drummer goes to the depot or boards UIPS ships, I should go along to see what he does. As Chief of Security, my position should compel him to accompany him. I suggest, sir, that you appoint me as your counter-intelligence representative on Drummer's task force. My job, then, would be to check if the depot or a transport, whichever we board, is conducting secret surveillance of our military facilities, field training, and ship movements. Drummer can be told that my boarding the depot would be essential to the mission you've assigned to me."

"Hasn't our man on the depot told us they've been performing those observations for the UIPS for quite a while? Wouldn't Drummer see through that ploy?"

"Not if you tell him this would be the first opportunity for your Chief of Security to enter a UIPS domain and report to you directly on his observations. It would take me out from under Drummer's command."

"Hm, yes, I see what you mean." Narval returned to examining his fingernails. He lifted a finger to his lips and nibbled.

"Very well, Scarf. I'll tell Drummer."

Chapter SIXTEEN

Drummer paced the command deck of the Plutonian flagship Dragon, Brad nearby. Scarf, sprawled in an open accello-net fastened to a nearby bulkhead, watched and listened.

The ship vibrated as it moved along the launch rail leading to the mouth of the tunnel hanger. Captain Hyk, the ship's Commander, hunched over a control computer on the nearby bridge and snapped orders to his Operations Officer.

Both cast sideways glances at Scarf, discomfited by his presence. Brad visualized the scene on the bridges and flight decks of the more than two dozen warships, ranging from cruisers to fighters that formed the task force. All were in final countdown for launch from tunnels and galleries cut into reinforced chasms across a hundred kay of Pluto's surface. At Drummer's invitation, Brad analyzed the launch schedule and deployment pattern. He had tactfully suggested substantive alterations to minimize warning time to the depot and its nearby transports. After some debate, during which Brad repeatedly justified his proposals to skeptical ship commanders, they were computer-tested, modified and accepted.

Brad knew he was on trial. Ram's words surfaced as he scanned the bridge: "...you will lie, cheat, bribe, subvert, sabotage, and kill for us, and should our greater purpose call for you to do so, against us." "This one," he mused, ironically, "is on the 'against us' side of the ledger."

Hodak appeared at the entry to the command deck and beckoned to Brad. As Brad approached, Scarf rose and sauntered in their direction, seemingly scrutinizing instrument dials and panels along the way. His ears seemed to throb with the effort of eavesdropping.

"I've gone over the maintenance and operations checklists for all ships and technical support committed to this mission, as you told me to," Hodak said, "and then spot-checked them against installed equipment. We've only been on this job a couple of days, so I couldn't probe to any meaningful depth."

He heaved a deep sigh. "From what I've seen so far, Brad, the systems are not as well-maintained as they should be, and much of the data and crew training are not applicable or out of date."

"My recommendation is that as soon as we get back we conduct a hard-nosed professional inspection of the fleet to pinpoint all the cats-and-dogs these dunderheads have jerry-rigged into the equipment and the software. We gotta give priority to the checklists that need to be updated to correspond with installed equipment. No two ships have the same configuration, so each checklist will have to be tailored. That's only the first step, and it'll be one helluva lotta work."

"Drummer's main concern right now is getting through this operation without using weapons or incurring a technical breakdown," Brad said.

"Either one will detract from the image we're trying to build. He should know ASAP what you found. I'll pass it along to him. Stand by with Kumiko in case Drummer needs some technical advice on weapons or engineering."

"Right."

Hodak turned to leave, and his eyes met Scarf's.

Hodak grinned, and gave Scarf a thumbs up. Scarf glowered and turned away, moving back to the net.

Hodak disappeared down the passageway.

The ship advanced along a rail into a gallery at the mouth of the tunnel. Captain Hyk turned to Drummer.

"The Dragon is at launch station," he said.

Drummer and Brad stepped from the command deck to a small balcony overlooking a shallow pit covered by a pale, translucent screen. A network of lines, representing tunnels and galleries, formed on the screen, each incorporating a tiny, yellow moving and blinking light to indicate a warship under Drummer's command. As each light reached launch position, it halted and changed from yellow to green. Drummer and Brad watched the last of the yellows convert. All green, ready to launch.

Drummer picked up a microphone, Brad beside him.

"This is Drummer," he said. "Operation authenticator Tornado Six. Execute. First wave. Launch."

Five green lights flashed to red and disappeared, on their way to predesignated stations outside Fandango: one off each blunt end of the Depot cylinder and the remainder at the entry to the gateway force field. Ten seconds later Drummer repeated his codes and launched the second wave. The corresponding lights on the screen flashed red and out. New green lights appeared in their place, this time moving in arcs converging on the cylinder centered in a sphere: the depot in its force field cocoon.

The converging lines massed, reformed, and spread into a pattern resembling the spoke tips of an open umbrella, with the Gateway, the crowded transports and the depot centered at what would be the umbrella's handgrip.

##

Drummer turned his head and looked at Brad.

"Went off rather well," he said.
"Seems so. That was the easy part. I don't envy you the next."
Drummer touched a switch connecting him to the bridge.

"Captain," he said. "Launch the Dragon. Take your position at the coordinates I gave to you. Activate our comm system to the depot."

The ship shuddered as it shot from the gallery and headed for the concentration of spacecraft above Pluto. It slowed as it passed through the umbrella formation and stopped fifty kay from the nearest transport. Time lapse from launch was less than two minutes. Surprise was complete; the effect, paralyzing.

All movement around the depot slowed to a halt.
The intranet filled with "What the hell's going on?",
"Who are these guys?", and "Bring on the dancing girls." Then, suddenly, the channels blanked, replaced by silence.
Drummer keyed his microphone open and handed it to Brad.

Brad took on a harsh tone.
"Attention: Commander of Slingshot Logistics Depot and Masters of all vessels, inside or outside the Fandango Force Field. The national interests of the Government of Planet Pluto demands compliance with Plutonian laws by all persons and properties within its jurisdiction. You and your vessels and the Logistics Depot are in Plutonian territory, therefore, our laws apply to you. The Fleet Commander of this Plutonian Security Force wishes to speak with the Commander of the Slingshot Logistics Depot. Depot Commander, please identify yourself and stand by. Acknowledge."

Silence. Thirty seconds.

"Logistics Depot. This is the Plutonian Security Force. The message we sent you moments ago was for the Depot Commander. Did you read? Acknowledge."

The reply came.
"Your message received. Please identify Fleet Commander."
Brad and Drummer exchanged glances. Drummer chuckled.
"The formalities must be observed," he chuckled, his tone dry. "Tell him."

Brad keyed the mike.

"Fleet Commander Deke Drummer." He put a rasp into his voice. "Now, get on with it."

Another voice came on.

"Colonel Hanno here. I'm the Depot Commander.
What the hell game are you playing, Drummer?"

Brad's tone turned icy.

"Let's get one point straight, Colonel Hanno. You will be speaking with a Fleet Commander with the rank of Admiral. Should you need to be reminded, Planet Pluto is a sovereign and independent nation, and you are a guest within our borders. Your choice of words is offensive. Do you read?"

A long pause.

"I read."

Chapter SEVENTEEN

Drummer reached for the mike.

"Colonel Hanno, this is Admiral Drummer." He winked at Brad.

"Colonel, my Government requires an inventory of Slingshot properties, materials and supplies in your depot and on the transports nearby. The information we develop from this one-time inventory will be used to compute UIPS taxes while the depot and transports are in Plutonian jurisdiction. My fleet is escorting the inventory specialists. Please arrange for them to board your Depot and the transports on both sides of your force field, so that they can get to their work."

"I have not received instructions from my Government concerning the inventory or the taxes to which you refer."

"That is between you and your Government. I am here at the express order of President Narval to see that the inventory is conducted. May I count on your cooperation?"

"If I decline, what then?"

"Blockade, for starters."

"The UIPS will not permit your interference with our operations."

"Is that the formal response of your Government to my request?"

A short pause. "No."

"Then I suggest you dispense with posturing and arrange to receive the inventory crews. Please instruct all Masters of transports and other ships doing business with your depot to cooperate with our agents."

Another voice cut in, heavy with anger.

"No goddamned shakedown artists are coming aboard my ship."

Brad motioned Drummer to give him the mike, indicating by his facial expression that the intruder did not deserve a direct response from Drummer's level.

"This is Commander Curtin," Brad said with low-toned authority, "Executive to Admiral Drummer. Who speaks?"

He winked at Drummer, who leaned back in his chair, grinning.

"Lieutenant Bura, commanding the transport Sandbox. I repeat: keep your damn squeeze clerks away from my ship, regardless how legitimate you claim your

purpose to be."

"You're in no position to refuse," Brad shot back.

"You're in Plutonian territory, and we have every right to employ police or military powers to enforce our jurisdiction. You will cooperate in this inventory, peacefully, if possible; under force, if necessary."

"You'll have to fight your way on to my ship."

Bura's voice was harsh, angry. "Be advised we are armed and prepared to repel unauthorized boarders.

I take your demands to be attempted extortion, and a clear threat to the safety of my ship, crew and cargo. That, at the least, is piracy in my book, and I am within my authority to use force to keep pirates off my ship. Now, chew on that."

"Lieutenant Bura." Brad's voice was space-cold.

"You now insult the Plutonian Government by accusing it of piracy. Your attitude gives us good reason to question the purpose of your presence in our territory. By your words, you command an armed vessel. Now you dare to threaten legitimate representatives of a sovereign nation with your guns. We have no choice but to conclude you are a danger to our ships and to our people."

"Ridiculous. I am merely protecting the safety and integrity of my ship."

"So you say. Nevertheless, you have threatened to use force against our exercise of legitimate rights. Tell me, Bura, is your ship really a commercial cargo transporter or is it a UIPS warship with a military mission inside our legal jurisdiction?"

"What in hell are you trying to do, whoever you are? My ship is a transporter of cargo, and you know that damned well."

"I know no such thing. All I know is that you claim to be armed and say you will use your weapons against us. I repeat: are you on a military mission?"

"No, damn it, I am not."

"I don't believe you."

"That's your problem."

"Not at all, my man, it's yours. You insult and then threaten harm to us."

Brad grinned at Drummer, who was watching him with an appraising expression.

"Our fire control system has you marked and our guns are trained on your ship. How does that strike you?"

Silence.

"I say," Brad roared, "Bura of the Sandbox, how does that strike you? You have ten seconds to reply."

Lieutenant Bura's voice came in, low and tight with suppressed rage.

"I read you, loud and clear. My gun crews are standing down."

"Unacceptable, Bura," Brad said flatly, "you remain a serious obstacle to the success of our mission.

Stand by and do not interrupt again. Admiral Drummer wishes to complete this transaction with the Depot Commander. Colonel Hanno, we are waiting for your answer to Admiral Drummer's request, which, I repeat, is to arrange for our inventory specialists to perform their duties aboard your Depot and the transports within your control area."

"I take note of your fleet's deployment, Admiral Drummer," the voice of Colonel Hanno was subdued but intense, "and the manner in which your Executive responded to Lieutenant Bura's protest.

My responsibility for the safety of UIPS supplies, properties and personnel

under my command and for UIPS vessels in the Planet Pluto Special Zone leaves me no choice but to accede to your outrageous demands. I do so under most solemn and vigorous protest, and only because your guns are trained at our heads. Be aware these conversations are being recorded and spunnel-transmitted to my Government as we speak."

"Your protests are noted, Colonel Hanno," Drummer said, taking over. "Please convey our respects to your Government. Now, as to procedure for the audit, I suggest we set up a small group of administrators and specialists to prepare schedules and other details. This must be done immediately, as we have no wish to delay your support operations unnecessarily. Do you agree?"

"Yes."

"Good. One of my ships is now approaching the Gateway. I realize you may have reservations concerning one of my military craft entering your restricted zone, and I respect your reservations.

Please have your representatives board the Plutonian craft outside the Gateway. My specialists are aboard, and the two groups can work out the details. Is this satisfactory?"

"I reject your term 'satisfactory', and accede under the same protest."

"I understand, Colonel Hanno. By the way, one other matter, concerning the Sandbox. I cannot accept Bura's assurance that his gun crews are on 'stand down'."

"What do you mean?"

"I mean, Colonel Hanno, that I insist on an inspection of the Sandbox by members of my military staff so that I am certain the Sandbox's guns are not a threat to the safety of my fleet. I cannot continue to dissipate my capabilities by the need to keep the Sandbox under special surveillance throughout this operation. The Sandbox guns must be rendered inoperative and, frankly, I don't trust Bura to perform that service for me."

"Lieutenant Bura," said Colonel Hanno, "I assume that you and other ships' Commanders have been listening in on this delightful exchange."

"I have."

"What do you say?"

"You're the Zone Commander."

"For the safety of your ship and the rest of us, I recommend you comply with their demand."

"Yes, sir."

"Admiral Drummer?"

"Very good. Have the Sandbox stand by to receive boarders. This completes our discussion, Colonel Hanno. I'll get back to you if the situation calls for it."

Chapter EIGHTEEN

Brad studied the Sandbox on the utility's view screen.

"I think you'd better have a look," he said to Kumiko as he twisted aside on the cramped flight deck. She peered over his shoulder.

"Got a problem?" Scarf sneered, his bulk cramped the remaining space behind the flutter's pilot seat. He hunched forward trying to see around Kumiko. Brad ignored the question. He waited for Kumiko's assessment of the Sandbox, dead ahead.

Drummer had given him the job.

"I want this done," he told Brad, "in a way that will demonstrate to the UIPS that we're serious, and can back our words with actions. We've got to replace their image of us as misfits. They've got to see us as an organized military force that can defend its vital interests and, if necessary, impose its will."

"What do you have in mind?"

"I want to use Kumiko's expertise as a weapons officer familiar with Inner Region ordnance. I want both of you to board the Sandbox and check all installed armament that can be directed against our fleet. Avoid a scrap, but if you find the guns have not been deactivated, do it for them."

He pointed at Brad to give emphasis to his words.

"I don't want their weapons slipping back into operational status as soon as you leave their ship.

Whatever it is you do, fix their armament controls so that it'll take them at least fifteen hours to get them back on line. We'll need that much time to finish our job here and return to base."

Scarf joined them, listening.

"I don't like it." His words were angry; his features petulant.

Drummer looked at Scarf with open scorn.

"Your likes and dislikes are the least of my concerns," he snorted and turned back to Brad.

Scarf cut back in.

"I repeat, Drummer, I don't like it, and what I like or don't like is your concern. I'm here on counter-intelligence work, and I don't like your sending this guy," thumbing toward Brad, "and one of his sidekicks over to a UIPS ship on a highly sensitive assignment. I'm not that trusting they'll do the job as thoroughly as you're laying it out."

Drummer frowned.

"What do you suggest?"

"That I go along."

Brad stepped back to let the two work it out.

He didn't relish the assignment. The Sandbox's commander was not going to accept boarders graciously.

"You go along? What the hell for?"

"To see how the assignment is carried out, and frankly, to make sure this guy doesn't, shall we say, inadvertently pass information to the enemy." After a brief pause, Scarf added,

"I'm within my authority, Drummer. Part of the counter-intelligence function," adding, with a smirk, "Don't you agree?"

##

The utility's approach to the cylindrical Sandbox closed in on the port side. Brad, at the controls, increased viewer magnification and inspected the ship closely. Kumiko, looking at the same image, reached under Brad's arm and adjusted knobs and levers, zeroing in on one gun turret after another along the Sandbox's length. She whistled softly.

"They're loaded for bear," she said. "Circle them, Brad, let's see what's on

the other side."

Brad took the utility around to starboard, then topside and below. Scarf again. "OK, you've looked her over. Now, what's the problem?"

"The ship has four laser-quads and a couple of explosive decompressors. She's a heavily armed attack transport, that's all."

"So what? Can you do the job?"

Kumiko looked at Scarf, her normally soft features twisted, passive but icy.

"Oh, yes," she said.

"I can do it. May take a little time, though."

Scarf leaned back.

"Well, let's not fool around with these jokers. If they don't cooperate, I'm for back to the Dragon and let our guns talk for us."

"Listen, Scarf," Brad said, exasperated, "our job is to disable the armament, not destroy the ship."

Also, if you recall, Drummer wants to get through this exercise without using force. That's why we're here: to fix the Sandbox so they and any other ship commanders of like mind won't get ideas about resisting us. It's a psychological play that will make the rounds of the Outer as well as the Inner Region. It's to our advantage to show we do our job with minimum fuss. So, let's get on with it."

Brad opened the inter-ship comm-line.

"Calling Sandbox. This is Curtin on Dragon Utility One, approaching from your starboard. Are you prepared to receive us?"

"Ready," came back. "Your air lock is number 4, starboard. Go there now. We will extend umbilical and catwalk as soon as you're matched up."

Brad guided his craft around and along the Sandbox to a portal bearing a large painted "4." Slowing the utility, he closed with the Sandbox, gently fingering controls until they were matched precisely to the heavy transport's bearing and drift.

"Now," he said.

Kumiko hit a switch, and the utility beam-anchor connected to a triangular plate above the airlock, immobilizing and fixing the utility to the huge transporter's axis.

The number 4 clamshell panels drew back and slipped aside. A yellow and white-striped catwalk snaked out and suckled up to the utility's hatch.

Kumiko took in the overhead dials and lights.

"On track," she said, and after a moment,

"connected and secure."

Brad closed a bank of switches, opened another.

"We'll take no unnecessary chances," he said. "I'm setting the thruster to cut in at twenty percent as soon as we're back in and slam the hatch. Five seconds and into forty, another three and we go max. That's for just in case. So, if we need to move fast when we board, hit the accello-nets pronto. Got it?"

"Right," from Kumiko.

"Scarf?"

"Sure, sure. I got it."

"Next. I want 'em to be able to see that the power settings on our sidearms are low enough so as not to kill or cause serious injury. Is that clear?"

"If they start anything, I'd just as soon take a few of them out for good." Scarf postured his belligerence.

"Nothing doing, Scarf," Brad shot back. "Using our weapons on this mission is bound to delay the schedule, if not much worse. It's been fouled up already by this little sortie. So don't provoke 'em; set your weapon in the lower levels."

Brad set his weapon at the extreme low setting and noted that Kumiko did the same. Scarf set his at the highest level in the non-lethal category, and with a sneer at Brad, returned the weapon to its sheath.

Kumiko looked thoughtful. "We should wear suits while we're on board the Sandbox, Brad," she said.

"It may slow us down a bit, but we'll need to look at gun emplacements that have minimal air or none at all."

"Sounds reasonable. OK, keep your suits on."

They rigged their sidearms for control from within their suits and transferred them to outer sheaths.

They donned the suits, checked each other's suit security, seal pressure, inter-suit communications, and reported.

"Move out," Brad said.

Chapter NINETEEN

The Sandbox's receiving officer observed Brad and his party's approach through a clear pane in the air lock's pressurized section. The four husky deckhands and the officer-in-charge hefted snub-nosed rifles.

A pressure-suited deckhand responded to Brad's hand signal that his crew was aboard by conducting a visual safety check of the ship-to-utility connections. He turned away, and Brad felt the deck vibrate as the clamshells slammed shut. Kumiko and Scarf moved up to stand behind Brad as pressure equalizers hissed. Moments later, the air lock's inner door slid aside and they passed through. Opening their helmet faceplates, they returned the glares of the receiving party.

"Rimov, and gunnery is my business," said the officer, "what in hell are you gonna do to my guns?"

Brad wished he were beside the grizzled spacefarer facing their common adversary, rather than confronting him.

"Curtin, and my business is to make sure your guns don't get you all killed. I want to check your weapons control center, and every gun emplacement.

First, central control."

"Hey," chimed in Scarf. "How about a drink with the ship's commander? Courtesies of the space-ways, and all that? I'd sure like to sample some Inner Region booze."

"You guys ain't invited guests, no way," Rimov flashed back. "The Commander is fussy about the people he drinks with."

"Well, you tell him..." Scarf raised a fist to add gesture to his words, but Brad waved him off, his eyes holding on Rimov.

"To hell with that," he snapped. "We're here to do a job and get back to our

ship. I repeat: first, the fire control center, then each gun emplacement. Now."

"Our fire control center has been deactivated. Why do you have to see each gun?"

"You know damn well, Rimov," Brad said, putting as much harshness into his tone as he could muster.

"Your pieces can be fired independent of central control; I'm going to make sure they won't be.

Let's get on with it."

Brad noted that Rimov was staring at the intensity slide visible on the breechblock of his sheathed weapon. Rimov then tilted his head to scrutinize the settings on Kumiko and Scarf's weapons. His brows tightened, puzzled. It passed.

"OK, follow me," he said, pivoting and taking the lead.

The passageways were narrow, confining them to two abreast. Rimov and one of his men walked ahead, the other three escorts followed close behind Brad and his party. The corridors they traversed had been cleared; no encounters.

Brad, familiar with transports of the line, memorized their route. They had boarded amidships, lower starboard, and were headed for an armor-enclosed section near the stern. The surveillance and tracking gear and the laser-quads' fire control computers should be there. That part should be relatively simple. They reached a closed, heavy door. Rimov turned to Brad, his face reflecting rage.

"You didn't answer my question," he growled.

"What're you gonna do to my guns?"

"Nothing you couldn't fix in a couple of work shifts," Brad replied, motioning to the door.

"Let's move."

Grudgingly, Rimov placed his palm on the disk lock. A click and the heavy door retracted into the adjacent bulkhead.

As Brad expected, the fire control center consisted of dozens of consoles, scopes, directional and power control devices, and clusters of computer terminals.

Kumiko and Brad circled the small room as Scarf watched from his position inside the entryway.

Rimov stood beside Scarf, his guards along the bulkhead, tense, weapons directed at the deck.

Kumiko pointed to a console.

"I've got to see behind that panel, Brad," she said, pointing. "The master firing system controls should be concentrated there."

Brad turned and waved Rimov closer. Scarf didn't move; he got it all on his helmet intercom.

"Remove the panel," Brad said, pointing.

"Won't take my word, will you," Rimov growled.

Reaching over, he snapped several quick disconnects, slid the panel forward, reached into the recess behind, fiddled a couple of seconds, and pulled the panel forward again. It came loose, and he stepped back with it in his hands.

"Cut the power to this console," Kumiko ordered.

Rimov shrugged, moved to another console and snapped several switches. Kumiko watched closely.

Rimov turned back and observed her check several lights and dials above the space from where the panel had been removed.

Satisfied, Kumiko drew off her outer glove. Her hand remained encased in translucent, skin-tight insulation. Reaching into the cavity, she withdrew a tiny black chip. Setting it down on a nearby shelf, she repeated the operation. Shortly, a dozen chips lay on the shelf.

Rimov flushed with fury as he watched Kumiko work, but remained silent.

Finally, Kumiko stepped back, pulled a plastic bag from a pocket in her suit, and dropped in the assorted parts. Looking around the room, she went to a wall cabinet, opened the door, rummaged about and withdrew still more chips.

"Back up supplies," she said, adding them to the others in the plastic bag.

Kumiko looked at Brad.

"The fire control center is out of action," she said. "Even if they do have more spares stashed away, it'll take them at least twenty hours to install the parts and calibrate the system."

Brad turned to Rimov. "Let's start with the aft gun turrets, and take them, in order, moving forward."

Chapter TWENTY

The next two hours were given to rushing along passageways, climbing companionways and ladders, and crawling along narrow walkways. Several turrets could only be reached from the outside; Kumiko's advice to wear suits proved sound.

At each gun emplacement, Rimov, his guards and Scarf watched Brad and Kumiko inspect sector guides, range and directional interlocks and power drives.

Once satisfied that a gun emplacement was not booby-trapped, Kumiko inserted random realignment parameters into laser blocks, twirled tracking sequencers into disarray, and switched about chips and connectors. When she was done with a turret, the gun had a zero firing potential, and would take hours to repair, calibrate and test.

Brad noted that Rimov, following Kumiko's work closely, showed grudging admiration in his eyes.

She was disabling the guns with gentle care, not damaging them, and Rimov knew it.

Finally, they were at the ship's bow. The final turret had been rendered inoperative.

Brad faced Rimov.

"We'll be on our way. Back to the air lock."

Brad was relieved. They would soon be in the utility, heading back to the Dragon, the job done.

Even Scarf could not fault them. Scarf's report might even work to the Sentinel's advantage.

Rimov took the lead. The deckhands seemed less tense. They sensed that Rimov was impressed by Kumiko's professionalism, and they, too, had observed the consideration that Kumiko had shown for the ship's equipment. She was obviously not a crowbar techie.

They moved toward the air lock single file, Rimov in the lead, Brad, Kumiko and Scarf following, and the four deckhands, two abreast, in the rear.

Rounding a corner, they stopped. Ahead, three men crouched, laser-rifles at their shoulders aimed at them.

"Rimov, and you guys in the rear, outta the way.

We're puttin' these bastards down."

The order came from a short, blond-haired buck, eyes glaring above his gunfight.

"Wait," Rimov screamed. "What's the hell's goin' on, Cordy? These guys got safe conduct from Bura."

"I don't buy that, Rimov. We got the word down below that the ship's bein' taken over by Narval's goons. We're gonna stop 'em. Come for'ard, I'm tellin' ya. They're goin' down, right now. Get ready, Joe, Pete."

The two guards behind Scarf and Kumiko dropped to the deck and snaked back around the corner.

They were not about to shoot at shipmates.

Rimov dashed toward Cordy, his arms waving.

"Don't fire. Back off," he shouted.

The men with the rifles were momentarily confused, uncertain; one began to lower his weapon. Rimov was a ship's officer; they would be in deep trouble if they disobeyed.

Without warning, the decision was taken from them.

Scarf panicked.

Stepping back and behind Kumiko, using her as his shield, he frantically jerked his heavy hand weapon loose, at the same time crouching in firing position. Gripping the weapon with both hands, he rammed the setting into max and fired around Kumiko. Brad was out of his momentary line of fire. Not so Rimov.

The burst hit Rimov between the shoulder blades.

There was a sharp, crackling sound as cloth and Rimov's flesh carbonized. He fell forward, dead before he struck the deck.

No one moved. Cordy and his men stared at their fallen officer.

Brad didn't wait for them to recover.

"Back," he shouted to Kumiko and Scarf. "Around the bend. Now."

Kumiko whirled and raced around the corner.

Scarf rolled back on to his feet and dashed after her. Brad followed.

Rimov's guards were nowhere in sight.

There was a roar of rage behind them.

Cordy.

"They shot Rimov. After 'em. Shoot to kill."

The passageway was long; they would be at the wrong end of a shooting gallery as soon as Cordy reached the bend. The only break was a narrow ladder through a hatch in the overhead.

"Up," Brad commanded. "Fast."

Kumiko first, then Scarf. Brad followed.

As Brad drew his legs up through the hatchway a searing blast struck the

frame, missing him by centimeters. Brad twisted away as another bolt flashed up through the hatch, scorching the bulkhead from which he had just moved. Brad shouted down. "First guy who shoves his head through the hatch gets it burned off." Turning to Kumiko and Scarf he whispered, "That won't hold them for long."

"Listen, about that shooting...", Scarf began.
Brad snapped him short with an impatient gesture.
"Not now. Let's get to the utility."

They looked around. The space was almost dark; the only light from widely spaced, low-power neutro-lamps. They were standing on a narrow platform, little more than a ledge, from which a catwalk bridged a complex of girders and cables.

Brad mentally reconstructed their route before Cordy's challenge. The portal through which they boarded should be within fifty meters of where they crouched. Their lives depended on the catwalk passing close to it. Studying the arrangement of the structures around them and the coding on cable bundles, Brad peered along the catwalk, first in one direction, then the opposite.
He looked at the open hatch and shouted down. "We demand safe conduct to our ship. Do you hear me?"

Silence.

Scarf shoved his face close to Brad.

"Are you kiddin'?" he said, his tone expressing his disbelief. "I just killed one of their men. They're not gonna give us safe conduct anywhere."
"I know that," Brad replied. "Even if they do promise us safe conduct, it'll be just to get at us. I want them to think we're going to hole up here until they give us an answer. Bura must know by now. We've got to get off before he personally takes charge of the search."
Brad again scrutinized the ship's stringers and cable insulation colors. He pointed.

"Stay close."
They crossed stretches where ledges and walkways narrowed abruptly to barely enough for passage.
Sharp projections along the way snagged and abraded their protective suits. They realized that they might face serious seepage from their suits as soon as they entered the vacuum of space.

A sudden, raking fire erupted behind them. Metal frames around them darkened from the bolts of energy.
Scarf jerked his weapon and returned the shots before Brad could stop him. The flash of his weapon provided the ideal target, and brought concentrated fire in return.

Stooping and sliding, Brad and Kumiko stumbled forward. Scarf scrambled along behind, firing haphazardly to the rear.
Scarf howled with sudden pain. Brad looked back. In the dim light, Scarf hung over a girder, motionless.
Brad raced back to his side. A wide strip from sleeve and shoulder was burned away; blood oozed.

Kumiko bent beside Brad. She yanked her glove off, reached in through the still smoking sleeve and felt for a pulse in Scarf's neck.

"Alive."

She stepped back. Brad, in the cramped space, hauled the unconscious Scarf upright, bent, and with Kumiko's help, lifted him on to Brad's back. Scarf's scream of pain had brought a pause to the firing. Grasping stanchions and cables for support, Brad staggered along the catwalk.

"Hatch up ahead."

"Might be it."

Brad gasped. Even in the light pseudo-gravity, Scarf's bulk was hard to maneuver.

"Take a peek."

Kumiko was gone and back in an instant.

"Looks clear."

"No choice. Down you go. I'll drop him through."

Kumiko dropped out of sight. Brad thrust Scarf through the hatch and followed. The drop was not deep.

The number 4 air lock was less than ten meters ahead. Brad heaved Scarf across his shoulders, and with Kumiko leading the way, they rushed toward it. The deck carried the slap of running feet, fast and closing. Cordy appeared at the end of the passage. Seeing them, he crouched on one knee and raised his weapon.

Kumiko beat him; at the sound of running, she had raised her sidearm. As Cordy took aim, she fired.

Cordy fell back, stunned.

Brad had the door to the outer air lock open, Scarf on the deck inside. Kumiko rushed past Brad and he slammed the door and clipped it sealed. She snatched an emergency space stretcher from a bulkhead rack and snapped it open. It took the two of them to roll Scarf's inert body into the envelope, seal it around him and start an oxygen flow.

They snapped their faceplates closed. Brad hit switches. The outer portals slid apart. The catwalk and other connections to the utility were still in place. Carrying the stretcher between them, they crossed over.

Chapter TWENTY-ONE

Brad poked his head into Drummer's office at Fleet Headquarters. Drummer, at his desk, bent over a document, cast frequent glances at electronic displays on the wall nearby. Racks of data capsules, no space for them on the busy desk, crowded the floor nearby. A conical view tank, recessed in the wall to his left, glowed with symbols of ships and their military characteristics, along with tactical and logistical links.

Scanning the monitors and view tank, Drummer hefted a hand control and pressed keys. Eyes half-closed, he silently transformed mental images into memoranda and messages. Aware of Brad's presence, he paused and focused on him in the doorway.

"I thought you planned to take a couple of days off after Tornado Six," Brad said.

"Can't," Drummer replied, his eyes back to his notes.

"What's happening?"

"Until Tornado Six, our forces functioned as separate units. Tornado Six was our fleet's first integrated operation. The mission succeeded because we got away without military opposition. I can't trust that sort of luck to hold. We need to refine our tactics, based on our experience with the log depot and that armed transport, and in anticipation of an early organized response by the UIPS."

Brad appeared uncertain whether to remain or move on.

"Stand by a moment, Brad."

Drummer resumed recording. Symbols in the tank flashed off and on too quickly for the eye to follow, but Drummer was no longer giving them his attention. He touched a glowing disk on the arm of his chair, sighed, and leaned back. The view tank cleared to continue its work unobserved.

"I need a break. Here's what's happening, Brad."

He motioned Brad to a seat alongside his desk.

"Narval was impressed at our success, especially how we bluffed our way through it. Just as well we didn't push too hard and force an eyeball-to-eyeball confrontation. He wants much more preparation before we get to that point.

I agree, we'll leave that until our next no-notice inspection."

"Well, we did have a fire fight, of sorts, on the Sandbox," Brad interjected.

"By itself, much less significant than the raids we've made on UIPS patrols and shipping. The Sandbox incident was the ship commander's fault however one looks at it. By the way," Drummer grinned. "I suggested to Colonel Hanno that he chastise the Sandbox's commander about allowing his people to attack my agents. Lax discipline, and all that."

Brad laughed, but grimly recalled Rimov's wasted death. Drummer joined him in the laugh, then quickly resumed his serious expression. Elbows on desk, hands clasped, he frowned at Brad.

"In categorizing the Sandbox incident 'insignificant' I do so only in the context of its effect on objectives and strategy. In another sense, it was quite important."

"Oh?"

"Narval was pleased with the way you handled yourself on the Dragon in dealing with Hanno and Bura."

"How did he find out?"

"Scarf's nature, it seems, made him anxious to get a verbatim record of everything said in his presence during Tornado Six. He was wired, and everything said in his presence was recorded.

Had events gone otherwise, I'm convinced he would have lifted statements that each of us made and twisted them to discredit us.

"Putting Scarf in hospital immediately upon return to base didn't give him the chance to tailor the transcript. Since he reports directly to Narval, the recordings were sent to the boss from the hospital as soon as Scarf was admitted -- routine security under the circumstances. I heard a short while ago that Narval spent some time in Scarf's hospital room. I can only assume he was questioning Scarf on the unedited recording as well as whatever he witnessed."

"What happens now?"

"Got a call from Narval's office a short while ago."

Narval wants to meet you. Call his office ASAP and get a time."

##

Narval's stare was long and searching. He ignored the armed guards standing within effective range of Brad.

"Sit." Narval pointed to a heavy chair directly in front of his desk. Straight-backed from flat, hard seat to shoulder level, extension clamshells from the upper section of the chair curved forward sharply to form tapered wings.

Brad sat. The clamshells closed in and stopped a few centimeters from his temple. Wired pads extended and touched his skull at several points. The chair was not comfortable; psychic probes weren't meant to be. "Tell me about yourself," Narval leaned back, inspected his fingers, and then concentrated on a monitor in the wall behind the chair in which Brad sat. "My name is Brad Curtin," Brad began, "and I'm here with five others to seek sanctuary."

"Tell me about the crimes of which you were convicted, the Guardian Station prison to which you were committed, how you organized your escape, and how it was carried through. You know, of course, that you're undergoing psychic probe. The probe compensates for your awareness of its being used on you; the validity of the findings is not degraded.

I see the monitor from where I sit, so, let's hear your story."

Brad spoke for fifteen minutes without interruption. He related the events on his transport off Luna, the investigation that led to his trial, his testimony before the Board, and his arrival at the Guardian Station. Without hesitation, he swung into the cover scenario that had been burned deep into his psyche by Ram's technicians: how he had selected his accomplices, organized the escape, joined the convoy into the spunnel, and finally, his arrival on Planet Pluto. Brad let the embedded scripts flow freely. He trusted Ram's preparations; his life and the lives of his companions depended on them. Far more important, the Sentinels mission demanded it.

Anomalies, he knew, would be sensed immediately, should he even try to color his recounting of the personal knowledge and programmed experiences now deeply embedded in his mind.

Brad stopped talking; the general questions had been answered. Narval studied the wall monitor behind Brad, and returned his stare to Brad.

"Let's clear up a few points," he said. "I understand the ship that you, shall we say, expropriated for your escape was no more than a local utility vessel in the Belt. Yet, from what you say -- and from your ship's log -- your destination was the rim. Wouldn't you have had a fuel problem?"

"We thought at first that we would. Our plan, originally, was to get to a refueling station, replenish our energy packs, and take it from there. When we checked our bearings, we discovered that our coordinates put us within range of a spunnel node so we headed for that. When we got there, several convoys were lined up for entry to the Special Zone. Our ship had UIPS markings and the gateway was crowded. We managed to get in the lineup and made it."

Narval glanced at the monitor.

"I see. Now, the Guardian Station prison, I am informed, keeps tabs on its inmates using a sophisticated surveillance system. How did you manage to evade observation long enough to get away?"

"Zolan, a member of our group is an expert in electronic countermeasures,

counter-countermeasures, and so on. The system on the Guardian Station was installed two to three centuries ago. It serves fine, I suppose, for the ordinary run of inmates confined on the station.

Zolan devised a screen behind which we did our planning and preparations. When we were ready to go, he rammed both a counter and a counter-counter device into the station's sensors. The double whammy confused the hell out of the system long enough for us to make our getaway."

"That's my next question. It seems to me the Space Guard should have been after you immediately.

How is it they let you get away?"

"I think I owe you the credit for that."

"Me?"

"That's the way I figure it. The Guard needs a minimum number of ships to do its work in the Inner Region space lanes. Those lanes are so crowded that they need every ship they can muster to maintain order. On that I speak from long and bitter personal experience. Since the secession, many more Guard vessels are needed along the Belt and their overlap into the Jovian Void; at best they're thinly spread.

"Because of the threat to Slingshot that they perceive in you, the UIPS has been draining both groups lately to augment patrols along routes through the Outer Region that converge on the Special Zone. The additional ships are from the Belt patrols. With all that they already have to cover, expending vital resources to chase a few escaped convicts just wasn't worth it."

Narval wheezed a chuckle.

"So, you think you are beholden to me for this indirect assistance. Really feel that way?"

As he asked the question he looked intently at the monitor. Brad, in turn, watched Narval's eyes.

"I can't see it any other way, Mr. President."

Narval grinned.

"Your answers to my questions present an interesting scenario," Narval said after studying the monitor. "The probe, by the way, does not indicate significant deviations from the facts -as you understand them, of course." Narval waved the guards away. Saluting, they left the room, closing the door softly behind them.

Narval motioned Brad to a chair of much gentler design alongside his desk. As Brad exchanged seats Narval swiveled his chair to face him. He leaned forward and grasped Brad's wrist in a puffy grip.

"The interrogation is over," he said. "This little session with the probe, along with voice analyses of you and your associates has, up to now, failed to disclose a threat to me or about what you all now know of my plans and military capabilities.

You seem to be what you claim. Nevertheless, you remain under scrutiny."

Brad shrugged and remained silent; his features reflected that he expected no less.

Narval's smile was vapid, metallic.

"I commend you for the manner in which you represented Drummer and, I add, myself. You did well with the log depot Commander and that upstart on the transport. I am especially pleased with the way you conducted yourself in that little squabble on the transport."

"Thank you, Mr. President."

"Now, to more important matters, Brad."

Narval leaned back in his deeply cushioned chair and tented his stubby fingers.

"Your observations on the deployment of UIPS military forces interests me. It supports my suspicions. The Inner Region's internal Space Guard is constabulary in both organization and mission.

Their jurisdiction is confined by the UIPS borders.

Their Military Space Force, on the other hand, has a charter to roam the Solar System -- comparable to ancient laws ensuring open seas and oceans.

"Transfer of fighter craft and pilots from the UIPS

Space Guard to the Military Space Force, I suspect, is now taking place. Many will need to be refitted for long range operations, and their crews trained in military concepts and tactics in place of those employed in local constabulary duties."

Narval twisted the rings on his fingers, and his tiny eyes seemed to sink deeper into surrounding flesh.

"The greatest single concern of the UIPS is the integrity of Slingshot and the Special Zone. I am convinced that the UIPS military forces, once they attain optimum strength, will attempt to crush me, or at the least, dominate the Zone.

"We must prepare to withstand, to resist, and to triumph over this UIPS aggression in the Outer Region."

Brad felt Narval's eyes on him.

"You are going to help me to prepare," Narval said.

Chapter TWENTY-TWO

Drummer expected the call.

"Drummer," Narval said as the door closed behind the guard and they were alone, "UIPS perception of me as a threat can be as effective a weapon as my transforming the threat into the deed itself."

Drummer chose caution. "How so, Mr. President?"

Narval peered sharply at Drummer as he leaned his heavy body back, and folded ring-encrusted hands across his paunch. He shifted his gaze to the ceiling and half-closed his eyes.

"The UIPS now perceives us as having demonstrated a capability for military actions against their vital interests. If we follow up with threats and menacing gestures against Slingshot, the effect may unnerve them, to say the least. How do you see it?"

"It seems to me we've gone far beyond mere threats," Drummer's tone, now grim, continued.

"Raiding and harassing their transports, attacking and destroying UIPS patrollers in the Zone, and now, the inventory tax. We formally notify them by Proclamation that we'll lay siege to the Log Depot, we've boarded one of their armed transports and disabled its armaments. These are not empty threats and impetuous gestures."

"Even so, they are prologue, Drummer. Hear me."

Narval twisted his rings, first in one direction then opposite. Lowering his eyes to his hands, he paused often between words, choosing them with care.

"Here in the Outer Region, the separate nations are convulsed by internal struggles for power both internal to their sovereignty and within the family of independent satellites that orbit their host planet. Their political philosophies are diverse, lack cohesion, and have powerful advocates or opponents, some openly, others covert. The Heads of State are insecure and fear political coups.

Rapid changes in leadership cannot be ruled out."

Drummer watched Narval eyes caress his entwined fingers.

"If new leaders arise and take over the reins of power from incumbents, so much the better for me. New governments will need time to become entrenched, create lines of authority and accountability, and install bureaucracies responsive to the wishes of a new elite. I repeat, confusion in the ranks, within other governments, is to my advantage."

"Can you count on such events materializing?"

"Of course not."

Narval wagged a finger at Drummer.

"But the uncertainty within regimes that these disruptions can, and may occur, dissipates and weakens their energies. If they fear enemies from within, and suspect enemies from outside, then they are diseased and warrant being replaced by a daring and skillful master."

"Who might that be?"

"Me."

"I'm not sure I understand."

"Then listen carefully, because you play a vital role in my plans."

Narval motioned a now openly apprehensive Drummer to the chair beside his desk. As Drummer sat, Narval leaned close.

"My strategy has two facets: one involves INOR, the other, the UIPS. They are interdependent."

Unfolding his clasped hands, Narval's fingers drummed the desk.

"I repeat, with INOR in turmoil no head of state can feel secure. New philosophies surface and attract supporters, occasionally, even strong leaders. If forces with objectives opposing mine move into the Outer Region, I will not sit by idly.

I will intervene, even if it means imposing the most stringent discipline and controls."

"With respect, President Narval, does Planet Pluto have the right to intervene into the affairs of other nations?"

Narval scowled, recovered, and snickered.

"Power gives us rights we would not have otherwise.

When the old United Planetary System decided to use Planet Pluto as the forward base for Slingshot, they invested the planet with some of their most advanced technologies. Other communities throughout the Outer Region are just that: places where people live, work, play, consume and little else.

"Slingshot has given Planet Pluto a far greater role in the solar scheme. And now, a role that was entirely unexpected when Slingshot was first planned, dissolution of the unified solar government released us from UIPS domination.

We gained opportunities to fashion and strengthen an infrastructure, and freedom to confuse our INOR neighbors with a melange of schemes to satisfy their greed. Slingshot technology, facilities, and materiel give to us, more than to any other member of INOR, the means to attain our aspirations. Power creates its own logic, Drummer.

"To answer your question: I will intervene into the affairs of other nations when it is to my benefit to do so."

Narval's hands clenched into fists. He pounded the top of his desk in a tattoo as he glared at Drummer through eye slits embedded in fat.

"Understand me, Drummer," Narval shrilled. "I will be the dominant force in INOR, and that's only the beginning."

Narval quieted, each warily observing the other. Hesitatingly, Drummer tried to respond to Narval's incredible declaration.

"Is that what's behind your recent Proclamation to the UIPS on a new foundation for interregional relationships?"

"Partly."

"What else is there?"

"Unfortunately, we cannot repeat Tornado Six. When I approved it, I intended it as a one-time operation to, shall we say, test the waters. It succeeded through your command, and the extraordinary initiative of Brad Curtin. We must now go on to other probing and design new confrontations from which the UIPS will be forced to retreat. Our tactics will, at times, include diversions, as we must keep both INOR governments and the UIPS off-balance. They must be kept guessing -- not certain -- where I will move next." "How do you expect them to react to such provocation?"

"There is little likelihood the UIPS will gamble with the future of our solar civilization by retreating from Slingshot; they cannot risk the system-wide demoralization and desolation that would follow. I intend to play on their fears and on public pressures to attain my ends. That's where threats come in; we must use them regularly, but with cunning and consistency. UIPS perception of danger to Slingshot, compounded by the enormous distances from their military centers, will compel them to be reasonable. If our tactics are convincing the UIPS will have no alternatives. They will accede to my demands."

"What if they resist?"

Narval's pudgy fists resumed their cadenced pounding.

"Let them," he snarled, "I will be ready; I will go further and challenge them. They will be compelled to come to me, and I command the high ground. I will defeat them, and move on quickly to my ultimate objective."

"And what is that?"

"Isn't it obvious?"

"Yes, President Narval, but I must be certain."

Drummer's face was pale. "My ears want to hear what my mind has been forced to conclude."

"Very well, Drummer, hear this. Planet Pluto is strategically situated at this time to be the single, most influential force in human affairs. I will use that influence to consolidate my military control over INOR. When I have that I will confront the UIPS and beat them down. I, Narval, will dominate the Solar System."

Narval's ultimate objective was clear and set.

Drummer knew better than to dissuade him.

Having confided in Drummer, Narval waxed garrulous.

"I have debts to pay," he said, "and I shall get much pleasure in making good on them. Many insults and humiliations need to be returned to former colleagues on Callisto. And there are others, in tank towns throughout the Outer Region and in the UIPS. They will feel my wrath."

"Is vengeance all there is to it?"

Narval caught himself.

"No, no, of course not," he said, hurriedly. "I shall govern. I shall be wise and magnanimous.

Magnanimous, that is, to those who support me, and," clenching his fists again, "merciless to those who oppose me or seek to undermine my will."

"Considering Planet Pluto's distance from the centers of social and industrial activity," Drummer interjected, "and our planet's far-ranging orbit, this could be a difficult location from which to govern the Solar System."

"I've thought of that, Drummer. I shall move to Luna and rule from there. In stages, we can adjust to its gravity. Once Slingshot goes operational, this planet will revert to an outpost, for most of its orbit beyond the solar rim. It was never meant to be more. To me, Planet Pluto has always been just another stepping stone."

A broad grin rippled across Narval's features.

Drummer, somber-faced, returned Narval's gaze and saw his eyes shrink into lumpy flesh.

"Drummer, my plans include a position of great power and prestige for you."

"Indeed?"

"A new elite and a new hierarchy will be created when I take control. I will want a council of advisors, commanders and administrators for internal affairs, constabulary and military forces, security, intelligence, and a vast bureaucracy to manage the affairs of government for an entire system of planets, satellites, and thousands of artificial colonies. Much will need to be done, and you will be in the forefront."

"You honor me."

"I expect faithful service, Drummer."

"I shall do my best."

"Good. Now, as to Brad Curtin."

Narval leaned back and entwined his fingers across his abdomen.

"I had him here a short time ago and questioned him under a psychic probe. He withstood the inquiry.

The probe did not disclose any inconsistencies to my questions; therefore, I can only conclude he is what he claims to be. What is your opinion?"

"My talks with Brad and his companions led me to that conclusion."

"So be it then."

Narval's attention seemed to wander. He reached for a document on the desk, and he perused it as if his mind was elsewhere.

"Drummer," he said, raising his eyes, "I want you to give Brad a special assignment, and report to me periodically how it is progressing. Keep Brad's group together, but watch them, and report to me immediately of any suspicious activities. I've also ordered Scarf to keep an eye on Brad and his crew."

"Scarf? To what purpose?"

"I have plans for Brad, if he does well."

"What is the task?"

Narval locked eyes with Drummer.

"Tell Brad to prepare plans and evaluate our military capabilities to penetrate the protective shield around the Logistics Depot, to capture it and use it as hostage."

"Good God! Take the depot as hostage? For what purpose?"

"The reason you will give Brad is that INOR will hold it hostage for a greater share in decisions on the disposition of Slingshot-generated assets."

"That isn't the real reason, is it?"

"No. The objective is diversionary."

"And the real objective?"

"You will be told when it is time."

Chapter TWENTY-THREE

The Sentinels slouched in chairs, or sat on the floor, backs against the walls of the small workroom. Their faces reflected fatigue.

"About fleet capabilities for sustained combat,"

Brad said. "I need a 'how goes it' on the status of your evaluations. Give me a quick rundown and a documented report by the end of the day. Myra, you first."

Myra spoke from where she sat on a chair tilted against the wall.

"I had training facilities and systems, emergency medical support, and general administrative backup.

What I saw was guys and gals floundering around, leaning on each other, and making excuses. The training programs are antiquated; many aren't even remotely tied in with the equipment installed on ships of the line. Equipment operators are learning by hit-or-miss, and they miss much too often. Can't blame them for low effectiveness because the procedures are hazardous to their health. If we don't improve the situation fast, the crews will deteriorate to where they won't be worth a damn when the going gets even a mite rough."

Myra paused, tipped her chair forward, crossed her arms, and gave Brad a hard look.

"I mean it, Brad. What's more, the medical backup for combat support is atrocious. If we incur casualties, the injured won't have much to depend on,

and if the troops have no faith in their medics, their morale will drop, and I mean fast.

There goes your combat capability. For example, medical supplies haven't been checked and updated for years, if they were ever checked at all. They don't know what they've got or where.

"The system needs a complete overhaul. I spot-checked the software and links on training, medical, and administrative systems, and found them to be full of gaps and obsolete links and citations.

My report, Brad, is that these areas need one hell of a lot of work to get them up to even minimum standards."

Myra tipped her chair back until her head and shoulders touched the wall and she closed her eyes. Her exhaustion was unmistakable.

"Document your findings, Myra," Brad said. "I want specific recommendations to deal with each deficiency that you find, the name of the person accountable, and a list of the supplies, equipment and skills to clear the problem."

Turning to the others, he added, "That goes for everyone; there isn't much to work with, so be realistic. If you report a problem, tell me how to fix it. If the shortages can't be filled, we might have to take from one ship or facility to fix others. Clear?"

Silence.

"OK, you're next, Zolan. What's the story on communications?"

"The equipment is generally good. It all came from the Inner Region, and not very long ago. Part of what we have was taken in the raids on UIPS ships; the rest is original equipment installed here during the Slingshot build-up. Most of the space-to-space systems are fully operational; there are some weaknesses in space-to-surface links."

"That part can be handled."

Zolan paused to nod at Myra.

"There's a 'but', though, and here's where I tie in with Myra's findings on training. We've got a good supply of comm spares, but not enough skills to do the work. The comm folks can operate the equipment, no sweat there. The problem is that although much of the gear is self-repairing through built-in robotics, when the robies themselves need fixing, no one knows how. Chain reaction; it won't take long for subsystems to break down as the pressure of sustained ops builds. Barely enough maintenance robots on each ship and station to keep the equipment working. The number of out-of-commission robots is increasing steadily, and no one seems to know what to do about it. In time, this could easily lead to wide gaps in communications capabilities."

"Do you know what to do about it?" Brad asked.

"Yes."

"Lay it out in your report. That's one area where we can't afford any screw-ups. Adari, let's hear it on ship's navigation systems and surface nav-aids."

"Well, Brad," Adari grinned, "I had a nice summary all arranged in my mind, but I won't waste time by repeating what Zolan and Myra reported. Comm maintenance also applies to nav, as does training and data. The equipment is good, but only because it's fairly new and is robotically self-maintained. But nav robotics have no backups. Generally, when maintenance robies need fixing the work's done by human specialists or other specialized robies. They're not on board. Eventually, this fleet is going to be in a sad

predicament: nav equipment will go down with no way to get 'em back on line."
"How are you on fixing nav robots, Adari," Brad smiled.

"I get by."

"Put that in your report, too." Brad turned to Kumiko and nodded.

"Guns, power packs, tracking and fire-control systems in fair shape. Ordnance controllers and gunners are a breed apart, especially when they're taking care of their own, and even when working conditions are tight. They normally do most of their own maintenance. The guns are modern, and there's a good supply of ready-to-install chargers.

Ship commanders exercise their gun crews frequently, and many have been on the raids, so they have ops experience that the UIPS Space Force lacks. As far as armaments go, this fleet will be a powerful adversary in any confrontation."

"Sounds encouraging," Brad said wryly. "When you prepare your report, just tell it like it is. A bit of good news would be welcome." Motioning to Hodak, he added with a tight grin, "Last, but not least, what's the situation on structures, facilities, energy sources, and general logistical support." Hodak, leaning against the wall, rubbed his bald spot and frowned.

"I ain't happy at all," he said. "As I told you on the Dragon, maintenance training of ships' crews is sloppy, and standards are either just not there or obsolete. We're working on the ops and logistical support checklists but they're still far from compatible with facilities and installed systems. These guys operate by the seat-of-their-pants.

What's more, ship's structural and power plant robies are down for maintenance half the time and spare parts are a mess. That also applies to surface shops and equipment.

"When ships are taken out of the line for repair, the process is too damn long, mostly because of the marginal and nonstandard support equipment. We got a real problem here, Brad. The sooner we get on it the better."

Brad leveled a finger at Hodak.

"I want you to include in your report a way to update direct support from surface shops. If we're going to do ourselves any good on this rim rock one thing we can't afford is a fleet that can't stand up to a confrontation with the Inner Region. I'm not about to be hauled back to that tin can Guardian Station to face escape charges. I don't think any of us want that."

Adari and Hodak nodded; the rest sat motionless.

All looked somber.

Brad stood. "That's all for now. I'm going to give an oral report to Narval as soon as I can arrange to see him. He needs to issue a heads up with a whip in his hands. Meanwhile, you all have jobs to do. Be where I can reach you."

##

Narval and Drummer turned away from the view tank in which they had observed Brad and heard his words and those of his cohorts.

"Well, what do you think?" Narval bit into a fingernail.

"They raise valid issues, President Narval. If we are to challenge the UIPS military we certainly can't do it with an inferior force. I think we should listen carefully to what Brad suggests, and then, considering your objectives, adopt those ideas that will assist you in attaining them."

"I will listen to Brad, Drummer," Narval said.

"Then, I will tell him to report the details of his findings to you. I want you both to do what's necessary to bring our military fleet to a high level of readiness. Prepare instructions to our commanders for my signature. We must reach our maximum combat capability in the shortest possible time."

Narval's eyes gleamed beady-bright.

"The shortest possible time. Did you hear me, Drummer?"

"Yes, Mr. President, I heard you."

"I want to be informed, within the next one hundred hours, when you and Brad expect the fleet will be ready for sustained operations, and I mean 'combat readiness'. The names of ship and facility commanders who do not cooperate with you or Brad will be reported to me immediately. Do you understand?"

"I do."

"Very well. Now, I have a special assignment for Brad. As soon as the two of you have the fleet upgrading program under way, I want Brad to conduct a joint review with INOR military commanders to find out what shape they're in for a confrontation with the UIPS, should it come to that. I've already communicated with the heads of Outer Region governments, and they've agreed in principle to a preliminary meeting. I've approved a meeting place off Neptune; Scarf has the schedule and the coordinates. He will accompany Brad as my Security representative and sit in on all discussions. Tell Brad to use the Dragon for the mission and to chair the meeting. Let the INOR people tour our ship; we must give the impression of power. Any questions?"

"Brad may need to reveal what he knows of plans to take the Depot."

"I want him to do just that early on in the meeting. It will give them all a target against which to plan and integrate deployment schedules, vectors, tactics and combined operations. Anything else?"

"No, President Narval."

Chapter TWENTY-FOUR

Brad stood beside Captain Crisper and surveyed the scene in the tank on the Dragon's bridge. Scarf lounged in an accello-net within sight and sound, as he had for most of the voyage from Pluto.

The Dragon's pilot and communicator, upper bodies insulated in instrumented cubicles, concentrated on their tasks. Arms folded across his chest, Zolan stood along a bulkhead where his eyes could take in the full compartment without altering stance.

Ahead lay Triton in its retrograde orbit around Neptune. The moon's expanse was only partially accommodated by the tank. The Dragon's penetration instruments revealed Triton's jagged peaks and chasms through vaporous nitrogen clouds. Steady, high-intensity beacons marked the location of domed mine shafts that probed and sucked at the satellite's core. A cluster of tank towns and their outriders rode the satellite's horizon.

Gleaming slivers separated from the surface, converged, assumed an egg-shape and bloomed into a flight of spacecraft. They formed up abreast fifty kilometers distant, facing the Dragon's bow.

The speaker above the communicator's enclosure broke into the bridge's silence.

"Message from Captain Yargoul of the Jovian Battle Cruiser Windstorm to Captain Crisper of the Plutonian Battle Cruiser Dragon."
Captain Crisper spoke without moving or taking his eyes from the tank.

"The message."

"Greetings, Captain Crisper. I have been authorized by my President and the

INOR representatives I am escorting to inform you that we are here in response to the invitation of your President. Is the representative of your Government present?"

The Captain glanced at Brad, who nodded. The response was released.

"Greetings from Captain Crisper to Captain Yargoul.

My government's representative, Commander Brad Curtin, is present and prepared to meet with you and your colleagues. Commander Curtin suggests the meeting take place in the Command Conference Room on board the Dragon as soon as the primary members are aboard. Is that agreeable?"

A short pause, then the reply "Affirmative."

Shortly, utility boats cut away from the ships and converged on the Dragon. Each utility maneuvered to synchronize axis and align portals. Precisely positioned, each vessel locked on in turn and extended ship-to-ship catwalks.

##

The Dragon's conference room hummed with the murmur of the Dragon's seated guests when Brad entered and took his seat at the table. Zolan occupied a seat against the bulkhead behind Brad, adjacent a glowing view tank.

Scarf was there somewhere along the side, known and ignored; a security agent to peer over INOR citizens' shoulders was normal.

Professionals long in their trade, they were battle cruiser and destroyer flotilla commanders of the major INOR powers, backed up by their experts in military intelligence, tactical operations, and navigation, logistics and internal security. Brad's measure would be taken quickly, and his influence and INOR's decisions would depend on their assessments. He expected no less. Brad's eyes ranged the table, giving each face equal time. They returned his scrutiny, casual, arrogant, challenging. It was his show, and his reputation.

Brad did not rise to speak.

"I needn't introduce myself," he began. "We've all done our homework I'm sure, and you know as much about me as I do about each of you. So, to business."

Zolan rose, drew an instrumented rod from its niche at the base of the tank and brought up the quadrant that depicted the Special Zone. Manipulating keys along the rod, eyes on the tank, Zolan quickly brought the Logistics Depot in toward the core and increased magnification so that it occupied most of the tank space.

"The objective," Brad said, his voice flat and low.

A long silence, then from the far end of the table,

"What the hell does that mean?"

"Just that. We're going to take it."

A gasp, this time from his left, followed by, "You guys are out of your minds."

Feet shuffled on the grav-plates. Several among the seated were arranging themselves to rise and depart.

Brad waited.

The shuffling stopped. They were here to listen, not to commit.

Brad leaned forward, placed his forearms on the table, one hand over the other. His steady eyes moved from one face to the next.

"No," he said, "we're not out of our minds. We can do it, and our losses can be kept within acceptable limits if we work together. Furthermore, the Depot can be taken with minimum damage to its structures and to its Slingshot

stores."

"What's the point?"

Brad looked at the questioner, a big man in a black and gray uniform and a soft helmet liner perched on the back of his head. Brad knew him through the phys-psy profiles he had studied before the meeting.

##

"Captain Yargoul," Brad said, "sooner or later the UIPS must accept that they no longer have mastery of space beyond the Belt."

Altering his tone to include all, he continued, "I needn't dwell on the obvious: our collective forces and Slingshot's distance from the UIPS places us in a far stronger position than we thought we would be at this time. I emphasize collective. On our own, any of us, individually as nations or in an alliance of satellites, wouldn't stand long against an organized assault by a UIPS battle fleet. But, collectively, we will not only resist them, we will win and take back full control of space throughout the Outer Region." Eyes cold, voice gritty as space-sand, Brad tapped the tabletop.

"Having the power isn't enough. We've got to show it, and make it credible. Planet Pluto demonstrated what can be done with real power during Operation Tornado Six. I'm sure you're all familiar with that little exercise, and have studied the tactics."

Closed faces. The silence was broken with low but audible, "So have their tac ops people."

"Right, and we think they've concluded that INOR is in a strong position to run its territories and voids without any more interference from them. Also, that we can devise tactics and take initiatives that put them off balance and upset their Slingshot schedule. What we did in our legally contiguous space can be repeated elsewhere.

The result is the end of UIPS dominance over its former colonies and space lanes."

Brad paused to preface his next words.

"You can continue to accept invasive UIPS traffic through your territorial and contiguous zones. You can do the same for their uninvited presence in your Exclusive Economic Zones even though the Laws of the Seas Conventions over the past several millennia expanded treaties to include or affirm each independent nation's rights. Or you can align with Planet Pluto, which is your right as a free and independent nation. Together -- collectively -- we can demand that the UIPS acknowledge INOR's jurisdiction in the Outer Region. INOR can back their demands with military power that the UIPS can no longer ignore."

There was a long silence, followed by, "What does the Log Depot have to do with it?"

"First, it's the closest, most politically vulnerable target within INOR's legitimate boundaries and jurisdictions. Second, control of the Depot equates to a strangle hold over construction progress and launch of the Slingshot terminals -- which is life-or-death for the UIPS."

"...and not for the rest of us?"

"Not for centuries. If it ever really came to sheer survival, we'll outlast the UIPS. When they collapse we can move in and feed off their carcasses for a thousand years, if we have to. Meanwhile, we'll take over Slingshot and have it ready for the next launch window."

A hard-visaged warrior leaned forward in his chair, and shook his head slowly.

"You're a callous son-of-a-bitch, Commander Curtin," he said, directing his

eyes directly at Brad.

"Maybe so. I'm also a realist. If we play the game right, and show a united front, this confrontation won't escalate to major military actions. The UIPS has got to cross our space, there's no other way.

Take the depot and we can force them to finish Slingshot, but with INOR playing a major role.

It'll take some negotiating, but it's not likely that they'll shut down Slingshot."

"How will you take the Depot?"

"You mean, how will we take the Depot?"

Unfortunately, we can't repeat Tornado Six. That was a crisis we manufactured and ran all the way, a one-shot operation. We've come up with another strategy to take the Depot, and that's what this meeting is about. You're all in on the action."

"This is the first I've heard the Depot is to be taken," said Captain Yargoul, looking around.

"What about the rest of you? Have your governments cleared this as a joint operation?"

Heads shook in the negative accompanied by shrugs and grunts. Unanimous.

Chapter TWENTY-FIVE

Brad leaned back in his chair both hands pressed against the table's edge, arms straight.

"Your governments have agreed to a united front against the UIPS, otherwise you wouldn't be here.

Your Heads of State sent you. We're military men, not politicians or clever diplomats. What does that tell you?"

Silence.

"Then I'll say it. We're here to plan a military action. That's what we do. The decision on whether the plan is implemented is up to INOR politicians and diplomats. That's how they earn their keep. The target has been made known to you. Our immediate task is to assess the forces we will have available and operational to do the job. For that I need to know your capabilities, now and for the time they will be committed to the combined operations.

Let's start with the Jovian System."

Brad fixed his eyes on Captain Yargoul.

Time stretched, no one moved. Finally, at a nod from Captain Yargoul, a gaunt spacer seated behind him reached into a pocket, withdrew a capsule and tossed it toward the front. It floated gracefully at Zolan in the light gravity. Zolan caught the capsule, turned, inserted it into a slot at the base of the tank and pressed a key on the rod.

The tank shimmered, cleared, and in rapid succession flashed images of battle cruisers, destroyers and support ships. Data unreeled across the lower section of the tank, listing ship's armament and ship's readiness rating.

The recording completed, Zolan withdrew the capsule and returned it in the same manner as received.

Another floated toward him, preceded by a growl

"Titan." The routine repeated, and within a short time, the major INOR platforms and weapons for a combined assault on the Logistics Depot had been recorded and rated for readiness.

When the last capsule had cleared the tank Zolan's fingers raced across the console's keypad and the screen recapped the inputs. The Logistics Depot reappeared high up in the tank wrapped in its protective cocoon, and lines of

transports loading and off-loading cargoes or waiting their turns. The scene contracted, and the vacated space filled with numbers and codes representing the few UIPS recon-patrollers in the Plutonian sector followed by a tabulation of INOR's combined assault fleet.

The computer presented INOR's combined fleet's Order of Battle, and stabilized.

The assembled commanders, master strategists and tacticians all, pointed, commented, and proposed options on the employment of ships, formations and weapons. Zolan keyed their suggestions into the computer and the results appeared in the tank.

Finally, there were no further options. Brad nodded.

"Mark it and distribute a copy to each Commander present," he said, and turned back to survey the group around the table. He waited.

Captain Yargoul cut the brief silence.

"What we have, so far, is a textbook tactical disposition of forces around a theoretical objective. The reality will depend on the strategic plan for the operation and what we expect will come out of it. When do we get to that?"

Brad grinned.

"That will be made known to you at the appropriate time."

##

Brad and Zolan walked silently down the ramp from the Condor and boarded the outbound strip. Skirting knots of commuters they faced outward in a momentarily vacant slot for two along the edge of the fast moving lane.

Opportune and random, the location was as secure as any from eavesdropping.

"I briefed Narval an hour ago," said Brad. "He's certain that he can get the INOR leaders to join for a healthy share in the prize. I've been ordered to plan for a combined operation to take the depot."

"When?"

"He's sitting on that. What he wants from me now is to portray an integrated assault by INOR combined forces from a point halfway between the depot and the Slingshot construction site.

I'm to work out the details and keep each element on a timeline from launch to full military control of the objective."

"Doesn't that strike you as odd?"

"Talk to me."

"Setting the launch point against the depot from a couple of million kay outbound from the Plutonian orbit doesn't make sense. It's especially suspicious when you consider that the INOR forces will be coming from sunside of Pluto and therefore sunside of the depot -- the presumed target less than a half million kay from here. Why not have the fleet rendezvous closer to the target?"

"My question, precisely."

"How do you see it?"

"I'm not sure yet. Narval did say to crank in diversionary tactics that would draw the Terminals' defensive forces away from their normal ops zone."

"That's weird."

"Agreed. He's setting it up this way to maximize his options, he says. The

final decision, he said, needn't be made until the final moments. Confuse the enemy and all that."

"Are you saying the same plan can be used against the Terminals?"

"Absolutely. Oh, a few formation and tactical switches but they can be made in the field as the fleet switches targets."

"Would it work?"

"A bit of delay, but I'm sure it would. But at whichever target Narval's final order sends the fleet, the results would be a disaster for the UIPS. The real target's spunnel lines will crash, destabilization will disrupt the entire Slingshot construction schedule. We'll have lost the launch window."

More commuters swung aboard the strip and crowded their space. Brad and Zolan eyed them; time to split.

"What now?", Zolan asked.

"Not much choice." Brad replied in a whisper. "Use the depot spunnel facility to get word to Ram.

Don't take any nonsense about getting to Hanno.

Once you're through to him, you shouldn't have an access problem. So get to the depot, shoot the burst, and get back here without being spotted."

"The message?"

"Narval's instructions to me. Everything we learned at the meeting off Neptune, especially the Order of Battle capsule with the options on formations for the combined fleet. List the types of weapons and warheads installed on each INOR ship of the line and the coordinates for rendezvous and launch at the depot as the target.

"That'll get them as suspicious as we are. Crank in what the coordinates might be if Narval makes last minute switches. Point Icarus is the designated code name for the INOR rendezvous. Include that.

Tell Ram I said to get his fighting folks off their butts and earn their keep."

Brad shifted, stepped over to a slower lane, and from there off the strip. He disappeared among the pedestrians. Zolan remained where he was for a distance, disembarked and strolled about near an air lock as he mind-impressed his message on a comm capsule.

Colonel Hanno will be surprised, Zolan mused as he pushed his way into the suiting-up room.

Contemplating his mission, it might take a bit of time for Hanno to respond and track the code, interpret the instructions, and acknowledge what they required of him. He would need to push Hanno hard.

He selected and checked a suit for fit, fresh fluids, air and communications. Climbing in and closing up, he stepped under a helmet rack, drew it down, rotated mating surfaces, closed and locked the seals. The automatic self-test devices hummed pressure checks, and indicators glowed as the life support systems balanced internally. The suit inflated, held for several seconds, and subsided to normal. A tiny light above the inside visor glowed green to show status as ready.

Passing through the outer air lock Zolan turned toward a line of flitters. A guard watched him approach, rifle held casually across his chest.

"OK," said the guard when Zolan was within five meters. "Hold it there. What's on your mind?"

"Name's Zolan. I need a long range flitter for a hop into the outback."

"Let's see your authorization."

"What authorization?"

The guard's head wagged in his helmet.

"Y'gotta have authorization for a distant destination, buddy. That's orders. Otherwise, take a taxi."

"Orders, hell," Zolan growled. "I can't get where I have to go using a taxi. I can't do my work with you security types puttin' the chocks to me for 'orders' each time I need to check a work site." His tone became scathing. "Get your superior on-line and tell him my name and what I want. If he has any questions, tell him to check with Brad Curtin on President Narval's staff. C'mon now. Move, man, move."

The guard's manner changed with the name-dropping.

"Yes sir," he said. "Right away, sir."

Zolan's comm contact with the guard went on hold as the guard switched to another line. Ignoring the guard, Zolan surveyed several nearby utilities. Moments later his line with the guard reopened. The guard's voice was deferential.

"Clearance received, sir," he said. "Got a real good single-seater here for you. Just came out of the maintenance shops. All systems have been checked and she's ready to go. Shall I warm her up and crank in the coordinates for you, sir?"

"That's OK," Zolan replied, "I'll do the set ups myself. I've got several places to visit and want to work out the trip on the box so I don't waste any more time. Which bird?"

"Follow me, sir."

Moving along the line the guard stopped at a low-slung framework from which a crude cage hung suspended, held in position by braces angling in from connecting structures. Behind the cage, halfway along a shaft running aft, hung a tiny nuclear power plant. Nozzles of cone-shaped propulsion units on gimbals hung in neutral.

That would change as soon as Zolan inserted his coordinates and activated the thrusters.

"Here she is, sir," the guard exclaimed, proudly, offering Zolan a checklist. "All yours."

"Right," Zolan grunted. Shifting his eyes critically from the checklist to flitter and back, he walked around the tiny flyer inspecting the spars for alignment and cracks. Moving to the power plant he examined the reactor's cover and seals for seepage and the thruster nozzles and gimbals for cracks and wear. Finally, satisfied after scrutinizing the instrument panel, he stepped back, initialed the checklist and handed it to the guard.

"Looks OK on the outside," he said. "I'll check out the warm up. If it cooks OK, I'm out of your way."

He squeezed into the cage, set and activated the reactor. Observing the power levels rise on the gauges, his fingers stroked the flitter's keys and levers. He tapped his coordinates into the nav-comp as the plant warmed.

The guard moved closer.

"Know how to set her? Maybe I can help, sir."

He stuck his head into the crowded space and watched the computer screen flip through the coordinates that Zolan inserted. The screen stabilized and reflected a series of vectors. The guard studied them. Zolan ignored him.

Zolan adjusted the torso belts and rechecked the reactor and weight-and-balance indicators.

He heaved a heavy sigh.

"Well, time to hit the road," he said. "Stand back, man, I'm taking her up." The guard stepped back and saluted. Zolan moved the power lever and directional controls. The framework and cage quivered and the flitter lifted up and away.

Looking down, Zolan saw the guard bending backward, watching his direction of flight.

"Hope he got them all down right," he thought as he entered new data into the computer.

Chapter TWENTY-SIX

Zolan peered ahead. Reaching the depot's perimeter was less of a problem than he had anticipated.

Following a few short stops to surface stations to inspect military tunnels and comm links, and validate the flitter's flight record, he diverted to a depression between Coldfield and the horizon.

Resetting coordinates had taken seconds. Resuming flight, he quickly merged for a short distance with a queue of tugs and taxis along a crowded lane, then veered sharply up toward the Logistics Depot.

Blending his flitter's comm with the flood of electronic signals from nearby tugs and transports at the Gateway, Zolan drew closer to the huge Depot and took shelter in a knot of lashed vessels.

Taking several deep breaths, he fixed his eyes and mind on the depot.

Concentrating, he constricted and relaxed his neck and shoulder muscles in an irregular pattern, and repeated the rhythm until it invoked a slight pressure high in his left shoulder.

The stresses energized the short-range sending device implanted in him prior to the Sentinel's escape.

His words, inaudible beyond his voice box, opened contact with the depot's command post.

"Calling Ditch-digger," he intoned. "Ditch-digger, refer to your k-library program file 6756, and respond on Bootstrap."

He repeated the message and waited. It would take time for the comm technician on duty to work it out. The communications staff would scurry about, searching for the program. Restricted to Sentinel, this contact would be its initial activation.

The receiver in his ear whispered, "This is Ditch-digger in Bootstrap. Continue."

"Ditch-digger. Scramble 16."

Zolan hunched and tightened his shoulders to switch channels.

The voice came through. "Done."

"I want to speak with Colonel Hanno."

"One moment, please."

A short pause.

"Hanno."

"This is a Sentinel call. Break the seal on your copy of the Sentinel Support Plan and refer to Annex C, Section 21, line numbers 416 to 422.

Note the encryption structure. I will cite the line in the structure that authenticates my request for support. Waiting."

Minutes passed. Breaking the seal on the highest classification Sentinel Support Plan was a grave responsibility that Hanno would not take lightly. He would need to do it in the station's security vault with no witnesses present. The comm center would then need to be cleared of personnel other than Hanno before the exchange could proceed. Finally, the receiver whispered again.

"I have the lines you refer to. Continue."

"Note how the authenticator is to be stated,"
Zolan said.

He rattled off a sequence of numbers, letters and symbols. Injecting a short, prescribed silence, he spun off another set. The authenticator was in two parts, each requiring its own style for presentation.

"Authenticator confirmed," Hanno said after a pause. "State request?"

"I'm in a flitter near the Gateway," Zolan said.

"Request permission to come aboard and have unattended access to the spunnel transmitter for about five minutes. I will then depart."

"Permission granted. Do you wish an escort from your present position to the dock?"

"Yes, please send an unarmed tug to lead me through the gate, match me up, and point me at the dock. Tug operator and anyone else that observes my presence or the flitter must not repeat must not log the serial number of my flitter or any of its features.

Clear all your people to beyond five meters in all direction from the passageways I'll be using, and from the spunnel comm center. I am armed with a hand weapon set for maximum effect without collateral damage to non-organics. My mission requires such precautions. Do you accept these conditions?"

"I accept."

"Noted. Have an unarmed guide at the air lock to precede me to the spunnel console. Instruct him to not speak to me, no questions, and to not interfere in any manner in what I do. When I've completed my work in the comm room the guide is to lead me back to the air lock. The same tug is then to get me through the Gateway, same conditions, and I'll be out of your way. When I'm gone conduct your highest-level UIPS security briefing. This mission is classified UIPS Black. Understood?"

"Understood. Ready?"

"Ready. I am moving toward the Gateway and will be there in two minutes. Have your man flash his reds and greens at one-second intervals. I will respond with standard flitter yellows at the same spacing.

Over. Out."

Zolan carefully adjusted the controls to slip the flitter away from the screening vessels. Clear, he maneuvered his craft close to a space buoy that marked the route through Fandango.

A yellow-green striped tug appeared in the distance and grew larger. The Gateway's diameter could expand to pass the largest freighters or close completely.

It could be straight or as convoluted as a randomly configured corkscrew. The tug passed through, flashing the agreed-on signals.

Zolan responded. The tug stopped, reversed heading, and waited for him to line

up. Inside the force field, the route took them over, under and around huge freighters and through swarms of shuttles, tugs, and barges. Five hundred meters from the depot Zolan pressed a disk on his control column and a mag beam reached out and locked on to the tug.

The tug's thrusters glowed brighter with the power to match up both craft. Aligned, Zolan released the tug, and gentling his thrusters, brought his flitter to rest on a landing platform that had articulated from a portal. Space suit closed and glare screens partially activated to veil his features, Zolan strode the Depot's corridors behind his escort. Although he had docked at the portal nearest his destination, the spunnel console was still almost a quarter kay from the air lock.

Reaching the console chamber, Zolan motioned his guide to wait outside. He entered and inspected the area for intruders and bugs. It seemed secure.

Approaching the squat spunnel transmitter he noted that Hanno had activated the system for immediate use and disengaged all logs and file-for-record links. Confirming the disconnect, Zolan wasted no time in preliminaries. Inserting the capsule he keyed the transmitter to the channels assigned to Sentinel and set off his burst.

The transmitter was a model that dated back several centuries to the depot's construction. Zolan knew from his training for the mission that a spunnel burst from the depot had to be arranged in parts. Each segment was to be inserted separately into the spunnel dispatch slot. The ancient transmitter could process only so much at a bite.

Zolan held the final segment and reached to insert it. A couple of seconds and the transmission would be complete. The console was coded to dissolve the capsule immediately following the burst; there would be no residue.

Zolan bent to insert the end of the message. Sensing movement behind him, he slipped sideways and hit the deck. Without warning and in the line-of-fire, the squat console disintegrated as a rending flash arced across to where he had been a fraction of second before. Off balance, twisting to face the door, Zolan drew his weapon.

The flash blinded him. His suit shielded him against the instant hell-fire that bounced off the console.

Silence followed the attacker's second shot. Zolan crouched, weapon extended, vision clearing. No further shots. Snapping a quick glance around, he took in the damage. The console was a melted lump and the room a shambles. He had to get out and away.

Up on his feet, he raced through the open doorway, gun raised. His escort to the comm room lay spread-eagled in the corridor, head burned to a crisp by what must have been a max shot. The corridor was empty. "They cleared the area of everyone but the killer," he thought bitterly.

Having committed the route to memory as he followed the escort to the spunnel room, Zolan raced along the corridors, gun in hand. No one barred his way.

The air lock came in view. He hurried through and twisted into the flitter driver's cage. He cut the mag beam to the dock and signaled the waiting tug.

##

They met on the transit strip.

Standing close, facing off the strip, observant, Zolan briefed Brad in quick, terse phrases.

"What's your assessment?" Brad asked when Zolan finished.

"It was a long, straight corridor. The escort must have been shot from the bend some distance away.

Damage to the comm room was extensive. Scarf must have an agent there. My having the area cleared alerted him. That brought on the attack."

"Did you get word to Hanno?"

"No. It would have raised questions I couldn't answer without breaking our cover. He'll have to figure it out for himself. I'm concerned about what the agent will report to his control."

"Whatever they conclude, the action eliminates the depot as a comm resource for us. Did you get the entire message on its way?"

"I don't know. The last fragment included the Point Icarus coordinates."

Their eyes met.

Chapter TWENTY-SEVEN

President Camari stonily contemplated the incomplete communication and turned to Intelligence Director Dynal. Ram sat immobile, nearby.

"Allen?" Camari's raised brows posed his question.

"We couldn't get through directly to Hanno to find out why the message was cut short. So we went spunnel to the Terminals and patched in to the Depot on coded conventional. Hanno reports his spunnel transmitter was destroyed. He was certain he was hoodwinked into permitting a saboteur aboard and screamed about a security breach on the Sentinel Support Plan. He said the 'saboteur' escaped before the alarm could be acted on. A damned lucky delay, I think."

"Did you enlighten Hanno?"

"No, sir. Too risky for Sentinel, and he has no need-to-know. I did tell him to run deep background checks and truth verification tests on all Depot personnel. He objected, thinking he had already pinpointed the culprit. I told him to do it anyhow, slap into the brig anyone who didn't pass, and report the results to me under highest classification through the construction site's spunnel center."

"Good. No question they've been infiltrated. We must consider the depot compromised for classified until Hanno assures us he's cleared the problem from his facility."

The President touched a button on his desk, running the message through again in its entirety.

He switched the screen dark.

"The Outer Region's target might be the depot, but I wonder." Ram said.

"Perhaps destroying the depot's spunnel transmitter is prelude to an attack. If it is, they must realize that the incident set off alarms throughout our defenses.

They'll also know we can maintain spunnel contact and relay messages to and from our patrollers and other craft through the construction site."

"Considering Hanno's report on what happened, the attack on his spunnel transmitter focused on keeping this message from getting through, not to merely destroy the machine. That alone would not have been worth the effort."

"We're down to one comm spunnel link in the Special Zone," Dynal added. "The

one we built on Planet Pluto is controlled by Narval's people."
"Does Sentinel have access to the transmitter at the Terminals?"

"The sender would need to personally key in the clearances as well as the text," said Ram,
"otherwise the message would be compromised.
Sentinel would be compromised. We do have the last resort."

"Have you checked it lately?"

"We run random tests from this end to be certain that it's ready to function. As you know, sir, it has its uncertainties and imposes a high price."
"Back to the message," Camari sighed and rubbed his temple gently as he pondered. "Their combined forces, and the distances involved, place us at an enormous disadvantage."

"Without question."
"Ram, what's your estimate concerning the missing piece?" Camari pointed to the message in his hand.

"The missing piece," Ram replied, "the one we need most is Sentinel's assessment on where and when we can strike at INOR's fleet with maximum effect."

"Depends entirely on Sentinel? No other sources?"

"At this stage, none, sir."
Camari lowered his head, lost in thought. After a moment he raised his eyes to Ram and said,
"We've got to get our thinking through to the Outer Region, to all citizens as well as Heads of State.
"I want you to get out there, Ram. Be my emissary. Impress on whoever will listen the disaster that all of us face, and why we must arrive at a peaceful solution. Concentrate on the leaders of major nations; whichever way they go, others will follow."
"I'll need the formal weight of our government,"
Ram said.
"Of course. I'll notify them all that you are my Ambassador Plenipotentiary, and that you carry a personal message from me. Use the spunnel and send me reports as you go along."

"Narval, too?"
"Of course. And while you're in his area, learn all you can from whatever sources; but watch yourself with that bastard. He'd as soon cut your throat as look at you."

##

"Category one message, spunnel-comm to Earth via Guardian Station 4. Personal to President Camari from Ram Xindral. President Gelliman, Callisto, unchanged in his conviction that Slingshot will benefit only the highly industrialized inner planets. He repeated charges that the UIPS non-renewables deficits resulted from poor control and excessive consumption of raw materials, plus breakdown in recycling and conservation policies. He concluded that Slingshot is our internal problem and that it's being forced on INOR. Demands UIPS halt Slingshot construction, withdraw from the Special Zone, and resolve UIPS resource crises internally."

##

"Category one message, spunnel to Earth via Guardian Station 4. Personal to

President Camari from Ram Xindral. Prime Minister Manra, Io, says he wishes us well in building a bridge to another star.

He makes an issue that transportation, construction and operations for all phases of Slingshot, including ultimate storage of incoming raw matter will be inside INOR jurisdictions; therefore, the INOR governments have a legitimate right to participate in apportioning Slingshot's benefits.

Refuses to negotiate this point."

##

"Category one message, spunnel to Earth via Guardian Station 7. Personal to President Camari from Ram Xindral. Foreign Ministers Roab of Ganymede and Slega of Europa represented their governments. At conclusion of meeting they issued a joint communique. Quote: it is only reasonable and proper that the governments of the Outer Region not be excluded from an equitable share of the enormous financial and material resources being lavished on the Interstellar Matter Teleport System (Slingshot). The UIPS can begin to remedy this injustice by agreeing to pay a transshipment tax on all materials, manufactured parts, tools and equipment, and personnel passing through the separate INOR jurisdictions, space-ways, and contiguous space generally. Passage fees for individual vessels in transit also must be negotiated and included in the agreement. Unquote.

"It is my opinion that the positions taken by the governments of the Jovian Federation are orchestrated. I suspect that reports on my discussions with Heads of State or their representatives are being passed among them.

I am departing for Titan to meet with Chairman Stabar. The Chiefs of Staff of the other Saturnian governments and the governments of the Uranus and Neptune satellite unions have notified me that their views are consistent with those of Chairman Straber. They state nothing is to be gained by pressing for separate meetings with them."

##

"Category one message, spunnel to Earth via Guardian Station 9. Personal to President Camari from Ram Xindral. Chairman Stabar's position is the same as those summarized in my previous reports.

Stabar openly proclaims that INOR's intent is to control the terminal that will receive and store incoming substance and oversee its distribution. Insists a formal treaty be negotiated now, otherwise, the entire Slingshot Program will be viewed as a threat to the integrity of INOR's legitimate jurisdictions. I am proceeding to the Planet Pluto Special Zone and will contact Narval from inside the Logistics Depot's protective force field. I will insist on President Narval's guarantee of safe conduct prior to departing the depot for Coldfield."

Chapter TWENTY-EIGHT

Ram entered the Log Depot's conventional communications center and nodded to the young operator.

"Make the contact," he said, adding, "Relay the message through one of the transports; delete all references that show this facility is in the loop."

Switches snapped as the operator nodded. His hands sped across the keypad. A few moments passed and his voice issued as an electronic whisper.

"Calling Planet Pluto Comm Center. This is the UIPS Transport Akiba, Call Sign 943 dash 792. We have a Priority One message for your government. Stand by to record. Acknowledge."

A slight crackle.

"This is Planet Pluto Comm Center to Call Sign 943 dash 792. We are ready to record. Go ahead."

Ram drew a small plastic card from the breast pocket of his tunic and handed it to the operator.

Without glancing at the card the operator slipped it into a slot in the console. A light on the panel blinked on and off and the card ejected. The operator returned it to Ram with a single motion and a smile.

"Message dispatched, sir."

##

Narval pushed the message aside and away. Face flushed in anger, he stared at Drummer.

"What do you make of it?"

"The message is less than straightforward, Mr.

President," Drummer replied. "Ambassador Xindral seemingly appeals for an audience with you to discuss matters of interest to both his government and ours. The suggested agenda it carries, however, puts us on the defensive with barely room for reasoning with his government. He asks for a guarantee of safe conduct. As a legally constituted government in a community of nations, and in the absence of, shall we say, formal military hostilities, such a request is not only unnecessary, it is an affront. I suspect, Mr.

President, that the Ambassador's motives are to place you at a disadvantage."

"I agree."

"His distrust of us is evident in the manner in which the message was routed. Transmitted from a cargo transporter off the depot's force field, no less. His personal vessel must be somewhere in the pack up there, but he obviously intends to keep it hidden. Very unseemly for a formal visit by an Ambassador."

"Your recommendations?"

Drummer paused, and spoke slowly, carefully.

"Consider the facts: his tour of the Outer Region was preceded by a personal message from Camari to Chiefs of State. He has had audiences with INOR Presidents or Ministers. They have informed you of their replies to his appeals. Those who declined to meet with him took the course they did because they had nothing to add to what had already been stated by the others.

"Because of your initiatives, President Narval, you are central among the INOR leaders in pressing the issues between the Regions. Refusing to see him may be interpreted by our colleagues in INOR as a lack of conviction in our cause, or even as weakness. My recommendation is that you see him, but manipulate the discussions to give our rights dominance.

Insofar as 'safe conduct', I suggest we ignore the insult, grant him permission to visit our planet, and wish him a pleasant stay."

Narval drummed on the desk, pushed at the message again, and shifted about. He was uncomfortable.

"I'll think about it, Drummer," he said.

"Meanwhile, extend the invitation, set up suitable quarters for him away from our official guest house, meet him when he arrives, and so on. Have him stand by. When I decide on the approach to the discussions, I'll let you know whether I'll meet with him."

##

"Well, Scarf, have you finished reading that thing?" Narval impatiently bit a fingernail.

"Yessir, Mr. President."

"Well?"

"Sir?"

"What the hell do you mean by 'sir'? I asked for your opinion, dammit."

"Well, sir, he asks for an audience with you..."

Narval sighed. "Don't just repeat the message, Scarf. Tell me what you know of this man."

Scarf's face lost its embarrassed flush and he hastily pulled a reader device from his pocket.

Striking a series of keys, Scarf peered closely at the screen. He pointed to the reader as verification for his words.

"Ambassador Xindral is a senior Intelligence Officer assigned to Slingshot. That's about all we've got on him. Definitely not a run-of-the-mill diplomatic type."

"That's what concerns me, Scarf. I'm highly suspicious of his motives even if Camari did notify us in advance. Intelligence officer, indeed. If he becomes aware of our preparations and reports back, our plans will be jeopardized. Drummer wants me to see him. I don't want to be in the same room with this person. Yet I can't refuse without losing face. Now, get me out of this, Scarf."

"How far can I go, Mr. President?"

"As far as you like, just keep me out of it."

Scarf rubbed his beefy jaw reflectively, then grinned.

"I have reason to suspect, Mr. President, that this known UIPS intelligence officer is using an Ambassadorial cover for purposes harmful to Planet Pluto's internal security. How's that for starters, sir?"

Narval's eyes gleamed with sudden craft.

"Go on," he said.

"His ostensible mission to meet with the President of Planet Pluto is, in actuality, a guise under which he intends to meet with dissident elements among our people. His real mission is to subvert and undermine the foundations of our government.

In other words, his coming here is to disrupt. He should be dealt with according to the rules of his own game, and not those of normal interplanetary or interregional diplomacy."

"Explain."

"Agents that conduct a mission such as his are expendable, Mr. President. There are no rules."

"Repercussions?"

"Whatever happens to him will be outside accepted protocols, and will occur prior to his arrival at the President's Official Residence. The incident will result from initiatives taken by the UIPS Ambassador, himself. The Government of Planet Pluto will not be involved."

"Very well, Scarf. I leave it to you."

##

"Hodak," Brad motioned him forward. "I want you to show me the new power pack

for the cruiser being overhauled in tunnel 3. Where is it?"

Hodak glanced at Brad, then away.

"It's still in the shop near the north side of the dome. Take us a few minutes to get there."

"OK, let's go."

Leaving the cubicle that served as office they boarded the strip. Standing close, they spoke through unmoving lips.

"Ram's here."

"In Coldfield?"

"Not yet, but soon."

"What's up?"

"He's to see Narval. His job is to try to work out an agreement that'll keep Slingshot construction moving along."

"How'd you find out?"

"Drummer mentioned it to me in passing. He's arranging a meeting between Narval and Ram."

"Has the time been set?"

"Not yet. Drummer's waiting for the go ahead from Narval."

"You mean Narval isn't sure he wants to meet Ram?"

"Suspicious, isn't it?"

"Damn right."

Their eyes met and moved on to the passing scene.

"If there's to be an incident," Brad asked, "who'll be setting it up?"

"Scarf, who else?"

"Soon as I hear when Ram's due and where he's to be lodged, I'll get back to you. For as long as he's on Planet Pluto your job is to keep him out of harm's way."

Chapter TWENTY-NINE

Entering the Charnel Pit, Ram scanned the tavern.

An empty table beckoned, and he folded his long frame onto its stool and delicately leaned an elbow on the least filthy spot of the scarred surface. Shifting his body slightly, he observed the milling crowd with frequent glances toward the entry.

Garbed in earth-toned street clothes, he had just left his room at the Condor, his mind on Drummer.

Their meeting at the landing pad had been proper and courteous, with no attempts at prying, either way. Confining themselves to amenities, they spoke of tedious space jumps, the quality of accommodations in various parts of the system, and generalities on a better life for humankind from a benevolent Slingshot.

Drummer had taken leave following Ram's inspecting his lodgings at the Condor and shrugging them acceptable under the circumstances. Departing, Drummer informed Ram that he would call for him or send an escort as soon as a

suitable time for his meeting could be arranged with President Narval. Ram expressed his trust that the meeting would be soon and productive. As his eyes accustomed to the bar-room's smoke-diffused lighting the harsh faces of the jostling crowd emerged. A frontier, indeed, he mused. Satisfied that he drew no untoward attention, he glanced once more toward the door and signaled a robo-dispenser.

A face drifted past, paused for the briefest moment, and moved on. It was enough. Ram gave no outward sign, but felt less alone. Hodak ambled to the bar, where the drinkers greeted him and jovially made room. An hour and several drinks slipped by. Hodak and Ram ignored each other. A small man in a nondescript tunic sidled up Ram's table.

"Xindral?" He wheezed.

Ram glanced at him and away. He remained silent.

"I have a message for Ram Xindral."

"Give it."

"If you're Xindral, the person you're here to see prefers to meet with you away from his normal place of business. I am to guide you to the meeting. Follow me."

"Name the man who sent you?"

"Drummer."

"Why didn't he come himself?"

"He is with his superior at the meeting place."

Ram was suspicious. It could be a trap. On the other hand, it was not unreasonable that Narval might want to meet away from the formal seat of government. His options were limited. If Drummer had really sent the message, and he refused the escort, the meeting with Narval would be off to a bad start, perhaps canceled.

The messenger stood by, subservient, waiting.

Ram brought his hands to his forehead as if deliberating a decision, and gently rubbed his temple to cover a flashing glance at Hodak. Hodak subtly acknowledged the sign.

"Be with you as soon as I finish my drink," Ram said.

Taking a sip, he placed the goblet on the table and began to fish about in his tunic pockets, clumsy and time-consuming. Finally, he rose slowly, towering over the small man.

"Lead on," he said.

Alarms shrilled in Hodak's mind as he recognized the person speaking with Ram. What were Scarf's stooge and Ram discussing? Ram's mission to Planet Pluto was clearly diplomatic and entirely Drummer's show. Drummer would not have knowingly accepted Scarf's involvement in the proceedings.

Ram's surreptitious glance in his direction and deliberate clumsy hesitation imparted doubts concerning his predicament. Hodak stretched, quickly finished his drink, paid his tab, and slapped drinking partners' shoulders good-bye. He sauntered toward the door, left the bar-room and, outside, turned away as Ram and his escort emerged and moved off. Hodak turned casually to observe.

A man in a dark tunic slipped out from a shadow along the wall and followed behind Ram. Another trailed further behind. As Hodak watched, two more moved out of an alley and took positions ahead of Ram and his escort. Ram was boxed.

Hodak followed, barely close enough to distinguish Ram's swaying form in the street crowds.

Ram's guide moved toward a break in the wall and motioned Ram to follow. Hodak saw Ram hesitate, speak harshly, and draw back. He was too late.

The others closed in and pushed him forward.

Ram stumbled, tripped, fell, tried to rise. Arms whipped about and he stayed down. The four lifted and dragged him through the breach. The fifth waited until they disappeared and darted away.

It had happened fast.

Direct intervention on his part, Hodak realized, would be extremely hazardous. Recognition would instantly compromise the Sentinel mission. He had to help Ram in a way that would not disclose his own identity.

He slipped silently into the alley.

From up ahead came rumbled curses and harsh laughter; they were sure of themselves.

Hodak's eyes searched the shadows without success except for the grind of boots on stony detritus and the scrape of a weight being dragged. He closed the gap, counting on the procession ignoring their rear.

The sounds muted and stopped. Peering from a recessed slot along the wall he saw Ram's abductors crowd around the entry to an open utility. One of them crawled in and Ram's unconscious form passed to him. The remaining three followed and the cover drawn into place.

Hodak moved swiftly to the entry and pressed his ear against its thick cover. Shifting position and scooping aside loose dirt and pebbles, he pressed his ear first against the ground then back to the cover. Scraping noises from the other side were audible, but diminishing.

The odds were not with him but timing and surprise might even them a bit. Lifting the cover slowly, he felt the texture of the surface and slipped into the dimness beyond. He crouched in the rubble, the faint sounds giving him direction.

The tunnel lights were low and flickering, their sconces widely spaced. It was enough.

Working his way forward along the tunnel, short dashes from one bend to the next, Hodak closed on the laughing, cursing pack. They were close beyond the next bend.

Feeling along the waistband of his tunic, Hodak drew a thin, flat metal strip from the weave.

Holding the strip gingerly, he jerked their ends in opposite directions and sensed the sharpness of the blades that instantly snapped outward along both edges. Twisting and turning formed a half-meter long scimitar and bending it slightly along its length added a curve comparable to the ancient Australian boomerang. It was both silent and deadly.

Hodak eased closer to the bend in the tunnel, and snaked his way along the ground until he had a view of the scene ahead.

Ram lay in a heap against one wall, motionless.

His captors, facing the opposite wall, were busily examining its surface. Words bounced back along the wall.

"...as good a place as any, huh?"

"Yeah. Let's get this over with and head for the Blind Pig. I'm thirsty as hell."

"OK, Patch and Swat, you two -- start burning the hole. Cut it deep enough so all of him can be shoved in. Leave enough room so we can seal it over with the same dirt. Flume, you start collecting rocks to pack around the body once we

get it in place. Then we'll just pack and fuse-seal until it's all smoothed over. This guy'll be riding this ice ball when hell freezes over."

"What're you gonna do, Angel?"

His tone was sarcastic. It brought a snarl in return.

"Scarf put me in charge of this detail, Flume.

Remember? So when I tell you to haul rocks, don't fight it." The heavy tone eased. "I was ordered to search the guy. Scarf wants everything from his pockets, and all his clothes, just in case he's got something stashed away. I gotta deliver the stuff as soon as we're done here. My orders are also to mess up the body so it'll never be identified, even if it does get found. So let's get with it."

As Hodak watched, Flume, the rock gatherer moved off down the tunnel. Two of the remaining three drew soil-fusers from a backpack and concentrated on their power settings. The fourth, obviously Angel, turned toward Ram who was beginning to stir.

Seeing Ram's movement, Angel drew his weapon, hefted it, and aimed it at Ram's head. Angel's mouth twisted into a savage grin.

His companions turned from their work to watch.

"Wait. I want him to see it coming," Angel said over his shoulder.

Hodak pressed his fingernail against a pip on the instrument in his hand and felt it vibrate with energy. Thrusting his arm further into the tunnel's bend he hurled the boomerang toward Angel.

The weapon reached its maximum velocity within two meters of the throw. Moving at a speed that made it invisible to the naked eye, it flew silently and true.

The slender implement curved around Angel's neck and, without stopping, completed its return to Hodak's hand.

Angel's head was gone from his shoulders.

The sound of Angel's falling body startled the two staring expectantly at Ram, waiting for the execution shot. Turning, they gaped at what had been Angel. They scrambled in panic to press their backs against the tunnel wall. Dropping the soil-fusers, they drew and waved their weapons about. One of them shouted, "Flume. Can you hear me, Flume?"

"Yeah, I hear you. Whatta ya want?"

"Get back here, quick."

Flume came running, took in the scene and joined the other two against the wall. Together, they stared at Angel, then along the tunnel, one direction then the other.

"What the hell's goin' on?"

"How do I know? We didn't hear anything, then the noise of him falling. We looked and there he was and there was his head. We had our eyes on the big guy; couldn'a been him did it."

"What do we do now?"

"Search me."

"Let's get outta here."

"Can't. We gotta finish the job, or Scarf'll burn us alive."

"Then we better stick together from now on," Flume said. "You two finish cutting the hole but now make it deeper. I'll keep watch. Soon as you're ready we'll load 'em in, seal it up with stuff from around here, and scram."

As Hodak watched, Patch and Swat recovered sufficiently to raise their soil-fusers and direct the nozzles at the tunnel's wall. An amber glow formed on the fuser's tips and the tunnel wall's surface bubbled and flowed toward the floor in the light gravity. Wielding the fusers expertly they distributed its liquefied substance in a rough, irregular pattern, blending it in with the surrounding surfaces. The excess that reached the floor quickly hardened to match the rubble strewn about.

Flume, back against the opposite wall, weapon high and ready, peered tensely about. Finally satisfied, Patch switched off his fuser and tapped Swat on the shoulder. Swat glanced at him, switched off, and they stepped back. "This'll do it," Patch said. "Load Angel in first. The back of the hole is too small for the big guy."

He leaned over, grasped the open-eyed head by a hank of hair and flung it into the hole. The head disappeared with a soft thud. Swat joined Patch; each grasped one of the body's arms and legs and they heaved it in after the head. Patch leaned into the hole and pushed the solid flesh as far as it would go. Turning, he motioned Swat toward Ram.

For a moment Flume faced away from Hodak. He did not see the boomerang before it twisted around his throat and was gone. Intent on Ram, Swat and Patch saw neither the strike nor the weapon. They heard a gurgling sound and whirled. Flume was on the tunnel floor, blood pulsing from the neck of his headless torso. The head, itself, had rolled against the opposite wall, eyes open. Panicked, they fired frantically down the tunnel in both directions. The boomerang back in his hand, Hodak waited. An open assault was unacceptable, both for himself and for Ram. He would be cut down with a single sweep of the killers' heavy handguns, and with his identity revealed, Scarf would track down the Sentinels with a vengeance.

Snapping a quick peek he saw Patch and Swat back to back in the middle of the tunnel, facing in opposite directions and whispering to each other in terror. Guessing the distance between the two he extended the boomerang slightly and pressed the pip. Stepping away from the wall Hodak threw the boomerang around the bend. One of the targets must have seen it coming. There was the beginning of a scream. Boomerang back in hand, Hodak walked around the bend. Patch lay quietly; Swat's body still quivered.

Hodak took less than five minutes to enlarge the hole, load the newly dead in with their companions, and smooth the surface to match the tunnel's wall. Ram, groggy, sat against the opposite wall and watched.

Chapter THIRTY

The space was little more than two meters across, a vault cut into the side of a tunnel to store construction supplies. It was enough.

Leaving Ram in the dimly lit space to recover, Hodak rushed to an exit, surfaced, took his bearings, and found Brad in his office. Brad immediately sensed the urgency from Hodak's expression.

"Let's get our people together," Brad ordered.
Hodak quickly passed the word and, within minutes, the Sentinels convened in an empty air lock.

Myra left for headquarters to cover; the remainder strung out behind Hodak to the subsurface vault where he'd left Ram.

##

"And that's it." Ram finished recapping his trip as he gingerly rubbed the large bruise on his head.

"They're lining up for a confrontation," he said,
"both political and military, and Slingshot is the club they'll hold over us. They think they smell the blood of victory, and there isn't a cool head among them."

He turned to Brad.

"Your message was incomplete," he said. "What was left out?"

"Narval's planning guidance on the assault launch point," Brad replied, citing the coordinates, bringing Ram up to date.

They were silent as Ram mulled over his options.

Sighing, he rose and stretched his frame, bending slightly to keep his head from scraping against the vault's roof.

"The attack on me must have been approved by Narval," he said. "My feeling is he didn't want to talk to me because his preparations and commitments are too far along. He feared that, had we met, I might get enough from our discussions to see his game plan. I've got to get home -- fast." Grinning at Brad, he asked, "OK, how are you going to get me out of this rat's nest and back to my ship?"

##

Narval screeched, face twisted, hands pounding the desk.

"What do you mean, standing there and telling me you've lost track of your people? Not that I give a damn about them, but you gave them a simple job to do, and I want to know, now, where it stands."

"That's just it, Mr. President," Scarf said, his normally ruddy face gray with fear. "I haven't received a 'sitrep' from my agent-in-charge. I did get an interim report from the back-up observer I assigned to track them from the Charnel Pit.

According to him, the Ambassador was taken into custody immediately upon leaving the bar. Along the way he resisted and had to be -- uh -- restrained. Everything looked to be under control, so the observer left to report."

"Tell me precisely what you ordered your agent to do."

"Identify himself as coming from Drummer. Take the Ambassador into custody under the pretext of escorting him to a private meeting with you. While in custody, and without witnesses, Xindral was to be terminated and his body buried in a tunnel. The site was to be returned to its original appearance, and Xindral's possessions brought to me."

"Where is this site located?"

"My agent was to give me the exact location when he delivered the Ambassador's personal effects."

"You mean you don't even know where to start looking? Is that what you're saying?"

"I know the location where they took him down.

Well, I got a problem there too; the subsurface junction branches off in several directions."

"Is it possible Xindral overcame his restraints and neutralized your team?"

"Not likely, sir. The observer said he saw sufficient force used against Xindral when he resisted to render him unconscious."

Narval sank back into his chair, head lowered, staring into his lap. Raising his head, he fixed burning eyes on Scarf.

"Despite your assurances, Scarf, I think it not only possible, but likely, that Xindral got away from your team. For all you know, your goons may be in hiding, afraid to face you with the truth.

If Xindral's still alive, he must have concluded by now that the attempt against him would not have occurred without my approval. So, we're committed, and I can't afford to wait."

He pointed a shaking finger at Scarf.

"Xindral can leave Coldfield only through an air lock. Post extra guards. Deploy patrols to strips leading to air locks on the perimeter. Mark him as a newly arrived renegade, a killer and genetic flake dangerous to Coldfield's safety. Order your people to take no chances with him; he is to be destroyed on sight. I want Xindral found, and I want him dead. Do it. Now! Move!"

##

Hodak was back from scouting the tunnel up ahead.

The way was clear with an exit a kilometer distant.

The opposite direction would lead them back to the center of Coldfield.

Brad cocked an eyebrow at Ram. Ram nodded.

Hodak and Kumiko took point, Brad behind Ram. Zolan and Adari rear guard. They covered ground swiftly.

The passageway widened, and a ramp led up to a mezzanine from which other tunnels branched.

Ascending the ramp Hodak disappeared into a low, narrow entryway in the wall.

The others followed.

Ram folded to his knees and went flat to squeeze through. The cut ended abruptly at a rock face.

A ladder rose to the dim outline of a manhole.

Kumiko climbed and slipped a slender filament through the tiny gap between the edge of the utility cover and its frame. Below, Zolan inserted the free end of the filament into a clip on the bridge of a pair of goggles, and donned them.

"Up a mite," he called to Kumiko. "OK, hold it, now scan a 360, slow."

He gave the goggles to Brad who donned them and scoped the ground level through the filament.

"The manhole is in a cul-de-sac, closed in on three sides by walls set back about two meters from where we are. The cul-de-sac accesses a street on which traffic is passing. The dome's inside wall is on the far side, and I see some markings on it. Each of you, look about and get your bearings. Speak up if you recognize the area or the markings."

The goggles passed from one to the other. Zolan tossed them up to Kumiko at the top of the ladder and caught them when they were lowered. He handed them to Ram who peered at the ground scene as he listened.

"Strip markings," Adari said. "They're usually located to orient folks coming in from the outside.

My guess is we're close to a strip or an air lock."

"Any idea which one?" Brad asked.

"Not from appearances," Adari replied, "but I kept track of our twists and turns to this point, and the way I figure, we're in the western quadrant of the city. The sector has more air locks than the others because it's on the main route to landing pads for the maintenance shops. We've lucked out -- maybe."

"What do you mean by 'maybe'? Don't hold back."

"The traffic. More people about."

The silence was heavy.

"If we can make it to an air lock without being challenged," Brad said, "we'll get Ram to a taxi."

Hodak, can you rig a taxi to manual control and leave it with enough power for a one-time flight through the depot's cocoon?"

Hodak, Zolan and Adari put their heads together.

Ram shoved his head in among them, and vigorous hand motions cut the air. Ram nodded as Hodak turned back to Brad.

"Can do," he said.

"Next item," Brad said. "Ram, can you get your long frame into a standard suit?"

"Once we get into the air lock I'll look for the biggest suit on the rack. Then I'll just have to push, pull and squeeze. Won't be the first time." Brad looked up at Kumiko, holding the scope in place.

"Got it?" He called up.

"Yep."

"Comments?"

"As long as I'm up here, how about me taking point?"

"OK. Now, all of you. Set weapons at max. If we're seen and tied to Ram, the whole operation is compromised. So we'll have no witnesses. Act accordingly."

Kumiko pushed the manhole lid aside, climbed out and darted forward to where she could see along the street. She took in the scene quickly. Several people passed on a nearby strip. They did not notice Kumiko. She waited until they passed where they could have seen into the cul-de-sac, then signaled the others up.

As Zolan came abreast of Kumiko he drew a pencil-thin tube from a pocket in his tunic.

Holding it in one hand he twisted the knurled knob that formed one end, and returned it to his pocket.

He winked at Brad who had come up beside him.

Brad saw the question in Ram's eyes.

"One of Zolan's home-grown gadgets," he said.

"Sets up an omni-interference field for a couple of hundred meters. We'll be moving through comm-override chatter until he switches it off."

Then to Kumiko, "Which way?"

"Left. Air lock. Hundred meters." She crouched and darted away.

"Ram, stoop, bend, whatever it takes to shrink.

Stay close to the wall for as long as you can.

Everyone keep a few meters apart. Hodak, you stay close to Ram and watch the rear. OK, let's do it."

Two burly men came around the end of a nearby structure, stopped, stared at Ram as he rose through the manhole, and then at each other. Zolan caught both in a conical burst as they backed away. They fell in silence.

Hodak and Zolan dashed forward. Each grasped a set of ankles, hauled the bodies into the cul-de-sac and dumped them down the utility hole. Brad took a quick look in both directions and nudged Adari.

"Go," he said.

Kumiko was at the air lock. Brad, Hodak and Ram were well away from the cul-de-sac. Kumiko stepped into the enclosure containing the suit racks, her weapon up and level, safety off, finger a tiny space from the trigger. Two guards, sitting on a bench, rifles across their thighs, gaped at her. "What the hell," one of them yawned, raising his rifle.

The other guard flipped the switch on a hand-held transmitter and started to raise it to his lips.

Kumiko cut them down with a single sweep. She raced up and across the long room, checking alcoves, corridors and behind suit racks. Empty.

Ram entered, quickly followed by the others. Hodak remained at the door, alert for intruders. Adari moved across to the keypad control for the outer air lock, and peered through the visi-screen. She thumbed up.

Ram rummaged hastily among the space suits on the rack. Adari left her position, grabbed a suit and worked herself into it. Brad, Kumiko and Zolan were halfway into theirs. Zolan moved to the outer door.

Hodak, suited up, called to Ram, who hurried over.

"Here's one you might squeeze into. C'mere, give it a try."

Ram looked distastefully at the suit. "Well," he muttered, "that's what happens to a giant among pygmies. I couldn't find anything bigger than what you've come up with. Give a hand here."

Adari joined them. Together, she and Hodak shoehorned Ram into the suit and closed the seals.

Helmets fitted, they ran quickly through air tank and suit connections security and pressure checks.

Minutes later they were ready for departure.

Brad motioned Kumiko closer, and they opened their faceplates.

"Stay here until we return," Brad instructed,

"but keep your suit on. Now that we're all wearing suits we can't be identified. So, if you get innocent visitors, just incapacitate them. If anyone comes looking for a fight, don't wait for an invitation."

Kumiko nodded and closed her faceplate. Weapon in hand, she took up a position where she would not be seen from the entryway.

Brad lumbered to the air lock and, a moment later, the panel to the buffer space slipped aside.

Gesturing Ram, Zolan, Hodak and Adari through, he stepped after them and closed and dogged the panel leading back into the dome. He lifted the safety cover and pressed a wall plate. With a swish of escaping air, the outer doors slid up. They stepped out.

##

A dozen taxis and space tugs were scattered about on the ramp. Choosing the taxi most distant from the others Zolan beckoned Hodak and Adari to follow him. Moving as quickly as their suits and the light gravity would allow, they reached the taxi and climbed aboard. Brad and Ram brought up the rear, turning often to watch other suited people moving about. A ramp guard was some distance away, gesturing among a knot of people. The Sentinels remained unnoticed.

Reaching the taxi, Zolan and Hodak began to adjust its controls, vector and power instruments.

Adari's helmet filled in the pilot position. Raising her glove she beckoned frantically to Ram. He climbed in beside her. Her hand on his helmet she spoke rapidly, pointing at the instrument panel.

Brad watched Adari move back and out as Ram moved into the seat she vacated. Bending forward, her helmet touched Ram's as her gloved hands pointed to where the depot was visible. She slapped Ram on the shoulder and stepped back.

The jerry-rigged taxi rose slowly at first, gained speed and disappeared into the backdrop of black velvet and stars.

Chapter THIRTY-ONE

Camari strode into the Conference Room, took his seat at the head of the long table, and stared bleakly at his advisors. The faces of the Ministers of Diplomatic Protocols and Intelligence were grim; the Commander of the Space Forces ready to explode.

"I suppose you've all studied Ram's report," Camari said in a low, angry voice. "What do you think?
Selvin?"

"If they take the depot," Admiral Selvin said,
"we're out of business. Even if we get the depot back undamaged, we'll be unable to make up the time lost. The construction and launch schedules are that tight."

"What do you suggest?"

"Stop them -- now."

"They'll know we're coming when our fleet lines up to enter the spunnel. The gateway can handle our military craft, no problem there. What we cannot count on is INOR's failing to see us on the move."

"How do we get around that?"

"Diversionary tactics; draw their attention to a major initiative on our part in which all of INOR has role vital to its interests, if not survival. Risky, but we have no choice."

The Strategic Concepts Computer recorded, analyzed, and reported. They listened, then talked.

##

The Solar Spunnel Communications Control flashed a Category One Alert across the system. The Alert was directed to all planets, satellites, stations, outposts, and all ships in space from Mercury to deep within the Oort Cloud far beyond the Slingshot construction sites.

Rymer Camari, President of the United Inner Planetary System wished to address the citizens of all nations on a matter of extreme urgency, one that affects humankind throughout the entire Solar System. The INOR Chiefs of State were urged to convene their Executive and Legislative Councils and to listen to the

UIPS President.

Interplanetary comm-spunnel boosters were raised to maximum power and range. The added power cleared Camari's image and speech for override into all open aud-viz transmitters and receivers throughout the system.

When Camari's features formed in view tanks or on screens his manner was grave, and his tone solemn and deliberate. The message was brief.

"Greetings to all citizens and Governments of our Solar Community," he began. "We wish you well.

I have chosen this time and this means to speak to you directly because the threat to all of use is real and our peril increases by the hour. Unless we act immediately and in concert, disaster will befall us all.

"Not long ago two of our manned recon craft were attacked and destroyed near Planet Pluto. These ships were part of a small protective force that the UIPS maintains in the Plutonian Special Zone for the safety of the Slingshot terminals and its logistics depot.

"The Government of Planet Pluto has been familiar with the patrollers' mission to protect Slingshot assets in the Construction Zone since the Program was in its early planning stages. In these latest operations, one of our patrols was known to be scouting the Plutonian outback for subsurface tunnels and galleries where unscrupulous adventurers sneak off to hide after preying on our outposts and transports. The other UIPS patroller had identified a cache of contraband weapons in space that presented a clear threat to Slingshot.

"The attack on the two UIPS ships could not have occurred without the prior knowledge, approval and very likely, the direct orders from the highest authorities in the Plutonian Government."

The President sat forward in his chair and his face loomed larger across the system. His voice lowered, and increased its intensity.

"We cannot consider these incidents in isolation.

Our transports to the Slingshot depot and construction site are being raided and harassed by terrorists and pirates who are directed by and provided sanctuary by both official and non-official entities. We are compelled to conclude that INOR criminal adventurers and pirates act in the context of agreements among their Governments.

Doing so constitutes direct military and economic warfare against the UIPS and is an attempt to sabotage the Slingshot mission.

"I must tell you now we are outraged by this conspiracy and these attacks. The UIPS does have recourse. It can respond in kind.

"What then? Warships carrying weapons of unprecedented destructive power are at the ready in both regions. Have we no choice but to keep escalating provocation, sneak attacks and reprisals until our full military fleets are unleashed in their fury against each other? If we get to this, citizens of INOR, do not rule out reprisals on your encapsulated communities. Be aware: history clearly shows us that there are indeed few, if any, real sanctuaries for civilian populations in times of war."

He paused to let the words sink in. His voice became crisp and forceful.

"I am now faced with this decision: Should the UIPS retaliate against Planet Pluto and all other members of INOR that interfere with innocent passage of our transports to and from the Slingshot sites?

"That is one course open to us; it would bring death and havoc all across this star system we know as our home. We must look to alternatives. The creators and wielders of weapons must demonstrate reason along with valor. War, in any

form and at any level, is a blind evasion of the real problems that confront humankind.

"When the old United Planetary System was replaced by the UIPS and INOR, the relationships among governments and peoples deteriorated. We drifted apart. The few interregional agreements that did evolve supported special interests. Once ingrained, they became acceptable, even generally attractive, practices. Now we each have our spheres of influence, and we guard them jealously -- and often with apprehension.

"There remains, to this day, a deep distrust and fear that one nation or independent colony, or any collective, will attempt to secure advantage over another. Each of us, focused on our own interests, sees the danger and seeks to avoid being its victim. This infectious distrust and fear must be cleansed from our system-wide community of nations if we are ever to live in peace with each other.

"Misunderstandings have arisen over the centuries concerning the intentions for Slingshot facilities and personnel in place throughout what has now become INOR territories or jurisdictions. We accept our share of blame for these misconceptions.

Let us dispel them.

"The Collector Terminal, as you all know, will be disengaged upon completion and take its position on the system's rim. When the launch window opens, and it will be open to us for only a very brief time, the Extractor must depart -- there will be no second chance for several centuries. The Extractor must fly as fast and as true as the missile did from the sling of David to the head of Goliath.

The Extractor is our missile, Alpha Centauri is our target and, as David's leather sling was the instrument to save an ancient civilization. The orbit of Planet Pluto powers the sling that will save our civilizations for the ages which extend before us, but only if we act in unity.

"What happens afterward? When the Extractor has departed, we will no longer need the logistics depot, and UIPS citizens in the Zone will return home. All but a small portion of our facilities, equipment, and supplies will be transferred on site to the Plutonian Government or INOR generally.

Whatever is not wanted by its new owners we will remove and help Planet Pluto to convert and reconstruct Coldfield and the rest of the planet to fit the needs of its citizens. We will provide material support and training for transition to an infrastructure and administration of Pluto's choice. We invite all of INOR to share in this task."

Camari leaned back for a short pause. His eyes looked beseechingly at his unseen audience. His voice softened.

"That was the past and, admittedly, a poor foundation upon which to build; let us now look to a more positive future. I make this proposal to all Governments of our star system, the common heritage of humankind.

"We are in disarray. As history has demonstrated time and again there are no real winners in contests of military might, to the contrary. Our response to the incidents off Planet Pluto is that we reject reprisal merely for vengeance, or for imposing ourselves on the Plutonian people. In the same vein, we reject war against any Government within INOR. Not because we cannot wage war, but because war would annihilate cities and lives on both sides. Further, Slingshot would be lost to us, and ultimately, the entire solar civilization would wane and disappear.

"I propose we meet in space, along the border between our Regions at a place of mutual agreement.

Let us convene as equals to examine our differences.

We must give greater credence to each other's needs and aspirations and arrive at consensus on sharing in the responsibilities for this, our family of planets and satellites. Let us search for ways to combine our diverse

interests into a new and majestic pioneering spirit for the great leap to the stars yet to come.

"This is the challenge and the opportunity."

Chapter THIRTY-TWO

Narval's rage spluttered from his lips in a viperous hiss as he pointed at a baffled Drummer.

Brad, straight-faced behind Drummer, stood easy.

Scarf, off to the side, stiff and erect, stared blankly at the wall behind Narval, his features twitching to depress a smirk.

"You were responsible for Camari's emissary, Drummer. I've had you notified that I am ready to receive him. Where is he?"

"He's disappeared, Mr. President."

"So I'm told. What does that mean?"

"Your orders were to provide lodgings for the Ambassador somewhere other than the official guest house. I had no choice but to put him up at the Condor. When I was informed of the time that you agreed to see him, I went to the Condor to extend the formal invitation. He wasn't there. I inquired of the Condor's management and also among the citizens present. Several recalled him because of his unusual height, but no one, it seems, saw him leave." Glancing toward Scarf, he added,

"I immediately requested your Chief of Internal Security to put out search parties. That's where it stands."

Narval turned to Scarf.

"Well?"

Scarf stiffened.

"We've searched the city, Mr. President," he said, "and can't find a trace of him under the dome. But we had several unexplained killings a short while ago and I'm sure he's involved. Two of my agents were gunned down on the street near air lock 43, apparently without reason, and their bodies were dumped down a utility access. Also, two of my guards, on special detail inside the air lock were killed. Add to that a communications blank-out swamped the same area about that time, and a space taxi is missing from the 43 ramp.

"We can't get a tracer on the taxi; its automatic location signal is out, and it doesn't respond to direct inquiry. All this, taken together, is very suspicious, and leads me to conclude the Ambassador skipped rather than meet with you."

Brad's eyes moved gravely from one speaker to the other.

"Drummer." Narval turned back to him. "When you met with Camari's Ambassador, what did you discuss?"

Drummer shrugged and stroked his chin.

"Just the routine chit-chat of protocol: small talk about the inconveniences of long hops and living out of traveling kits. Oh, yes, we expressed our hopes for a better future when Slingshot cuts in. That was about it."

"Then why would he leave so abruptly?"

"I have no idea, Mr. President."

"This incident does not please me, Drummer. A special envoy arrives from the UIPS, obviously carrying an important message to me from President Camari. He leaves before he delivers the message, with no advance notice. As he leaves he kills several Plutonian citizens and steals property.

No, I don't like it at all, Drummer."

His fingernails drummed the desk. Suddenly conscious of what he was doing, he stopped and brought his hands close and inspected them for damage.

"Drummer, draft a personal message from me to Camari, complaining about the manner in which his Ambassador conducted himself on Planet Pluto.

Accuse the Ambassador of murdering several of our citizens and stealing our property to escape our judicial process. Tell Camari his message to me, if he really sent one, was not delivered. That'll throw the ball back to him. As far as I'm concerned, the matter is closed. I have far more important matters to discuss with you and Brad."

He waved his hand at Scarf.

"Get on about your business."

As Scarf closed the door behind him, Narval shifted his bulk. Placing both hands flat on the desk he studied each ring. He glanced momentarily at Drummer and fixed his eyes on Brad.

"I am not a fool," he hissed as his features contorted into waves of quivering fat.

"That UIPS envoy had motives for coming to Planet Pluto far beyond delivering a message to me and getting a formal response. His timing was to be here when Camari broadcast his appeal for his convocation with INOR Heads of State. He was here to assess my reaction." Looking from one to the other, he demanded, "Did you hear Camari's speech?"

"Yes," from Drummer.

Brad nodded.

"Well, as my diplomatic affairs advisor, Drummer, what did you make of it?"

"My feeling is that Camari is willing to meet us halfway to resolve differences between the Regions."

"You do, eh? What about you, Brad?"

"I'm neither a politician nor a diplomat, Mr.

President. I can't see behind the words. Taken literally, I suppose, he wants a grand party to talk things out. That might be fine, providing it ties in with your plans."

"Aha," Narval said, with a gentle slap at the desk's top.

"You've hit it a lot closer than Drummer. The question of the moment is how might this so-called peace conference affect achieving my ultimate objective?"

"I have not been made privy to your 'ultimate objective', Mr. President," Brad said. "I cannot speak to that point."

Drummer looked straight at Narval, silent.

"My question, Drummer," Narval demanded, his tone impatient.

"You shared your objectives with me in confidence, Mr. President. I am not at liberty to speak on them in the presence of others without your permission." Narval stared long and hard at Drummer and back to Brad.

"Not yet," he said. "Meanwhile, and especially in the light of the forthcoming

convocation, I want you, Brad, to accelerate preparing our military fleet to take possession of the depot and that gaggle of transport and other vessels that constantly hover about. They will be the main bargaining chip when I give my ultimatum to Camari."

Brad nodded, his features closed.

Drummer looked dubious. He said, "That means we must have the depot under our control when you speak to President Camari."

"Sound conclusion," Narval replied caustically.

"Now, Drummer, is the time for you, my chief diplomat, to engage in a bit of manipulation and encouragement among our allies -- in my name and behalf, of course.

"We'll do this one step at a time. Prepare personal messages from me to the heads of INOR governments.

Remind them of our past agreements to stand together to resist incursions by the UIPS. Point out that Camari's invitation presents us with an excellent opportunity to exert our combined will on this issue. Then, state my intention to take temporary control of the Slingshot Logistics Depot to add weight to our persuasions. Are my instructions clear?"

"They are, Mr. President."

"Good. Emphasize the need for us to act in concert to bring peace and prosperity to the Outer Region.

Lay it on thick about how we can demonstrate our unity of purpose to Camari, and harmony among ourselves if we join forces. This shouldn't be a surprise to them; it was the purpose of the planning at the Neptune meeting. Wasn't it, Brad?"

"It was."

"Here, then, is my first objective, Drummer. I want the INOR warships that were committed at the Neptune meeting to be alongside ours to take over the Depot.

The Depot must be ours before the conference gets under way. That is vital to our purpose. In the message, say that now is the time to strike. Insist that they send their ships as quickly as possible to join in the operation. Also, and be shrewd in presenting this: INOR ship commanders are to be subordinate to and carry out the orders of the Plutonian Fleet Commander for the duration of this operation. Clear?"

"Clear, Mr. President."

Chapter THIRTY-THREE

Narval sat hunched over as Drummer and Brad entered. He did not wait for them to approach.

"Well? Speak up, Drummer," he snapped. "Don't wait for a special invitation."

"The replies to your message have come in, Mr.

President. They are all in the affirmative. Their fleets are getting ready."

"Ah hah!"

Narval's head shot up, and he straightened as much as his deeply cushioned chair would allow. He patted the top of his desk, and his face creased into a broad grin, flushed with triumph. Eyes dancing from Drummer to Brad and back, he patted the desk once more, obviously enjoying the moment.

The grin quickly transformed into one of deadly cunning.

"That takes care of my first objective," he said. "From here they are both independent and interdependent. You must plan carefully and carry out my

instructions without deviating."

Eyes fixed on Drummer, he raised his jeweled hand to point at him.

"I have already told you how you fit into my plans for the future." Turning to Brad, "You have proven yourself a reliable and resourceful leader, Brad. When I have attained my goals, you, along with Drummer, will be amply rewarded with material wealth and positions of honor. I tell you this now because in my world loyalty has a price, and you are entitled to know I will pay it. How do you stand?"

"I hear and I understand, Mr. President," Brad replied and, without a flinch, "I stand with you."

"Good."

Leaning as far forward as his paunch would allow, Narval motioned Drummer and Brad forward. They took chairs close to the desk.

"Drummer, I appoint you Commander of the Combined Fleet, and I now order you to take the objective.

Brad, I appoint you Drummer's Chief of Combat Operations. I will issue the necessary orders to all Commanders of the Plutonian fleet and to the Commanders of our allied forces."

Narval watched Drummer and Brad's faces as he spoke. Both returned his gaze with grim, attentive expressions.

"When you have taken the objective, only Scarf's security troops are to be allowed to board and take stations throughout the facility. You have another task.

"Once internal security is established, invite the ship commanders to a celebration on your flagship.

Reject declinations; they must appear. Permit the celebration to go on for a bit, then, Drummer, the bolt.

"Announce to the assembled Commanders -- those of the Plutonian fleet and those of our allies -that I have instructed you to take their oath of allegiance to me, Narval of Planet Pluto, and to none other. Those who refuse are to be eliminated on the spot in plain view of the others. Those who agree are to be placed under psychic probes, then and there, to ensure that their oath of allegiance to me is without reservation. Any who fail to pass the test are to join the ones that openly refused.

No second chances. Understood?"

"Understood," Brad said.

Drummer nodded, his face gone pale.

"Transfer contingents of Scarf's troops from the objective to your flagship, several hundred if necessary, whatever number you need to cover the operation. Make certain that you transfer enough technicians to set up and operate the psychic probes. If any Commanders or their staffs chose to be feisty, the troops are your execution squads.

"The ships of those Commanders who refuse to swear allegiance to me will be boarded by our troops, and all resistance crushed. Subterfuge may be necessary; do not hesitate: the end justifies the means.

Replace the original INOR Commanders with officers next in command; promise them wealth and position, use the psychic probes to verify their decisions; at some point in the pressures that we will apply INOR officers will switch their allegiance to Pluto.

"When your takeover is complete, the combined INOR fleet will be under my

control. I shall then use this power to challenge the conferees and dictate my terms to both the UIPS and INOR's rulers."

"Timing is of the utmost importance," Brad reflected.

"Exactly," Narval said sharply. "All of your plans and timetables must be synchronized with the actions I take at the conference."

"Any attacks on the depot will be immediately spunnel-flashed by Hanno to the UIPS," Drummer said.

"I've thought about that," Narval replied. "Brad, I want your man, Zolan, to install generators and controls for an electronic barrier sunside of the Planet Pluto Special Zone to keep all messages from the UIPS, conventional or spunnel, from passing through. Can he do it?"

"Yes."

"Good. I will transmit a coded message to you from my ship when I have the agenda for the conference.

The message will tell you when to energize the barrier. I must control the timing on this operation so precisely that the conferees have minimal warning before I make my announcement.

Vitally important: the electronic barrier must go up sufficiently in advance of launching your operations against the target so that no messages of the attack passes through from the depot, the terminals site, or any UIPS ships in the area. The comm-blackout will itself set off alarms throughout the UIPS. By then, it will be too late for them to interfere."

"Sounds reasonable, Mr. President," Brad said.

"Once we get the situation under control, including lining up the Commanders of the allied warships, we can punch a hole in the barrier just big enough to get a flash through to you at the conference site, giving you the score."

"Excellent, Brad, excellent."

Narval beamed at his new Commander of Combat Operations and twisted his mouth into a malevolent grin.

"One change," he said, eyes on Brad. "Up to now, the objective of your strategic planning and tactics has been the Depot. Now here this: the Depot is no longer the target. Your target is the Slingshot construction site including the 'Terminals'. You are to take control of the entire complex and hold it as my hostage. Adjust your plans, tactics and schedules accordingly."

Chapter THIRTY-FOUR

The air was stale in the alcove adjoining Brad's office. Hodak and Kumiko hovered over a console, entering and manipulating data. They compared computations against hard print charts, entered notes in manuals and drawings spread across a worktable, and mumbled at each other solemnly across the space separating them. Adari studied a large-scale celestial navigational chart tacked to the wall, Zolan tapped at a remote keyboard, and Myra scrutinized a spreadsheet. All were engrossed in their own piece of the action.

Brad, entered and paused to observe them. Myra glanced up, waved absently as her eyes returned to the spreadsheet.

Weaving along the tight aisle to a chair against the far wall, Brad turned the chair about and sat, his arms on the upper crossbar. He drew a deep breath and exhaled slowly.

"Take five," he said. "Let's talk."

Zolan pressed a key to save his data, Kumiko rolled up her chart, and Hodak put a marker in the manual.

Myra and Adari's charts lay where they were as eyes focused on Brad. The room

was cramped, space for moving about was tight.

"We have new orders," Brad said.

Zolan grunted, "Ahh, nuts," and frowned at Brad in disgust. Myra groaned and Hodak spit a sullen blast of profanities. Adari shrugged, and Kumiko gave Brad her sweet so-what-else-is-new smile.

Brad recounted his meeting with Narval and Drummer.

So that there would be no misunderstandings among them, he repeated Narval's strategy and instructions, finishing with the new target for the assault. The room was silent.

"Now that we know the construction site is the target we'll use it for working out the details for fleet integration, formation and logistics in place of what we had before," Brad rasped. "Better now than after we've launched and met up with our allies. Not much time, though. We'll be working round-the-clock until it's done, checked out, and space and surface Commanders briefed."

He gave orders rapidly.

"Break out the tactical and support plans we worked up for the Combined Fleet's Order of Battle at the Neptune meeting. Myra, rework your admin and medical requirements. Install two dozen psychic probes on the Dragon. We'll need at least that many to check out the loyalty flip-flops Narval expects when we lay the new target on the INOR Commanders, plus accepting Narval as their new Supreme Commander.

"Draft an order to Scarf for Narval's signature to transfer three hundred of his shock troops from our attack transports to the Dragon, and crank its effects into tactics and logistics. Scrounge up enough certified technicians to operate the probes.

That'll still leave about eleven hundred troops to secure the Terminals after we take them, which should be enough. Juggle the tactics for that change. If anyone asks, we're using Scarf's troops on the Dragon as flunkies during the victory party.

I don't think you need me to draw a picture of the real reason. We've got to reshuffle the entire logistics deck. Your job, Myra. Got it?"

Myra grunted, raised her middle finger, then quickly realigned it with the rest of her hand and snapped off a mechanical salute.

"Got it," she said.

"Kumiko, the targets will cover an area much wider and deeper than you planned for in your original computations. Rework the combined fleet's weapons disposition, analyze our firepower and orient them to the terminals' weak points. Let's talk after we finish here and work up formation options and vectors from rendezvous. Cover surveillance and interdiction against potential threats from UIPS assets in the Special Zone; compute tracking guidance for each type of weapon installed on Plutonian ships, and update target displays for our launchers and guns should it get to that.

I especially want you to analyze the combined fleet's Order of Battle to identify our potential vulnerabilities and how an enemy force might exploit them. Provide me with a detailed document in a capsule so I can use it on the Dragon."

Brad turned to face Hodak.

"Re-examine emergency maintenance in this new arena. Our ships will be much further from home base than when the depot was the objective. We can't afford

any ships dropping out of the line for repairs.

"Adari, got a big one for you. The other INOR ships will still rendezvous with the Plutonian fleet at Point Icarus, halfway between the depot and the Slingshot work site. Work out the nav for our fleet to the rendezvous; design formations, convergence and other vectors that'll keep the ships out of each other's way. Employ Order of Battle options to lay out the nav for each ship of the combined fleet from Point Icarus to target. Kumiko and I will be working on tac-options and we'll get them to you as soon as they're ready.

"This applies to all: compute, coordinate and commit resources to implement our new orders. OK.
Get going."

Brad motioned Zolan and Hodak closer.

"I'm putting a fast utility under your command, Zolan. Your number one job is to build, harmonize, test and whatever else it takes to create a communications interference generator. Camouflage and position it between the Planet Pluto Special Zone and all sunside comm boosters, both spunnel and conventional. Set it up to activate by remote. The screen must have enough spread to block all messages, incoming and outgoing from Planet Pluto, the combined fleet, plus the depot area and the Slingshot terminals. Exception: Narval wants us to flash him a message as soon as we've taken the objective and turned the ships' Commanders. Fix the barricade so that we can shoot a one-time flash-spunnel message through to him. Clear?"

"Clear. When?"

"Now. I'll go with you to the tunnel where the generators are stored to make sure we select the best of the lot. Hodak, you come with us to give 'em a condition check. We can't afford chances with this equipment."

##

Narval removed the tiny ear piece through which he had listened to Brad give his orders, smiled with satisfaction, and pressed a button along the edge of his desk.

"Scarf out there?"

"Yes, Mr. President."

"In."

Scarf sidled in and stood deferentially at the entry.

"Don't just stand there, you idiot," Narval snapped. "Get up here where I can talk to you."

Scarf hastened forward and halted a couple of meters from the desk. He held his helmet in one hand and saluted with the other.

"Here are my orders to you for while I'm gone.

Double the guards on Planet Pluto's spunnel transmitter. No Plutonian communications are to be permitted to destinations outside the Special Zone. One exception: I've given Drummer orders that when he completes the tasks I've assigned him, he is to send a flash message to me at the conference site. Assign reliable technicians to open the spunnel center for only that one outgoing message."

"Yes, sir."

"Figure out some way to be aboard the Dragon during the operation. Watch Drummer; I still don't trust him. If he tries to undermine my authority while I'm away, shoot him."

"It'll be a pleasure, sir. What about Brad and his buddies?"

"If they resist my orders, kill them. If it does get to that, send me a spunnel flash after you've done it. If you do kill Drummer and Brad, assume control of the combined fleet and the Terminals.

If that's not possible, blast the terminals out of the sky."

Chapter THIRTY-FIVE

Zolan walked into Brad's office and dropped into a chair, clearly exhausted.

"How'd it go?"

"Couple of dozen screen generators in position sunside," Zolan hefted a small, flat control in his hand as he spoke, then tossed it on the desk.

"The energizer," he said quietly.

Brad turned the control in his hands as he examined each safety lock. He slipped the control into a pocket.

"Narval leaves for the conference in a few hours," he said, almost in a whisper. He could not hide his deep sadness.

They rose and walked together toward the door.

Without speaking, Zolan left and disappeared around a bend in the corridor.

The hour of Narval's departure brought a whirl of excitement to Coldfield. The transit strip from the official residence to the President's air lock had been stopped, scrubbed clean, and a padded chair installed on it for Narval's comfort.

Narval boarded the strip, accompanied by his personal guards. The guards took protective positions ahead, behind, and along the strip's edges, completely surrounding their leader. The strip began to move and maintained a slow, steady pace until Narval was abreast the air lock; it came to a smooth stop. The air lock had been decorated with flags and bunting; a red carpet extended from the strip to the air lock. Narval swept in and passed through the inner compartment.

The Revenge, Narval's luxurious spunnel yacht was moored to pylons above the air lock. The yacht's commander, Captain Ras Hamdia, stood stiffly at the head of a line of ship's officers inside its portal.

A set of taut, parallel cables rose from the air lock to the ship. Fastened to the cables at the surface, Narval's personal red and black lift capsule was ready to transfer him aloft without the inconvenience of donning a space suit. Narval entered the lift with an officer who dogged the doors and flashed the ready signal.

"Up, easy," the ship's captain ordered.

The lift rose slowly until it reached the Revenge's portal. An articulated crane grasped the cabin gently, drew it inboard along slackened cables and lowered it to a mobile platform. Suited technicians dashed forward to disengage the cables, and the capsule was pushed inside.

Narval safely aboard, space tugs encircled the Revenge and took positions along its hull.

Mag-beams flashed across. The Revenge disengaged from the mooring tower and drifted off. The tugs nudged it along to a hundred kay above the dome, cut

their mass-attractors and the ship disappeared into the node of the Planet Pluto Spunnel.

Narval was off to his destiny.

##

Zolan stood among a throng of space-suited citizens below the Revenge, from where he watched it ascend and move off. Minutes later, none but Zolan remained.

Aware of his awesome responsibility, a sense of serenity in the power of his will suffused Zolan's being. He had been faithful to the science and art of his chosen profession, and his devotion to the Sentinels' mission had enriched his harmony with all about him. It had come to this.

Tilting his head back in the clear plastic helmet of his suit, Zolan watched the Revenge enter the spunnel node. He lost interest and headed for a space taxi.

Climbing aboard, he punched in his identifier code and the coordinates for a tunnel warehouse fifty kay distant where he had a clearance on file. The taxi digested the data, reported to its master control inside Coldfield, and received the required permission. The taxi rose briskly in a tight turn and accelerated toward a range of low hills.

Out of sight beyond a hillock, Zolan reached into the circuitry behind the instrument panel, manipulated connections, and punched in new coordinates. The taxi paused and aligned to the new course, Zolan's hands on its manual controls.

The advance notification to control center was inoperative.

Charon grew in size up ahead as the taxi approached. Zolan stabilized the flitter to hover stationary barely a meter above the frozen methane.

As he disembarked, Zolan reached behind the instrument panel and readjusting the circuits.

Transmissions from the taxi's computer would soon resume and indicate a routine return from the previously entered destination. Zolan watched the taxi out of sight.

The distant tiny sphere that formed the solar Sun was a wonder to behold against the black velvet sky and the clusters of distant galaxies. He absorbed once more the splendor of the planets in their graceful courses around the giver of life. He recalled and visualized each planet, natural and artificial satellite and space station out to the Guardians. He had roamed among them all; they were the only home he had known.

A sense of weariness seemed to overpower him; he could not delay. He searched the heavens for a star with which to orient himself. Finding it, he faced the direction wherein lay the secret spunnel booster through which he would send his message.

Ram would know how it had come, what it meant, and what it had cost.

Zolan cleansed his mind, except for the message.

He closed his eyes and the strength of his concentration brought on trance. A tiny glow, deeply embedded in his subconscious, mushroomed into a pulsing network of charged filaments. His arms and legs throbbed, and the pain of furies cut through his torpor and slowly drained him of life force. In milliseconds, his face shrunk and seamed, and his body collapsed in on itself. The filaments in Zolan's brain crackled and snapped. His brain exploded inside his skull as the message burst out.

The rigid suit held his body erect, arms extended toward the Sun.

Standing on the stark and lifeless plain Ram's state-of-the-art modification to Zolan's brain and mind had completed its task.

Chapter THIRTY-SIX

Ram Xindral, representing the UIPS, met with INOR's advance team on Guardian Station 16 to plan protocols and logistics for the upcoming convocation. Planet Pluto had not sent an emissary.

Agreements were quickly concluded and the diplomatic cadre took over to prepare an agenda for the meeting's substance.

Spunnel channels flashed coded messages to home governments in the Outer Region, reported on problems encountered and the options available. Instructions flashed back, rarely agreeing with offered solutions, more often insisting on new approaches that in turn became the subjects of lengthy discourse. When an issue was considered sufficiently clarified for the convocation and reported to the seats of UIPS and INOR Governments, it was almost invariably reopened as an extension of still another issue. This went on and on.

Eventually, an agenda of sorts was fashioned to guide the discussions. It limited itself to an agreement, in principle, which identified the paramount issues of urgent and general concern.

The preliminaries over, the advance teams departed for home.

A fleet of UIPS transports escorted by Space Guard entered the Great Space that separated the Guardian and Jovian orbits. Hauled along by a network of mag-beams converging from a score of space tugs came the Conference Disk, two hectometers in diameter and a decameter thick at its hub.

At the agreed upon coordinates the Disk slowed and stabilized. The escorts drew back, clustered and waited.

Docking slips scalloped the Disk's rim, each with its own hoists, articulated and flex-umbilicals, power junctions, and docking, launch and maintenance support facilities. Emergency, fire-fighting, rescue, and med-evac craft dotted the upper and lower surfaces. Anchored, they were ready to service spacecraft or launch instantly to where they might be needed.

Ram and his UIPS technicians, administrators and security specialists boarded the Disk from a utility transport. A INOR team entered through another portal. Members of each team serving a Chief of State inspected the suites assigned to their nation's conferees, made changes to meet personal or cultural needs and, when satisfied, installed the scheduled occupant's accouterments and trappings of Office.

Engineers and technicians swarmed throughout the berths and mooring docks, inspecting and testing equipment and procedures to accommodate their Leader's vessel, and for routine support and emergencies should such arise. They conducted or observed ship handling tests and space rescue capabilities. Finally, the administrators and technicians agreed the facility was ready. The Joint UIPS-INOR Security Team sealed the Disk's portals and posted their guards in armed capsules around the rim and on the Disk's gently curved surfaces.

They waited.

Chapter THIRTY-SEVEN

Drummer and Brad walked the corridor leading to the Dragon's bridge. The battle cruiser, aligned with its sisters in countdown on catapults in galleries and tunnels across Planet Pluto, was minutes from launch to Point Icarus.

Accompanied by a party of officers, Brad had completed the final formal inspection and sign-off of the Plutonian warships committed to the operation. Myra, Hodak, Adari and Kumiko had trailed along as specialists, respectfully responding to technical questions tossed at them by the official inspection party.

The Sentinels took Zolan's death hard, aware but unable to share their grief with words that might be overheard by their enemy. They were in a somber mood difficult to hide, and Kumiko's eyes were red-rimmed. She spoke little.

Moving from one tunnel and gallery hangar to another, the inspection team had checked the readiness of command and control, function systems, weapons readiness, logistic support and all that bore on their mission. Openly enthusiastic and congratulatory to ships' crews on what he observed, Brad was inwardly appalled at the strength of Narval's fleet. Combined with the INOR forces coming to join them at Point Icarus, the slim forces that the UIPS maintained in the Plutonian Special Zone faced an overwhelming adversary. At the companionway to the command deck, Brad deferred to Drummer. Drummer acknowledged the courtesy with a slight smile and nod. They ascended, and Brad closed the door.

Drummer strode to the forward bulkhead, paused, and drew a small device from his pocket. He moved casually about the compartment, meanwhile reading the device's indicators. Brad watched him in silence. After two full turns Drummer pocketed the device and faced Brad.

"Routine precautions," Drummer said with a shrug.

"This deck compartment is free of both sight and sound bugs. How did the inspection go? Are we prepared and on schedule?"

"A few glitches here and there, but nothing serious. I've instituted corrective actions, and we'll be ready."

Drummer nodded uneasily. Brad waited. Drummer's next words came with awkward hesitation.

"Ah -- when Narval gave us his final orders, I
-- ah -- sensed, correct me if I'm wrong, some misgivings on your part."

"Misgivings? What do you mean?"

"Before we proceed, I must have your word that whatever we discuss here will be held by you in the strictest confidence. Have I your word?"

Brad stared long and hard at Drummer. He thought back to Scarf's accusations and threats preceding the fight in the Charnel Pit. Did Drummer really support Narval? What was Drummer's real objective?

Time was short; yet Brad had to be certain.

"You have my word."

"Now respond to my first statement."

"Affirmative."

Drummer gave a heavy sigh and motioned Brad to a bench along a bulkhead. They sat and stared at the bulkhead opposite.

"How far will you go to take the Terminals?"
Drummer asked.

"Destructively?"

"Yes."

"You're in command of the combined fleet, Drummer.
You tell me."

A deep silence settled between them. Drummer brought his eyes around to where he could observe Brad's profile. His breath became shallow.

"What I now say to you, Brad, puts my life in your hands, but say it I must." He paused, as if to gather strength and conviction, and to organize his thoughts. "I believe that Narval is deranged. He would rather see the Solar System's civilization's grovel in the dust than have them advance, even survive, without him as their ruler."

"Are you suggesting he be stopped?"

"He must be."

"How?"

"I hoped you would know."

"Me? Why me?"

"You've become the authority on the capabilities and tactics of this operation. The Plutonian military Commanders respect you as a leader and as a professional, as do the Commanders of the ships soon to join us. Need I say more?"

Brad turned to face Drummer.

"How far do you commit yourself?"

"My life."

"It will take that, and more."

"What do you mean?"

"Betrayal strips men of -- I believe the word is -honor. Would you accept being a traitor to President Narval?"

"If it will bring an end to this madness."

"Are you willing to follow my orders -- without question?"

"To what purpose?"

"Your words: the end of this madness."

"Define your terms, man. Tell me in your words, not mine, to what end I commit my life, and as you put it, my honor."

"Confusion and disruption throughout the combined fleet, destruction of Plutonian warships and, possibly, those of all INOR; no assault on the Terminals and, ultimately, removal of Narval from any position of authority in the Outer Region."

Drummer nodded slowly.

"I commit myself to that purpose. And yourself?"

"Committed."

A knock on the door. The crewman peered in.

"Comm-center has a classified Category One spunnel message for you, Admiral Drummer," he said.

"It's in the President's personal code, sir, to which only you have the keys. Have I your permission to pick up the message and bring it to you?"

"Never mind," Drummer replied. "We're heading back under the dome. I'll get it."

##

Drummer read again the message he had decoded and handed it to Brad who quickly scanned and silently returned it. Drummer glanced at the message again and placed it slowly in the middle of his desk. The communication bore the dispatch symbols of the Revenge within the past hour. The text was brief:

"Narval to Drummer. We have left the spunnel node nearest the conference site, now two hours distant.

Your launch at target must be consistent with the conference schedule just provided to me by the Conference Controller.

"Based on conference agenda and schedule I order you to energize the communications barrier immediately upon receipt of this message.

Further, I order you to have allegiance sworn to me by Commanders of all INOR ships' officers and the Director of the Slingshot Construction Site not more than four hours following receipt this message. Spunnel flash to me through the barrier 'mind only' immediately upon taking the objective.

Spunnel flash immediately to me your understanding of this order."

Chapter THIRTY-EIGHT

The soft clicks of switches opening and closing and the soft thunks of levers rammed home were the only sounds on the Dragon's command deck as Drummer and Brad climbed the companionway.

Captain Hyk, standing on the bridge platform above the command deck, took them in with a quick glance, nodded, and continued about his business directing and observing the Dragon entering launch.

Brad followed Drummer to a computer in a tiny alcove on a balcony above the plotting table. They swung seats out from under the table on which the console rested, sat, and Brad entered his DNA ID and password. He followed with instructions that brought a series of real-time graphics across the monitor.

Selecting first one, then another, the two men studied the displays, as they pointed and commented on their observations. Drummer straightened.

"Recap, Brad," he ordered.

Brad tapped keys and the screen listed each Plutonian ship in the Assault Force and its Commander in one column and the readiness level for launch in the other.

Brad pointed at the highlighted "Fleet readiness 92 percent."

"Allies?"

"Made the trip from home stations along diverse routes and under detection wraps. They're inside the comm-barrier an hour from Point Icarus.

It'll take us that long to launch, form up, do the distance, and position ourselves to receive them."

A crewman's head appeared at the head of the companionway, looked about and fixed on Drummer.

"Call from security up at the tunnel entrance, sir.

Visitor to see you."

"Who is it?"

"Major Scarf, sir. Says he has urgent business to discuss with you."

Drummer and Brad exchanged glances. Hyk immediately gave his full attention to his monitor's screen.

Drummer knew that neither he nor Hyk could refuse Scarf's request to come aboard. He addressed Hyk.

"Any objections, Har?"

"None, Admiral."

"Very well," Drummer glanced toward the messenger.

"Escort Major Scarf to my quarters."

##

The compartment was small, not built for comfort.

Scarf's massive frame crowded the space.

"I'm coming along." Scarf's tone was brusque.

"The hell you are." Drummer's was equally blunt.

Brad eyed Scarf. "Your job is on the surface," he said. "What purpose can you serve by tagging along?"

Scarf looked from Drummer to Brad and back, not sure whom he should address. He chose Drummer.

"Coldfield and the surrounding areas are under full control of my security forces. I've left my deputy in charge, and he can contact me within seconds should that be necessary. With Narval away and us here, there's not much going on in the Command Section."

Scarf tapped Drummer's chest with his forefinger,

"you've got more'n a thousand of my best troops for occupation duty on the Terminals. They're mine and I'm gonna lead them when they go into action. I'm moving in over my on-site troop commander, that's all. What's more, I understand you've reassigned some of my troops to this wagon. That's fine with me. I'll just move in with them, and assume direct command until they're back with the main group.

Entirely proper for me to do this as chief of their Service."

Brad thrust his hands into his pockets to hide the fists they had formed. His mind worked furiously on the new threat.

"Our plans are complete, Scarf," he said. "If you remain, we expect you to follow orders from the Fleet Commander."

Scarf, sure of his victory, showed his pleasure.

"Sure, sure," he said, a grin creasing his face, waving the proviso away with the back of his hand. "Anything the boss says. It's your show. I understand." Taking Drummer's silence as acquiescence, Scarf pivoted in the small space and squeezed out of the compartment. He barked at the guard to escort him to the officer-in-charge of the troop detachment.

Drummer issued the launch order. One following the other, the warships catapulted off of their launch tracks, rose swiftly into space, and formed up behind mine sweepers Scamp, Varlet and Scalawag.

The battle cruisers Dragon and Tiger, guarded by destroyer screens and support ships, turned toward Point Icarus.

Three million kays ahead, the Slingshot terminals appeared as just another

unblinking light in a runnel of multicolored jewels.

Slingshot had always been real to Brad; in the deepening crisis for humankind's survival its purpose was profound. It had been so to him as far back as he could remember.

Brad keyed the Slingshot complex closer on a nearby computer screen. Generally familiar with the schematics of the Slingshot stations, he was overwhelmed by the two enormous cones and their peripherals, which configured the Terminals' hoppers. Each terminal, almost three kay across its base, formed an intricate maze of interlocked spars, beams, panels, conduit and modules.

The Slingshot stations were centers of activity.

Inside and out, the work areas were crowded. In all directions were massive and intricate fusion generators, transformers and power distribution systems; dozens of spherical, rectangular and cylindrical workshops and clusters of habitat, first aid stations, transports and tugs and barges pushing, pulling, warping and traversing. It was a picture of enormous structures and modules spread across the visible space ahead. The scene was geometric, multidimensional, and seemingly chaotic.

Separated from each other by more than a hundred kay of open space, the Terminal schematic expanded rapidly on the Dragon's screens as the fleet narrowed the gap. At Point Icarus the Slingshot construction site filled more than half the view tanks space.

Brad and Drummer watched as changes occurred hastily throughout the Terminals' space. Lights dimmed or blacked out entirely; others increased intensity. Three destroyers darted through the protective force field's gates, deployed, and took defensive positions. A mine-layer advanced, came about and laid a pattern of tac-nuclear eggs.

The Plutonian Assault Force had been quickly detected. Their intentions obvious, Slingshot's managers prepared as best they could to defend themselves. Scores of transports were lined up to escape through the gateway; those that had reached the outside lumbered away toward deep space.

Chapter THIRTY-NINE

SOLAR LEADERS ARRIVE FOR CONFERENCE

TRANS-SOLAR NEWS SERVICE

FOR IMMEDIATE RELEASE

FLASH: SYSTEM-WIDE

Filed at Solar Conference Site

The Leaders of the United Inner Planetary System (UIPS) and the Independent Nations of the Outer Region (INOR) are at the place they selected to resolve urgent Solar System problems of mutual concern. Here's how the arrangements worked out.

Consistent with the schedule, the INOR guests flashed their international identification and ship numbers to the Conference Control Center to report that they had formally arrived in response to President Camari's invitation.

Concurrently, at a signal from the UIPS President's ship Eagle, the station flashed an array of multicolored beacons. Docking berths along the Conference Site's rim opened and controllers transmitted "Ready" signals to the visiting flagships. Tugs, utilities, and emergency craft took their stations. The UIPS Eagle nosed forward and matched its headings and moments to the Disk. Mass attractors took over, fine-tuned the alignment and drift, and gently drew the Eagle a third its length into the dock. Mooring beams grasped the vessel and it was transfixed. A red and white candy-striped umbilical snaked out from the dock and sealed against the Eagle's main portal.

Eagle, the host, had docked.

Turning to the guests, the "Ready" signals flashed again. Taking the lead, Planet Pluto's Revenge matched up and was drawn into its docking space. The others followed. The disk was transformed into a multi-spoke wheel spinning slowly against the backdrop of sun, planets, satellites, space colonies and stars.

The umbilicals' seals tested and secure, the Heads of State disembarked, each followed by an entourage of advisors, diplomats, strategists, economists, interplanetary law specialists, sociologists, philosophers, and others expert in the disciplines appropriate to the agenda.

The parties walked along separate corridors from their docking berth to an arched entry into the conference theater at the hub. The pseudo-gravity plates had been eased to a comfortable level for the inhabitants of the Outer Region. The representatives of Earth wore soft enhancer boots to compensate.

The central hall was huge, and the round table at its center wide enough to accommodate them all.

Massive chairs were at the table, and behind each a row of smaller chairs to accommodate the lessors.

A holoview tank, suspended halfway to the overhead, glowed softly. The walls were festooned with the emblems and insignia of all Nations in attendance.

Arriving under the arch, the Leaders paused.

President Camari stepped away from his chair, his open arms an invitation to all to enter and join him at the table.

Entering and approaching the table, the Leaders turned to right and left to greet each other.

Formality aside for the moment, they expressed their pleasure at seeing one another again, or in meeting for the first time. They came together at the table and formed small groups.

Camari and Narval took each other's measure as they worked their way forward. Camari, as host, paused at each knot or singular meeting to shake hands and express his pleasure to each Head of State for accepting his invitation. Politicians all, supreme diplomats of the Solar Community, they accommodated to the occasion and replied in kind.

Camari and Narval came face to face. Silence gripped the room.

"Greetings, President Narval," Camari said, "your presence at this conference will contribute much to its success."

"Greeting to you, President Camari. I feel certain that it will."

"I remind you, President Narval, these are indeed desperate times."

Extraordinary measures are essential if we are to preserve our civilizations, perhaps our species. Separately or collectively, we must be prepared to take risks for our survival.

Do you agree?"

"Not only do I agree, Mr. President, but I shall remind you of your words as we proceed through these deliberations."

"So be it."

Camari nodded and turned away. With everyone's eyes on him, he strode to his place at the table, spread his arms again wide in welcome, and sat.

Greetings over, the Solar System's leaders took their places at the great table. Their advisors entered and took seats behind them.

The first convocation for the survival of the entire Solar Community was under way.

Chapter FORTY

Captain Hyk strode the bridge impatiently.

"Point Icarus in ten minutes," he reported to Drummer and Brad as they entered the tight compartment. "The Jovians and Saturnians are coming up fast, and the Neptune-Uranus team is close behind. Orders?"

"You'll get yours with the rest, Har," Drummer's tone reflected his tension. He turned to Brad.

"Brad, I wish to address the Commanders of all Plutonian ships. Set up closed communications, please."

"Yes, sir."

Brad strode to the console he and Drummer had used to assess the fleet's status a short while before.

He detached a microphone from the bulkhead nearby, keyed the computer, and spoke.

"Attention, all ship Commanders of the Plutonian Assault Force. Rig for secure 'Commanders Only' communications with Admiral Drummer. The Admiral will speak in one minute. Countdown -- start now."

He handed the mike to Drummer. The first of many uncertain steps would now be taken.

Drummer glanced at the ship's chronometer, then at Captain Hyk.

Time.

"Ship commanders, Admiral Drummer here. Our allies are approaching in formation and they will link up with us in seven minutes at Point Icarus. We must greet them properly. I order the Plutonian formation to come about immediately from its head-on orientation to the Terminals and cluster to face our allies. Do it now. At Point Icarus I will address the combined fleet." Drummer paused, then added, "I am turning over the details of this change in formation to my Chief of Combat Operations. Follow his instructions without hesitation."

Drummer handed the microphone to Brad and stepped back. Brad rattled off the revised orientations and positions, ship by ship listed in the Order of Battle. Both he and Drummer watched the effects in the observation pit's view tank.

As Brad spoke the close order of the original formation dissolved and opened. The maneuver was extremely complex, but within minutes the ships had come about in a ragged formation to face their oncoming allies.

Out of the corners of his eyes Brad observed Hyk input orders to the Dragon's guidance control and navigation centers. Hyk glared at Drummer as if the man was out of his mind. Brad expected the other Commanders to be equally perplexed and angered by the unexpected reorientation.

Drummer, by his order without prior notice and planning, had completely disrupted the Plutonian tactical formation. Valuable time would be spent to sort out the confusion and array for the assault.

##

Captain Yargoul, Commander of the Jovian Combined Strike Team, stood on the bridge of the Battle Cruiser Windstorm and scowled into his view tank. The unconventional redeployment of the Plutonian Assault Force amazed and appalled him.

"What in hell are they doing?" Yargoul pointed at the tank as his Executive

stared aghast over his shoulder.

"Damned if I can tell, Captain Yargoul," replied his deputy. "This isn't called for in the rendezvous plan."

"I don't like it. Get nav on this right now and pass the word to our ships' Commanders. Assume a waiting formation ten thousand kays from the rendezvous. Get the Commanders of the Saturnian and Neptune-Uranus teams into a closed conference call with me. I'm going to suggest they do the same until we find out what this is all about."

"They smell the rat," Brad thought as he watched the oncoming fleets slowly alter their formations.
He hastily left the command deck.

Walking swiftly along a passageway he passed Hodak at a workbench calibrating instruments as cover.
Their eyes met and Brad moved on. Hodak switched off his test panels and headed toward a side passageway.
Myra, checking medical supplies in a wall cabinet, glanced at Hodak's features as he brushed by. His grunt caused her to close the cabinet and walk off.
Kumiko and Adari would soon have the message.

##

The storage compartment was tiny, barely enough to hold them.

"Drummer will be talking to all ships' Commanders in the combined fleet in less than a minute," Brad told them. "I want to be there when he does so that I can deal with their reactions. Also, Hyk is a problem. I expect they'll all line up against us, including the Plutonian crews. The best we can hope for is a short delay while they argue among themselves. It's up to the five of us; six, really, if I can count on Drummer."

Brad looked from one tense face to the other.

"Hodak, your first job is Scarf. As soon as he hears Drummer he'll come charging up with his goons to take over the ship. Stop him."
"Kumiko, to the ship's fire controls. Do as much damage there as you can without being detected.
I want as many as possible of the Dragon's long-range guns inoperative."

He turned to Myra.

"Suit up and head for the hangar deck where the two-place fighter-bombers are in position for launch. Tell the officer-in-charge I sent you to check combat readiness. I want three two-place jobs up front on catapults, fully charged and armed, hot and ready for launch. The officer on duty is sure to ask why it's you that's giving the orders.
Just say that the fighters are going after the Terminals' minelayers and destroyers that just popped out through the force field's gate. Tell him I'm briefing the pilots personally and will send you along as my observer. He won't like it, but I doubt that he'll interfere."

"Got it."

"Remain on the flight deck, Myra. Move around and spot where each guard is stationed. When you see us coming, start to take them down. Pinpoint their positions to us as we come in so we can clean them all out fast. Confusion in the ranks works to our advantage."
Turning to Adari, he asked, "Did you put it together?"

"Yes."

"Come with me back to the bridge. I'll brief you on the way."

His look took them all in.

"Gather round -- close."

Speaking rapidly, not wasting words, Brad shared information that Ram passed to him before his departure.

"A UIPS battle fleet should be loading about now into an expanded spunnel gateway off Luna. They'll be here shortly. If Drummer doesn't neutralize the INOR fleet, the job will be taken on by the UIPS.

But they'll need time to re-group as they enter this arena. Our job is to keep the INOR fleet off balance until ours is ready.

"Everyone is to be suited-up and checked out for extended combat. Except for Myra, spread along the corridor as close to the Flight Deck hatch as you can without drawing attention. Keep a low profile and wait for my signal. I expect Drummer will be with me and we'll all go in together. Go now."

##

Drummer's voice was heard throughout the combined fleet. His tone was grave.

"This is Admiral Drummer. My words are, first, for Commanders of this combined fleet. Beyond that, I speak to all ships' crews and troops who make up this task force, and for all men and women within reach of my voice, whatever your nationality or whomever your leader.

"We are confronted with a dilemma. The mission assigned to this fleet is to capture the Slingshot Terminals. Slingshot and all that it represents will then become hostage to the negotiations now taking place between INOR and the United Inner Planetary System.

"If denying the UIPS access to their Terminals for a brief period was the real objective, I would have no qualms in moving forward. But the orders given to me by President Narval go much further, and I must share them with you so that you will understand what we face."

Captain Hyk's eyes narrowed and he took steps toward Drummer. Brad, standing silently behind Hyk, covered the distance to the door he had closed when he returned to the command deck. He shoved the locking dog closed. Turning back his hand brushed his sidearm, releasing the safety. Hyk halted several paces from Drummer, who ignored him.

"With heavy heart, I must now inform you that President Narval has a deeper strategy," Drummer continued, "one that presents a clear and present danger to all nations and peoples of INOR, and perhaps to the entire Solar Community. I state it as simply as I can: Narval's strategy is betrayal."

The way back had closed; Drummer plunged ahead.

"Here are the orders given to me by our President.

Judge their purpose and their honor for yourselves.

First, to capture and hold the Terminals. As soon as the Terminals are taken and secured, I am under orders to subvert all ships' Commanders of our allies so that they swear allegiance only to Narval. Those who refuse, under psychic probe verification, are to be killed on the spot.

"If this is done, Narval will have consolidated enough military power to dominate the entire Outer Region. When his position is firm, his strategy is to use Slingshot to force the UIPS to its knees, and establish himself as ruler over the entire Solar System. These are the real objectives of President Narval of Planet Pluto. If we follow his orders, have no doubt that he will attain his diabolic objectives.

"I refuse to comply with those orders. I urge all Commanders of INOR ships and

forces to return to their home stations and report to their Heads of State who are now attending the Solar Convocation.

Establish boards of inquiry, or conduct such investigations as you feel appropriate. But do not proceed with this adventure concocted in the mind of a madman. It means disaster for us all.

"I am now opening this channel for replies from the Senior Commanders of the combined fleet."

Chapter FORTY-ONE

Captain Yargoul's face, inflamed with rage, flashed on the screen.

"By what right do you take this on yourself, Drummer?" he exploded.

"I choose to be a free man, Captain Yargoul, and have spoken as one."

"I don't believe President Narval gave you orders to turn us against our own Governments." Yargoul's eyes glittered his suspicion. "What's your game, Drummer?"

"Those were indeed the orders given to me by Narval. As for my 'game', as you put it, it is, first, to take Planet Pluto out from under tyranny; and second, to bring reason to the negotiations now taking place between INOR and the UIPS. You cannot help me with the first, but you and all honorable citizens of the INOR federation share in the obligation to help with the second. With whom do you stand, Captain Yargoul?"

"I stand against you, Drummer, and I charge you with treason against your Government and disloyalty to our cause. You are not fit to lead this fleet. As ranking officer next in line I now challenge your right to act as Supreme Commander of this Combined Fleet. I hereby replace you in that capacity and assume command." His voice rang with the power of his new authority.

"Captain Hyk, take Admiral Drummer into custody.

If he resists, shoot him."

Drummer switched off the communications console and turned to face Hyk.

"And you, Har, you're a Plutonian and should understand, better than most where the real treachery lies. You've seen Narval's psychic probes placed on board and must have suspected what they and Scarf's troops aboard must mean. Think, man.

Tell me I can count on you."

"I'm an officer in the service of President Narval," Hyk growled, "and I remain loyal to him.

I accept that Captain Yargoul has replaced you as Supreme Commander of the Combined Fleet. The Plutonian forces in this combined fleet now come under my command. Drummer; I place you under arrest. If you resist I won't hesitate to shoot you down where you are."

Hyk drew his weapon and aimed it at Drummer.

"Easy does it, Har."

Brad spoke from where he stood off to the side.

Hyk shifted his focus and saw the weapon raised in Brad's grip. Reacting instinctively, he crouched and swung toward Brad, the nozzle of his gun flaring. A tight beam laced across Hyk's chest, and he crumpled to the deck. Brad slipped his gun back into its sheath.

Captain Yargoul's commanding voice blasted from the ship's loudspeakers, addressing the fleet.

"All ships' Commanders. You've heard and witnessed Admiral Drummer's treasonous statements. I am compelled, by circumstances, to assume command of the Combined Fleet. You will follow my orders;

I order that any commander or crew-member who refuses to recognize my authority is to be disarmed, and imprisoned. Those who resist will be shot immediately.

"The target stands: we will move on the Slingshot Terminals and take them. I

order the fleet to array itself for the assault. Unfortunately, Drummer has sabotaged our rendezvous, and we must reconstitute the assault formation. My chief navigator will issue sector orientation and vectors to each ship in the fleet so that we can form up for combat operations. Follow his orders without question."

As Yargoul spoke Brad released the clip securing the door and yanked it open. Adari rushed in and darted to the communications console, drawing a comm capsule from her tunic. She slipped the capsule into the computer slot, slapped switches and pressed keys. She looked at Brad. He nodded. Adari pressed the final key. A light flashed red; the message on the capsule went out to the fleet.

A deep voice issued from the ship's speakers:

"This is Captain Yargoul's chief navigator," it began.

"Here are the formation positions for each ship in our Order of Battle. Use as your reference Annex X-ray to the Slingshot Assault Plan. Comply immediately upon receipt of your ship's new coordinates. Jovian Battle Cruiser Boulder and destroyer screen to Sector Alpha, coordinates R784-212-426; Saturnian Battle Cruiser Encounter and destroyer screen to Sector Gamma, coordinates R784-856-275; Plutonian Battle Cruisers Dragon and Tiger and screen to Sector Beta, coordinates..."

Adari grinned at Drummer who was staring at her.

"Lucked out," she said. "Yargoul brought his chief navigator along to Brad's planning meeting off Neptune. His voice was on our tapes, and easy to synthesize. Even Yargoul himself won't know the difference. The capsule is transmitting orders to each ship of the fleet to move to new coordinates in a three-dimensional tract. This redeployment will get them so screwed up it'll take 'em a while to even figure out which way is sunside."

"But how did you know events would develop just this way?"

Adari winked; tapped her temple with her forefinger.

"Just put myself in their place, and figured the options," she said and turned to Brad.

"Do you have all the data on where you've sent them?" Brad asked.

Adari patted her pocket and nodded.

"Figured we'd need the information. Run a copy for each fighter. Meet us on the flight deck."

Drummer snatched up Hyk's weapon as he followed Adari who raced out of the bridge compartment.

Brad motioned Drummer to join Adari.

Brad followed and pulled the door closed behind him. He drew his sidearm, narrowed the beam to its minimum and its power to maximum. He directed the beam into the space between the door and the frame.

Within seconds the door had fused shut. The Dragon's bridge, at least for the moment, was isolated.

##

Hodak crouched behind a massive generator at the bend of an L-shaped corridor. The rapid-fire beam rifle in his hands was energized and safety off.

The passageway had a single entry to the bay in which Scarf and his troops were quartered. Hodak had a free field of fire. He did not expect a long wait. Drummer's appeal to the fleet commanders cut into the talk and laughter rolling down the corridor.

Drummer's opening words brought complete silence.

Long before it ended Hodak heard shouts and curses from the bay. Scarf's heavy voice rose above the clamor, giving orders. Hodak drew breath, raised and

leveled the weapon. He hoped Scarf would come out first; that would simplify his job.

Scarf did not. Instead, armed troops spilled from the bay, crowding the passageway. Scarf followed, his coarse features congested.

"There's five of 'em, plus Drummer," he shouted.

"Search the ship. You know who they are. Shoot 'em on sight. I want them dead."

Hodak tried to draw a bead on Scarf but troopers blocked the line of fire. Several started in his direction. He cut a swath through them, searching for Scarf.

The first streaks of concentrated energy wrought havoc in the forward ranks. The stench of burning flesh came at him with a rush, and the corridor reverberated with howls and screeches of agony. Unaware of what they were up against, the troops milled about in confusion. They clawed at each other in panic to get back into the bay and out of the line of fire. Scarf was somewhere in the struggle.

The tiny receiver in Hodak's ear came alive.

"Sentinels. Flight deck. Now."

Hodak directed a final lengthy barrage of rifle bursts at the entry. Molten metal and sparks bounced off the frames in all directions, followed by screams and shrieks from inside the compartment.

"Unfinished business," Hodak muttered as he turned and raced off.

Chapter FORTY-TWO

The watch was changing on the flight deck. Up ahead Brad saw three guards and two technicians entering to take their posts; moments later an equal number came out and disappeared down a companionway.

Ship's crew strolled the passageways and on business in and out of maintenance shops, or engrossed in discussions with companions about Drummer's appeal. Few noticed Brad or his companions; those who did gave them a passing glance and moved on.

The ship was preparing for action, and armed, suited-up crews were to be expected.

Brad signaled a pause. Adari, in flight gear as the others were, joined them and stood with Kumiko laughing and talking through open visi-plates.

Hodak, against a bulkhead, held a maintenance manual, slowly flipping pages, apparently reading.

Brad and Drummer moved short distances along the corridor, seemingly in thoughtful conversation.

The scene reflected routine.

The traffic thinned momentarily. Brad looked quickly along the corridor and motioned. They converged toward the companionway leading to the flight deck.

Brad entered first, followed by Hodak, Adari, Drummer and Kumiko. Inside, Kumiko swung the hatch shut and dogged it.

Myra, pressed into a corner against the far bulkhead by the Chief of the Flight Deck, smiled up at him, eyes wide. Big and chunky, he talked fast, trying to convince her of something that he obviously believed was good for both of them.

Seeing Brad appear at the head of the companionway, Myra pushed the hulk away with one hand and drew her weapon with the other. Before he knew what was happening, the fleshy man with the high hopes was flat on the deck, out of it.

Stooping and pointing, Myra circled toward Brad.

"Two, there, rifles." In another direction. "One, on the catwalk, rifle." Over her shoulder. "Two in the control room, sidearms, but they may have rifles stashed close by. Fighters on the cats, ready to go but still on control room switches."

Brad snapped out orders.

"Hodak and Kumiko, control room. Switch the fighters to self-launch. Adari, the guy on the catwalk. Myra and Drummer, suit up and into the first ship." Hodak and Kumiko charged into the control room before Brad finished speaking. Red and orange flashes and a clatter erupted through the doorway, followed by silence. Hodak and Kumiko tore out, bent low, splitting to right and left. They carried rifles raised into firing position.

Adari, eyes and gun elevated, skirted the fighters.

"What the hell's goin' on down there?" The shout came from a guard on a balcony above. "Who're you guys?"

That's all it took. Shots followed each other closely. The guard fell slowly in the ship's light pseudo-gravity.

Hodak ran to join Brad. Kumiko headed for the fighters to switch the catapults' activators to internal controls, arm and charge the guns, and insert into each ship's computer the capsules Adari had passed to her.

A guard darted by Brad and took cover behind a line of massive consoles. A succession of rifle blasts cracked through the air close above Brad. Crouching, he raised his weapon and fired. The guards would be difficult to get at.

"Down, Brad, flat."

Hodak's hoarse whisper carried from two meters behind Brad. As he ducked a soft swishing sound sliced above his head. Glints of light sparkled from a curved, shiny object. Seconds later, the boomerang returned, wetly red.

"Go, Brad."

Hodak wiped and collapsed the boomerang and slipped it into a sheath along the thigh of his space suit.

Motioning Hodak forward to climb into the nearest fighter, Brad followed. The others, already in place, were racing through their checklists. Brad began his preflight as he switched his comm to 'on'.

"Myra, Drummer, do you read?"

"Loud and clear."

"Adari-Kumiko?"

"Right."

"Kumiko, did you fix our inter-ship comm the way Zolan told you to?"

"Fixed. They'll have to search and analyze dozens of scramble channels to find and fix on ours. We have a private and moving channel."

"OK. Check suits. Batten down and seal up. Now hear this."

Brad stroked control panel keys, switches and levers as he talked.

"Call signs: Hodak and I are One; Adari and Kumiko, you're Two, and Myra and

Drummer, Three. The job is to keep 'em confused and stumbling over each other for as long as we can, and hope for the best. The capsule Adari slipped into your computer has the coordinates and formation we hope they've assumed. By now they're well into the faked redeployment. We're dealing in seconds, minutes if we're lucky.

"The deployment we triggered concentrates them in three sectors: Alpha, Beta, Gamma. Hodak and I will take Alpha, Adari and Kumiko, you've got Beta; Myra and Drummer to Gamma. Your sector coordinates are in the capsule; use standard locks to interface the coordinates with your ship's flight controls. Go for command decks, weapons control centers, thrusters or other vitals where disabling is money. Try for battle cruisers, but don't ignore other targets of opportunity. Keep your explosive decompressors and laser-quads at max. Talk as you work so we all know what's happening. Go."

The signals from Brad's control panel had their effect. The rushing sound of escaping air told them the huge portal was opening. Within seconds the battlefield stretched before them.

Brad hit the catapult release. The ship lunged forward. As it cleared the flight deck, Brad maxed the thrusters. Hodak glanced back over his shoulder.

"Two and Three are clear," he announced.
The three fighters skewed sharply toward their assigned sectors.

"Two talking. Battle Cruiser Intruder coming up.
Range: 2500 K. Destroyer screen not tight enough.
Ex-decomp at max. Range: 2000 -- 1000 -- 400. Three second burst. On target, but about 50 meters aft the bridge. Gotta go around for another try, dammit.

"Back at 900 -- 500. Incoming laser-quads. 300.
Two second burst and breaking port. What do you see, Adari?"

"Made it this time, kiddo. Bridge collapsed. But move this baby's tail. I can almost feel their heat."

"Three to One. Skip to Channel C for a sec and you'll hear Scarf. They must have cleared the Dragon's bridge. He's giving orders to the P-fleet to line up for a hit at the Terminals. Looks like he wants a kind word from his boss. I'm heading back to the Dragon.

"Dragon coming up. Range: 1700 K. Spotted us.
Have incoming. You didn't down all their guns, Kumiko.
Lousy shooters, though. At 1400 -- 700 -- 300.
Decomp on sustained -- Five second burst. Passing over. What's the word, Myra?"
"Their stern sucked a lemon. Totaled. Hold it. Fighter catapulted off the flight deck. It's closing with a Dragon screen destroyer. Get back to 'Channel C', it may be Scarf talking."

He was.

"Major Scarf to Destroyer Viper. I'm coming aboard and taking command of the Planet Pluto Assault Force. Notify all Plutonian units to be ready to attack the Terminals and inflict maximum damage.
Those orders come directly from President Narval.
I'll lay out the attack formation as soon as I'm aboard."
"Two to One. Hear that? The fighter has matched up and I see Scarf in transfer."

A momentary silence.

"Comin' round the bend and linin' up. They see us and know we ain't their lovers. Destroyer had to stabilize to bring Scarf aboard; now they're

hustlin'. I'll give 'em the nose decomp, as we slip under. 500 kay -- 350 -- decomp on -- goin' under."

"Blowout -- they're gone. Hey, Hodak, takes care of your buddy."

"He was no buddy of mine. OK, Two. Move it, Brad."

Brad searched for the Windstorm, Yargoul's battle cruiser, now the combined fleet's flagship. Two and Three had scored hits in the tight field, significantly diminishing the fleet's capabilities.

If the Windstorm could be taken out, or even damaged, the enemy fleet's command-and-control would be seriously degraded.

Two destroyers converged on Brad from 11 and 1 o'clock. Brad switched to their channel.

Brad reacted instinctively. His feet slammed footpads as his arms and hands yanked and twisted the other controls. The sensitive fighter corkscrewed and hurtled away just as laser-quad beams from both destroyers crossed where he had been a fraction of a second before. Jiggling reversers and thrusters, he space-skidded into a tight half circle and dived under the closest ship.

Killer beams tracked him but the arc couldn't catch up.

Passing under, Hodak cut loose with his laser-quads, raking laterally across the destroyer's underside. At the close range the damage was devastating. The destroyer split apart along the shock line with a silent, flaming explosion.

Brad spun the ship about and fired the bow explosive decompressor at the other destroyer. The destroyer crumpled into a twisted mass of metal.

Veering off, Brad searched his instruments for signs of battle cruisers. Hoping for a lead, he flipped the switch to Channel C and caught the tail end of a transmission: "...enemy formation is now changing course to close with us. They are centered on coordinates H010 and V210. Distance: 5 point 2 million kilometers, closing fast. Tracking, and will report. This is Lieutenant Asto, Commander of Titan Patroller Group. Out."

Brad felt a surge of elation. Drummer reached across the intervening space and pounded his shoulder. Was it possible? The next voice on Channel C dispelled his doubts.

"This is Fleet Commander Yargoul to all Commanders of the INOR Combined Fleet. UIPS battle fleet has just emerged from behind a comm screen sunside of Planet Pluto. The screen was erected to keep the Logistics Depot and the Slingshot work site from communicating with their government during this operation. Unfortunately, it also kept us from messages dispatched by our own headquarters.

The UIPS fleet is still out of range, but closing fast. All INOR ships accelerate transition into battle formations and stations. Point for convergence is coordinate H010-V210. Attention: Commander of Plutonian Destroyer Group Two. Have one of your squadrons remain in this sector and to take out the interceptors that have been harassing our fleet and then catch up with us. Out."

Chapter FORTY-THREE

"One to Two and Three."

Brad quickly briefed the Sentinels on the transmissions. It brought a grunt from Hodak, a sigh of relief from Myra, a squeal of delight from Kumiko, and a sarcastic "Well, it's about time," from Adari.

"Brad." It was Drummer's voice.

"Yes?"

"This conversation confirms feelings I've had since we joined forces against Narval, but I'd like to ask the question nevertheless."

"No need to, Drummer. I was going to tell you at the first opportunity after you made your appeal to the ships' Commanders. Your feelings were right: we're all members of a UIPS team sent to Planet Pluto to keep Narval, and anyone else, from interfering with Slingshot. Our job is far from finished."

Drummer lapsed into silence.

"Shouldn't we give our side a rundown on what's happening?" Myra asked.

"To do that we'd have to use unsecured channels,"

Brad replied.

"As soon as we do that we're in the open. Yargoul will get a fix on us, and pick us off with their long-range particle beamers. Right now we're specks in a crowded and still disorganized field, and that's our only protection. These fighters are Plutonian, and that's part of our cover."

"Well, look," Adari sounded frustrated. "We've been carrying the ball for quite a spell. Our folks are here and ready to take over. We know where they're at; let's give 'em our report in person. Then, maybe, I can wash my hair. I feel a mess."

"This fleet still has a helluva lot of firepower left." Hodak's voice was grim and brusque. "We're right among 'em. We're 'point' for our side."

"You're right," Brad said. "Our job has changed: we're eyes and ears for our people, even while we're running interference. It's not over for us until the fleets are within range of each other, and then we'd damn well better be out of the way."

He paused to scan the arena, and added: "I'll break into 'clear' in two minutes to give our people a sitrep. Don't waste time on the INOR squadron they're leaving behind to get us off their back.

Head for the UIPS fleet in two minutes. Hold outside of their perimeter until I find out what they need from us. If you run into Yargoul's fleet along the way, shoot first."

"Three to One. Comin' up on a cruiser. The protective screen on this one is tightenin' up and it'll be a hard nut to crack. Got me a tail-end charlie minesweeper. I'll give it a try. At 1300 kay -- 800 -- 400. Two seconds burst right up the thrusters. Gone. They've marked us. We got laser-quads incoming. Into e-e-e-v-a-a-sive. Man, this baby's got speed. Out of it. OK, One and Three. They're organized again and sure as hell know we're jabbin' at 'em. Ain't gonna be easy to get outta here."

"Two here. I hear you, Three. Got a couple of destroyers off my starboard bow. Coming around for a nose job. We're marked. Got incoming, lots of it. At 1200 -- 800 -- 300. Two sec..."

Silence.

"One to Two. Come in."

Silence.

A guttural howl of anguish tore through Brad's earphone. Myra.

"I'm heading over, Brad," she screamed, her voice hoarse and breaking.

Brad didn't stop her, nor did he want to.

The battle cruiser Windstorm, surrounded by its destroyer screen, was in sight. Brad weighed his chances on getting close enough for an effective shot. Studying the scene, Brad did not, at first, see the gray sphere separate from the Windstorm and plunge ahead. Hodak did, paled, and pointed wordlessly.

Brad stared at the sphere. His heart pounded.
The Windstorm had launched a guided fusion warhead.
The target was obvious.
Brad knew the warhead's capabilities from the Neptune briefings. The Windstorm carried a K12, a fifteen meter-diameter warhead capable of destroying a natural minor satellite or a large populated colony. The bomb's mass was such that a heavy cruiser could carry no more than one. One was all that would be needed to decide the battle.
The fireball had a two thousand-kay radius, and the piggybacked neutronic dispenser, once the cloud was released by the detonation, would inflict radiation death throughout tens of thousands of kay in all directions.

The UIPS fleet faced annihilation, as did Slingshot.

Brad reacted instinctively. He jerked his ship around and pumped max thrust after the speeding warhead.
A second later his mind snapped back from its momentary panic.
"One to Three." He recounted the facts. "If Two has survivors get them on board, or lash them to the sides, or whatever makes sense. Then catch up with us at max and give us a hand.
"These warheads are coated against detection in the old stealth style. I've got to warn our fleet what's coming so they can go evasive as much as they can. Our fleet's break from course or formation will mess up any tactics they have in mind. They won't have time to form up even if they do escape the blast and radiation zones. Firing at the warhead won't help, even at close range. It's wrapped in so many layers of armor even particle-beamers can't penetrate, so I don't know what our explosive decompressors and laser-quads can do. But we've got to try."

##

Two was a twisted, gray mass in a slow tumble when Three drew close. Myra reduced power in her ship's magnetic beams and directed them at the wreck until it stabilized. She maneuvered until the ships touched. The beams held. Myra pushed the canopy clear, climbed out, and crawled forward. She grasped a jagged projection on the wreck, swung aboard, and stared into what had been the control pit. She turned away and returned to her ship without looking at Drummer. Laser quads left little organic residue.

##

Brad switched to standard communications channels and keyed in his identity. In a moment they were switched to a channel closed to outsiders.
"Sentinel One to UIPS Fleet Comm Center.
Acknowledge."

The reply was swift.

"UIPS Comm to Sentinel One. We read."

"Sentinel One. Flash Immediate. Must talk to Fleet Commander. Fleet in extreme and immediate danger.
Now, partner, now."

"Selvin here."

"Sentinel One. Enemy Battle Cruiser Windstorm has launched a K12 fusion warhead. I do not question the warhead's vector; expect that its mass attractors and proximity fuses are set to your fleet's coordinates.

"I am overtaking the warhead and will try to neutralize. Forcing a change in warhead direction with my ship is not possible; the warhead's mass and guidance system exceeds by far any pressure my fighter can exert. Suggest you consider evasive action; will advise further if neutralization accomplished."

The warning had been given. There was no time for talk. The warhead was less than a hundred meters ahead, and closing.

Drummer tapped Brad on the shoulder and pointed.

Two was coming up.

Cold sweat drenched Brad's forehead and drained into his eyes. He blinked, shook his head to clear his vision, and increased airflow in his suit.

"Brad," Myra's voice, fast. "Can we detonate it with our guns from here? At this extremely close range the concentrations of laser-quads and explosive decompress energy by both of us at a single point might disable some part of the warhead or set it off."

"It would take too much time to cut through. I've got another idea. If it doesn't work, we won't have enough time to try anything else. Hodak, take the controls and get the ship as close to the bomb as you can, go for less than a meter from the warhead's surface. Hold and orbit slowly, nose close to the warhead so that I can scope the surface. I'll tell you when to stop. Myra, keep close above in my line-of-sight. Hodak, strap on your tool kit."

Hodak maneuvered the ship close and set a pattern that covered the sphere methodically. Brad opened the canopy, and directed the ship's beacon at the bland, gray surface. Seconds passed; the bomb's gray coating was unbroken. Or was it?

"Stop," Brad ordered.

He pointed to a barely visible circular crack half a meter across.

"Myra. Get closer. Use your attractors to stabilize and hold position. Give me a hand, Hodak."

Brad climbed over the side. The light gravity-enhancer soles of his space boots provided barely enough adherence to the warhead's surface.

Sliding, he made his way to the finely marked circle, Hodak close behind.

"Access to the calibration cavity," Brad said as he stooped, shed his outer glove, and felt around the mating edge. "The bomb has to have a place to insert fuse and trajectory data and fine tune the initial settings. The well is closed with a plug as thick as the armor, and it's rotated into place. The plug's outer coating is the same composition as on the rest of the casing. Cut a radial slot along the edge of the cover. We'll push to rotate the cover counter-clockwise; it'll take both of us to work it loose."

"Why not cut out the entire plug?"

"Too much time. The shell is too thick."

Hodak grunted, withdrew a cutting tool from his kit and after much effort formed a shallow, slanted groove in the well cover. A heavy metal pry bar came next. Squatting, he forced the flat end into the notch and pushed. The energy to push forced his body in the opposite direction.

"Closer, Myra."

At arm's length, and the ship immobilized by its mags, Hodak braced his back against the fuselage and tried again. He felt the bar bottom in the notch.

Brad squatted beside Hodak and, using the fighter's mass to steady themselves, they pushed. The pressure scraped the plug's surface, but remain fast. They made a fresh cut, braced themselves, and pushed, sweat pouring from their

faces. Very slowly, the plug gave way, eventually the surface rose slightly above the warhead's surface. More cuts, and a finger hold. The plug rose a bit more. It seemed minutes before their hands could grasp it firmly.

They unscrewed the plug. It drifted away.

"When Ram had our skulls crammed with all that raw data I thought this was garbage we'd never have to use," Brad said. "I think a lot differently now. Myra, hold the mags tight and be ready to break away as soon as I give you the word."

Lying on his side directly above the opening he inserted his arm and shoulder into the well as far as he could. Inside the cavity he located knobs and keypads by touch. At random, Brad twirled the knobs, pressed the keys, and opened and closed switches. After a brief wait, he tore several wire connections loose.

"Working in the dark like this has disadvantages," he grunted. Withdrawing his arm he slipped his outer glove back on. Hastily they climbed back aboard their fighter.

"Go! Myra. Go!"

Both craft whirled away.

"The warhead's computer assessed and integrated my random inputs," Brad said. "The solution should change its flight path or, for all we know, reset the switches for the proximity fuses so that our ships' mass and proximity sets the bomb off.

Let's get as far away as we can before it all comes together and whatever's going to happen happens."

The two fighters headed toward the UIPS fleet.

Barely beyond the fatal radiation zone the now distant warhead detonated. The fireball looked as huge as the Sun from Venus.

Brad opened the communications channel.

"Sentinel One to UIPS Fleet Comm Center. We're approaching in two Plutonian fighters from the direction of the blast. Be ready to receive; we're coming in. Acknowledge."

Chapter FORTY-FOUR

The opposing fleets maneuvered warily. It was too late for either side to safely fire long-range thermonuclear warheads. The battlefield would be a tight arena.

Brad and Hodak matched up to Admiral Selvin's flagship Ruthless. Without altering formation the Ruthless extended a mag-beam and drew the fighters quickly to the flight deck one following the other.

Wasting no time on boarding formalities, Brad motioned his colleagues to follow as an escort led them at a run to the command deck. Selvin was waiting impatiently. A debriefing officer took Hodak in tow, and another escorted Drummer to the VIP lounge.

At a sign from Brad, Myra trailed after him.

The fleet command center was fifteen meters across and ten deep. View tanks, consoles and displays along the bulkheads glowed and portrayed the multidimensional battle zone, updates on readiness of the fleet and whatever had been considered relevant in defeating the enemy. Specialists and back-up technicians studied displays, recapped real time data, checked results and sent them on in an ongoing process. The place hummed with muted voices and the almost silent clicks of an organized combat ops center.

Selvin waved Brad to join him at a plotting table. A globe-shaped view tank, suspended close overhead displayed the three-dimensional battle zone. The command center's communicator hovered close to Selvin, his head encased in a helmet linked to all ships in the UIPS fleet, fleet headquarters on Earth, and the conference site. A hard-copy dispatch remote on a shoulder harness extended forward waist-high. Selvin hastily exchanged handshakes with Brad and Myra. Brad talked fast pointing to the capsule Myra held in her hand. Listening, Selvin's Executive signaled the communicator to open the secure link to Commanders on all ships in the fleet. A nod from the grizzled Fleet Commander and Myra inserted the capsule into a slot on the view tank's base. The Exec motioned the battle staff to observe and listen. Taking turns, Brad and Myra reeled off details on the enemy fleet's new Order of Battle.

Brad pointed to locations in the view tank, suggesting potential UIPS tactical options to exploit the enemy's vulnerabilities. He added how Captain Yargoul might respond, and how the UIPS fleet might use them to advantage. As Brad spoke, a microphone picked up his words and fed them into the computer to bring current the fleet's, now by-passed database. Selvin and his staff, even as they listened to Brad, observed the effects on the plotting screen. A superseding fleet tactical formation spread before them. There was no time for discussion; the opposing fleets were too close. Selvin, eyes on the tank and plot, took over and spun out orders to his ships' Commanders.

"Your view tank has a copy of what I have here," he said. "The enemy fleet is down to four battle cruisers, sixteen destroyers, three fighter-bombers, seventeen fighters, four gunboats, and three attack transports with troops aboard, plus a tagalong pack of armed support ships.

"Consider the destroyers are in their best screening positions. We are totally committed.

Launch fighters as soon as the INOR fleet is in optimum range. Target priorities are cruisers, destroyers and gunships. Take the offense immediately against all enemy ships that penetrate our outer defenses.

"Avoid contact with transports or support ships.

If an enemy vessel is disabled, engage in rescue if your situation permits; especially should they retire from the arena and present no hazard to the Slingshot construction site. In such circumstances, do not pursue. If they do begin to approach the Terminals, pursue at max and take them out. Keep the construction site command center informed so that they can take defensive actions.

"Engage the enemy. Attack. Attack. Attack."

##

The INOR Commanders facing Captain Yargoul on his view screen appeared apprehensive. They had not closed with the enemy fleet yet lost two cruisers, three destroyers and a dozen fighters. The thermonuclear warhead launched at the enemy fleet had been faulty or sabotaged into premature detonation. They had taken savage blows.

Captain Yargoul rallied his forces.

"The battle has just begun," he exhorted his listeners. "Our surveillance of the enemy fleet shows we are in a strong position. Form up for penetrating the enemy fleet. Destroyers tighten screens. As soon as the enemy gets within range launch fighter-bombers and fighters. Gunships and attack patrollers take

the point. Attack. Now."

Optimum range was closing for particle beamers.

Fighter-bombers, gunships and patroller-fighters from each side sped and dodged toward firing points.

A Jovian fighter-bomber plunged through a gap in the UIPS shield and came at the bridge of the UIPS cruiser Implacable. Arrayed to fire for effect the Implacable cut loose with successive volleys of its forward laser-quads. From a turret above the cruiser's upper structures a molecular disrupter flashed a cascade of energy that coalesced into twisting, jagged bolts. The fighter-bomber dissolved as its guns fired a short burst. Fragments caroomed off its target's hull.

Two thousands kilometers distant, a Titanian gunboat evaded the UIPS defensive screen and slashed in at Selvin's Ruthless. The flagship's guns set up a withering fire, but couldn't match the lightning speed of the closing gunboat. A raking laser-doubles knifed through the Ruthless amidships, opening ten meters of hull. The vacuum of space sucked at storage bays, shops and wardrooms; dozens of bodies floated through the rupture. The gunboat, caught in a crossfire of laser-quads, exploded silently.

The Ruthless' internal safety doors had slammed shut immediately, isolating the damaged bays and compartments.

Suddenly, the main bodies of the two fleets were within range of each other's heavy weapons. A tangled circus of cruisers, destroyers, gunships and fighters careened through space, sweeping the battle arena with their guns. Battle craft, from both sides, blossomed into clouds of wreckage, shards and debris in the first minutes of combat.

More heavily armed, the INOR forces were nevertheless at a disadvantage. The fleet had not completely recovered from the disruptive effects of the haphazard redeployment that Adari had contrived.

Drummer and Brad had deserted them; Hyk and the Dragon were gone. The INOR forces lacked cohesion.

Captain Yargoul had barely assumed command of the combined fleet and needed to assess the situation.

There was no time for that. They were face to face with a powerful adversary who had appeared without warning. An easy victory had become a struggle for survival.

Two UIPS destroyers made a run at the Jovian cruiser Boulder. Four explosive-decompressors cut loose simultaneously at the cruiser, striking her amidships. A succession of explosions wracked the ship, hurling debris and bodies in all directions.

The ship rolled and yawed wildly out of control.

The UIPS destroyers cut away.

The Ruthless' damage assessments flashed to the bridge and the ship's Commander informed the fleet command deck.

"We've still got full power and most of our guns are operative," Selvin announced to his staff after a brief study of the report. "With another of their cruisers gone the big ships have evened out, but they've still got the edge in destroyers. We've..."

"Fighter-bomber locked on to enemy cruiser Encounter." The communicator's voice cut in over the loudspeaker.

"Put him on," Selvin ordered.

The pilot's voice filled the room, low and tense.
"...3000 kay starboard. Destroyer screen at 2000, kinda loose. Going in. Have incoming, lots of it.
In evasive. I'm hit, but I'm through. 700. More incoming. Bridge in sights. Three seconds burst -a hit. I'm out of control. Encounter dead ahead... gonna..."

Silence.

Selvin turned away to hide the pain in his eyes at still another death.

"Cruisers three to two, in our favor." An officer called out from his position at the battle monitor.

"New ball game."

Brad pointed, drawing Selvin's eyes to the constantly changing plotting table and view tank.

The displays showed the struggle had become a series of separate skirmishes spread across a million kay in all directions. Fighter-bombers and fighters without a mother ship, and destroyers that had lost their cruisers ranged the battlefield singly and in pairs, searching out and attacking the enemy. Not visible to the naked eye through the swarm of space debris around them, the view tank's sensors discriminated against displaying the lacework of crossing beams from laser-quads, explosive decompressors, molecular disrupters, and here and there, a cruiser's particle beamer.

Admiral Selvin stared at the tank.

"Does he realize what he's doing?" He whispered.

The Jovian heavy cruiser Windstorm and its screen of destroyers had changed direction about twenty-five thousand kay distant and headed straight at the UIPS fleet; the Jovian light cruiser Assault and its escorts lined up behind. The UIPS cruisers Ruthless, Avenger and Implacable were broadside to the oncoming enemy line. Most of the gun ports for the Windstorm's and the Assault's most powerful long range weapons were along their broadsides and out of position for returning fire at the UIPS battle fleet. Jovian vessels of all types that came within range of UIPS weapons would be overwhelmed by UIPS concentrated broadsides.

The Windstorm's escorts would not have the range until the two fleets were closer.

"They've inadvertently maneuvered themselves into an ancient sea battle formation," Selvin said.

"It was once known as 'crossing the T'. They intended to cut straight through our defenses to optimize their broadsides but instead they opened themselves to ours. That's how the game is played. I have no choice, but I have to act quickly."

Selvin's battle computer counted down the enemy's distance and flashed estimates on when the enemy line would be optimally exposed to particle beam volleys.

"Cruisers: ready your particle beamers," Selvin commanded, "sustained fire as soon as you have the range."

Moments after he spoke, the Admiral's order transformed into action. Abruptly, the gun circuits snapped shut. Lights dimmed and the Ruthless throbbed as the beamers sucked up massive amounts of energy. The Avenger and the Implacable joined in.

Indicators swung wildly. The technicians watched the dials and verified that a

stream of highly charged, invisible particles had erupted from the beamer tubes. The lights returned to normal, and the throbbing tapered off. The bolts struck the leading INOR warship full length from bow to stern, and moved on the second in line as soon as it came into range. The INOR battle cruisers shuddered, smitten as by a giant hammer. Their hulls collapsed and the ships exploded into enormous, silent fireballs. Destroyers and support ships in close screens were caught in the blasts and shattered. The INOR fleet's will to continue the battle was gone; they had disintegrated as a fighting force.

The battle ground to a halt. What was left of the INOR armada withdrew beyond the reach of the UIPS fleet's long-range weapons, careful to demonstrate that their retreat was in a direction away from the Slingshot Terminals. It was just as well, lines of UIPS destroyers and gunships had formed up as a shield between the work sites and any potential attacker from the residue of the INOR Combined Fleet. The arena quieted. UIPS search, rescue and medical craft searched the area, marking wrecks of both sides with electronic signals, collecting the dead and treating the wounded.

Communications lines opened between the fleets. Admiral Selvin requested the INOR commanders to order a stand down from all weapons. All Plutonian Assault Force vessels were ordered to form up and prepare for boarders.

Brad and Selvin stood in a corner of the command deck, heads close. Brad drew an object from a pocket as he spoke: the control for the communications barrier Zolan had erected. Selvin, hand to chin, stared at the device, listening. He pointed to it, and then in the direction of the companionway.

"Notify Camari," he said. "Now."

Brad nodded and raced away.

Chapter FORTY-FIVE

Camari's impassive gaze roamed the faces of the Solar System's leaders at the conference table. The discussions had quickly degenerated into an open clash of wills between Camari and Narval. The other INOR Chiefs of State sat back to enjoy the contest, posing occasional questions to Camari or Narval, or to both. All knew they were in a waiting game.

Camari went along, drawing Narval out. Each was eager for a message from the Planet Pluto Special Zone that would present a new reality and the defining course for the conference.

Narval realized that he was being goaded by his INOR allies to exacerbate the confrontation between the Regions. Noting the time, he decided to drop the first bombshell.

"We have been called together to prepare a course for the future," he rumbled, looking about with scorn. "Yet we of INOR sit here and quibble among ourselves, lacking a unified will to confront the UIPS directly and compel them to respect our demands. The circumstances of the times call for the raw strength of an iron fist, not for a press of beggars with outstretched, pleading palms."

"I take exception," President Straber of Titan leaned forward and wagged his finger at Narval.

"We are a confederation of nation-states. Are you suggesting that we abdicate our sovereignty to a single authority? If we were to do that we face the same

chaos that preceded the separation of the Regions. We of Titan would find that intolerable."

Narval seized the moment to pave the way for the supreme power he felt would soon be his.

The message from Drummer would surely come within minutes.

"The old United Planetary System from which we broke away," he countered, "was based on so-called democratic principles and due process. The United Planetary System fell apart. The fragmented, international order that replaced it, this grotesque arrangement of nation-states, is equally ineffective and therefore obsolete. Our system of authority and governance must be raised above the antiquated, interminable rules of the desperate bickering we now witness here at play among us.

I will personally impose such changes."

"Through tyranny?" Camari's words were dry as the desert winds of Mars.

Narval's eyes narrowed to slits of hatred as he glared at Camari. Damn, where was Drummer's message?

Camari continued in the same tone, confronting Narval directly, "I voice the profound hopes of the peoples of our diverse cultures, and yet, of our common species, that your threat is nothing but idle chatter."

He turned his head to right and left, taking in the others at the table.

"What say you, leaders of INOR, to this threat from a criminal let loose among us from Callisto? Will you yield to Narval your constitutional rights and authority so that he personally assumes the power to dictate to your nation and to your people?

"I, for one, reject his proposal with contempt and declare, here and now, that the UIPS will fight to the death any attempt by Narval to impose his will on the United Inner Planetary System or, for that matter, on any nation in the Solar System."

Around the table, and in the seats beyond, a shocked silence fell. They were indeed cynical and self-seeking politicians, and devious ploys were their stock in trade for getting and holding power.

Narval's past was well known to them all. His words were a direct challenge to their positions, their regimes, and their lives. Faces clouded, they appeared overcome by the realization that Narval's capture of the Terminals was merely one part of a far greater conspiracy to destroy their sovereignty.

Advisors leaned forward to whisper to their Masters. Suspicious glances were cast at Narval who responded with a look of mocking amusement.

"This is all without significance," he thought, "by now INOR military forces are committed to me."

Camari sat quietly, letting it all happen. The dice had been cast elsewhere.

##

Ram entered and strode swiftly around the conference table toward Camari. Something in the way Ram's elongated frame stooped and flexed as he walked created an impression of suppressed excitement. Camari tensed with apprehension. Ram caught Camari's eye as the UIPS leader leaned back in his chair.

Ram bent and whispered into Camari's ear. His urgent manner and Camari's close attention stirred the conferees. Several at the table and in the seats beyond glanced at each other, eyebrows raised; others eyed Narval. This was to have been his show.

Narval sat motionless, eyes hooded, his normally ruddy face visibly graying.

Camari held up his hand for attention. It was an unnecessary gesture; all eyes

had been on him and Ram from the moment Ram entered.

"I understand an unusual spunnel communication has arrived from the Planet Pluto Special Zone." Camari announced. "It is addressed to all Heads of State attending this convocation. The message calls for an audio-visual presentation in the view tank. Any objections?"

Without waiting for a response, he nodded over his shoulder. Ram murmured into the tiny transmitter in his hand.

The view tank, centered above the conference table, lost its soft neutral glow, blinked, and the Planet Pluto sector appeared. The tank displayed the debris of a space battle: ruptured ships, unrecognizable masses and fragments, and bloated human bodies. In the background were the Slingshot Terminals, intact.

From around the table came sounds of breath drawn sharply, gasps and muttered curses.

The view narrowed and zoomed in on a broad sheet of drifting metal. It bore the emblem of the Jovian Combined Strike Team. Large letters emblazoned above the emblem spelled out the partial word

"Windst..."

All eyes in the room were spellbound, fixed on the tank. All, except for President Pazzim of Callisto.

At the sight of a drifting scrap that had once been the pride of his fleet, he groaned loudly, hunched his shoulders and lowered his head. He did not look up again.

The hull of a battle cruiser formed along the tank's outer edge and tumbled slowly end over end toward center. Bow collapsed, the ship drifted into and out of view. Experts from the back seats leaned forward and whispered. The lifeless hulk had been the Plutonian Battle Cruiser Dragon.

Camari shifted his eyes to Narval, half up from his seat, face putty-white, lips quivering, eyes transfixed on the view tank. Tearing his eyes away, he pointed at Camari and screeched.

"It's a trap." His voice trembled in panic and became a wail. "This is another stratagem concocted by Camari to frighten us."

He gestured wildly and his mouth dribbled. "I know your ways, Camari. You're trying to divide and pit us against each other so that you can move in and take over. It won't work. Since you cannot shake our unity and resolve with empty appeals for Slingshot, you now invent battles that never took place. They just couldn't have happened. We're on to you. You're a fraud and a cheat. I move this convocation be terminated immediately. I, for one, have no intention to remain and be subjected to further lies."

Even as Narval squealed and pounded the table, the scene in the tank faded into a broader view of a phalanx of disabled warships, several bow-to-stern, and others in a disorganized cluster. Again, the secure Terminals were the backdrop.

The scene cut to the command deck of a warship.

A face, contorted in anger and despair, appeared and addressed them.

"I am Captain Klars Abou, Commander of the Saturnian Combined Strike Team, now acting as Commander of the INOR Combined Fleet, or what's left of it. I make this statement of my own free will. The original mission given to me by my President was to join with other military forces of INOR to take and hold the Slingshot Terminals hostage as insurance for an outcome in negotiations that would be favorable to INOR.

"The mission to take the Terminals has failed. We were attacked and defeated

by the military forces of the United Inner Planetary System. We were betrayed by the Plutonians. The Commander of the UIPS Military Space Force has ordered all our warships, except those of Planet Pluto, to return to their home stations. The INOR military forces, at the outset, had neither strategic nor tactical plans for the confrontation that we have experienced. Our forces are in utter disarray; we have no choice but to comply with the orders of the UIPS Fleet Commander. I have therefore directed the dissolution of the INOR Combined Fleet and ordered the vessels to return home. The UIPS fleet commander has granted us leave to use the spunnel system for this purpose." Captain Abou's features faded. An ominous quiet descended on the conference room. Narval, stricken and silent, remained half-standing, looking from the tank to Camari, and at the faces of his co-conspirators. Camari returned Narval's gaze impassively.

There was more. Drummer's features replaced those of Captain Abou. His features were stern and his head shook slightly with tension and anger. However, his voice was grave and measured in tone, deep and vibrant.

"Leaders of Solar Governments. To those who do not recognize me, I am Deke Drummer, formerly an advisor to Reen Narval and, also formerly the Commander of the INOR Combined Fleet. I confirm Captain Abou's words. The mission against Slingshot failed. The reasons are many, but failure is the fact. You now have the task, at your convocation, to seek solutions to our common problems through other means.

"All military forces and government administrators of Planet Pluto are under my command. I proclaim the Government of Reen Narval is fallen. I have established myself as Regent over Planet Pluto until a lawful President is chosen by the will of our people. I hereby declare Reen Narval persona non grata on Planet Pluto, and have instructed my warships to attack and destroy his vessel should he enter Plutonian jurisdiction. I remind you all that Narval came to Planet Pluto as a criminal outcast from Callisto. I suggest to the President of Callisto that he take custody of Narval and deal with him on the basis of the crimes he committed within Callistonian jurisdictions.

"To President Camari, I herewith declare that the original understandings on cooperation and collaboration with the Government of Planet Pluto until Slingshot is launched remain in effect. Planet Pluto is an independent nation, nevertheless, I request that, in this singular situation, that you personally represent our interests at the Conference. I look forward to an early exchange of Ambassadors and consultations to review our mutual interests and objectives.

I have in mind three people whom I hope you will consider for high position in your representation to my Government. I shall communicate with you separately on that matter."

Chapter FORTY-SIX

SOLAR LEADERS REACH ACCORD

TRANS-SOLAR NEWS SERVICE

FOR IMMEDIATE RELEASE

FLASH: SYSTEM-WIDE

Filed at Solar Conference Site

The meeting of the Solar System's Heads of State is a success. President Camari of the UIPS opened the proceedings with a brief speech. Ignoring past differences, he emphasized common interests, interdependence of peoples and nations, and benefits through collective efforts to meet the needs of the dispersed communities of humankind.

"The singular authority of the old United Planetary System," Camari said, "had no need for means to resolve issues among separate nation-states.

That is no longer true. We must provide for interregional and international deliberations and decision-making. Furthermore, our diminished reserves of metals, minerals and other essential substances, on the one hand, and the benefits of an operational Slingshot, on the other, creates new challenges of common concern and more options in the search for solutions. Unless we accelerate our collaboration to resolve the resources crisis our civilizations may well erupt once more toward potential disasters such as the one we are here trying to escape."

Following President Camari's opening remarks, the conference was addressed by INOR Chiefs of State.

Each expressed the aspirations of his or her people and their capabilities toward attainment. All agreed that their meeting was timely, that the problems were mutual, and that the agenda be addressed without delay.

The exchanges were intense as the conferees sought a balance between inalienable rights and solemn obligations. Many issues were extremely complex: What are an inhabited planet's or satellite's jurisdictional limits within territorial and contiguous space? What are the rights and obligations of one Region's military and commercial vessels and citizens when inside the lawful boundaries of another? What is the definition of "innocent passage" in the context of a multi-national Solar Community? How are our dynamic and constantly changing interplanetary and interregional space lanes to be maintained? Who will pay for such services? Questions posed in one context were injected into others or phrased to highlight a wide range of diverse interests and nuances.

Discussions among the primary conferees were, at times, suspended for caucuses of Heads of States orbiting a central planet with their advisors. Ad hoc committees were set up to explore options in depth, or at minimum, to provide clarity and context to the issue. The meeting rooms along the periphery of the assembly hall filled with specialists who argued loudly, in whispers, and at length.

Often, additional data was needed from Seats of Government. The spunnel communications channels were loaded with traffic, and archives throughout the system opened, many for the first time in millennia. The Conference Disk's computers absorbed facts and expert opinions and spewed distillations of new conclusions.

Slowly, positions clarified and consensus took form.

A draft Declaration of Principles emerged from the back rooms. It dealt with only a few of many problems that needed immediate attention, leaving a broad array of issues open for further review.

After hours of debate the Draft Declaration of Principles was approved by the Leaders of the Solar Community. (See Appendix.)

All agreed that the First UIPS-INOR Conference augured well for the future of humankind.

Epilogue The networks of mass attractors that tethered the Extractor to Planet Pluto disengaged nine Earth centuries after construction began. Pluto contributed its orbital momentum to the launch.

In time the integrated drives of the most advanced propulsion thrusters took on the full load, and the dream of humankind was on its way to the Alpha Centauri star system, on schedule.

Scientists and technicians on The Solar System's Slingshot Control Center maintained constant real-time oversight of the Extractor's subsystems and structures through spunnel monitors. A convoy of robot deflectors and screens cleared the Extractor fleet's path of meteoroids, sand and rock swarms and

space debris. Hundreds of logistics robots crammed the station's cavernous bays, self-sustaining and programmed to activate sub-systems on schedule, deploy robotic specialists and service the machine during its voyage, and in perpetuity thereafter.

Maximum acceleration for almost two Earth decades increased the fleet's velocity to five percent speed-of-light, which it maintained for more than a Solar System Standard Century. Deceleration and vector adjustments took another three decades.

Alignment to major concentrations of potential sources, selection of a 'first phase' work site, calibration of instrumentation and activating its spunnel channels and monitors required still more.

Back along the Solar rim, the Collector remained linked to Planet Pluto for two decades following the Extractor's departure. Its schedule along Pluto's orbit provided sufficient time for the Collector's transit to its permanent station along the rim, to track the Extractor's position via spunnel to refine details for integrated operations, and for positioning and calibrating the thousands of networks that coordinate the solar and interstellar arrays.

The citizens of the Solar community tuned in to witness the release of the Interstellar Spunnel Signal from the hand of the President of the newly formed United Nations of the Solar System. It would be the final signal to synchronize and activate the collective controls of the Extractor and Collector.

The President keyed the Signal.

##

Remote spunnel nodes and boosters along the route from the Solar System to Alpha Centauri monitored the Signal and the response. Rings of laser arrays along the edge of the Extractor's hopper flashed alive and focused their beams on a large, slowly tumbling planetoid hundreds of kilometers across its minor dimension.

Sensors, analyzers, siphons and beam-guides paralleled the lasers' signals along an incandescent column of plasma from the dissolving planetoid into the Extractor's processes and, when ready, into the hopper. The truncated apex of the Extractor's teleport gate cone glowed red, then violet, and thirty meters of its length disappeared into its new hyperspace home.

The invisible nozzle hurled a concentration of elemental substance across hyperspace to its sister station four and a half light-years distant.

The first sign of incoming was a churning, expanding mass of violet bubbles around the apex of the Collector. Shifting colors as it cooled and solidified, the mass transformed into a huge brown globe. The globe separated from the nozzle and drifted off, replaced by another mushrooming bubbling mass at the nozzle's tip.

A fleet of robot tugs clamped mag-beams on the free-floating globes and hauled them off. Another fleet of giant space tugs moved into position for the next gift of crude but treasured substance teleported across interstellar space from a distant star.

The cornucopia was in flow and humankind's first outbound and inbound highways to the greater universe were complete and working.

Afterwords An overview of the times prepared by Level 2 students, Luna Middle School, based on records and commentaries in the official archives of The Interstellar Mining and Teleport System.

(Reference: Index, Capsule V67 The Interstellar Historian, Third Millennium, Interstellar Era.)

In the centuries that followed humankind's giant leap to Luna, scientists, engineers and scholars in almost all of Planet Earth's disciplines probed ever deeper into space. Explorers studied and charted the surfaces, depths and atmospheres of each of the Solar System's bodies, and scrutinized the dynamics and constituents of space matter out to the Kuiper Belt and Oort Cloud. They ventured into the void beyond Pluto's aphelion for hundreds of millions of kilometers -- although not yet the stars.

The first landing on Luna in Year 1969 of the then Common Era was judged to be among humankind's grandest achievements. At the Luna landing's Tercentenary a universal calendar was ordained to commemorate the Event as New Year's Day, Year 0, formally beginning humankind's Interplanetary Era.

By then, populated Moon and Mars bases were well established. Construction cadres had ventured into and beyond the Asteroids. Their experiences, surface and strata tests and studies influenced the selection of sites for mining operations and strategic outposts along the space frontiers.

Advance construction battalions built basic habitat and, having attained 'shirt sleeve' environments, conceptualized, planned, gathered local materials, and designed and built infrastructure and industries that, in time, blossomed into enormous encapsulated cities, social orders, cultural adjustments and civilizations.

Explorers became teachers and mentors. Initially in Earth orbit, later in lunar space and on Luna itself, they guided settlers in developing new lifestyles and colonizing skills, and showed them how to wrest and refine usable elements and minerals from nearby sources. They devised and tested methodologies to convert crude space matter into forms with which to create and integrate structures, and manufacture and operate machines and networks that would sustain surface and contiguous space and inter-satellite and interplanetary navigation and logistics systems.

The emigrants procreated and populated their cities in the void. Their disparate ancestries blended through a natural vitality that accelerated human evolution so as to survive in a radically new environment. In so doing, they turned away from traditional conventions still deeply ingrained in their common species. Adjusting over time to the novel experience of space, they conceived new ways or adapted their ancient qualities and prospered in wholly enclosed artificial worlds. Organ modifications, genetic engineering and cloning gave impetus to human transformation.

Instinctively, humankind-in-space prepared for an eventual voyage to the stars.

At the close of the first interplanetary millennium that shaped and launched The Great Migration to Space the original emigrants' progeny had become an indigenous population. Five centuries into the Interplanetary Era's second millennium the Solar System included more than five hundred populated colonies and outposts, and twice that number of robot stations for interplanetary and inter-satellite navigation, communication relay, and space rescue. Populated by humans and their robots, colonies extended from the voids above Mercury and Venus through the Asteroids, the satellites of the gas planets, to Planet Pluto.

As colonies multiplied and spread across the vast interplanetary realm the solar community became impatient with time consumed in normal point-to-point space communications and transport.

The excessive transmission and portage time was especially irritating in communications, shipment of priority cargo, and human travel across distances from bodies orbiting along on opposite sides of the Sun. Hyperspace technology solved the problem.

"Spunnels" in the public's jargon, came into being, the term compressed from the phrase "hyperspace tunnels," a universal phenomenon once suspected and eventually confirmed. In the centuries preceding The Great Migration the

phenomenon had been generally referred to as a wormhole, an archaic and irrelevant expression, even in those ancient times.

Spunnel networks reduced transmission time between the most widely separated points in the system from hours to real-time. Successful in communications, scientists and engineers concentrated on the technological leap from spunnel communications to spunnel teleportation, a capability urgently and clearly essential to move humans, machines, and raw materials across interplanetary distances.

The flood of emigrants to space colonies and outposts exceeded tens of thousands each year over several centuries, leaving behind a still over-crowded Earth that had long since cried 'enough'. Among the migrants were artisans and technicians, minimally to highly-skilled administrators, sociologists, teachers, scientists and engineers and, scattered among them, contemporary philosophers who preached the metaphysical. Together, they represented all of Earth's peoples and a cross-section of their cultures. Technology, however, imposed constraints. The insatiable appetite for metals, minerals, rare earths and other nonrenewable substances increased inexorably. They remained the foundation for the Solar System's industries, driven by the constant clamor of indulgent lifestyles. Fully aware that vital minerals and other substances were beyond replenishment from within the Solar System, the solar community nevertheless squandered its rapidly diminishing resources. In time, reserves of nonrenewable resources dropped from residue to gleanings. Recycling, salvage, ever-deeper mine shafts and tunnels, repeated sweeps of the Earth's sea beds and planetary and satellites' crusts, trenches, beds and craters offered insufficient returns. Scouring the Asteroid Belt, sifting the Kuiper-Oort regions, and intense competitions for substitutes provided inadequate and merely temporary relief. The solar community's population, on Earth and in space, had exploded to more than fourteen billion people. The search for substances to support humankind's needs ranged throughout; there were no more sources, nor were there sanctuaries. Certainly, there would not be enough for voyages to the stars.

##

At long last, humankind confronted its reality. Net yields from nonrenewable reserves, residues and substitutes had dwindled until exhaustion was certain and a timeline predictable. The choice among grim options could no longer be postponed.

In the end, there were two:

-- Remain in place, ration, recycle and redistribute minerals, metals, ores and other usable substances and substitutes with Draconian discipline, and take the consequences, or -- Chance the most awesome venture in humankind's long history: reach out to a distant star and tear from it the raw matter that would preserve and perpetuate the grandeur of the human experience.

The second option would be the ultimate gamble: winning would bring the cornucopia sought throughout the ages. Failure, even at an early stage, would dissipate what little reserves remained. Vitality drained, humankind would slip back into the pits and the mud from which it had so laboriously climbed.

The decision was to reach for the stars.

##

The Interstellar Mining and Teleport Program
The Objective: To draw from Alpha Centauri, the nearest star system, 4.35 light-years distant, its minerals, metals, elements and whatever useful substances could be moved across space, and store them nearby in the Solar System, accessible to all humankind.

The Task: Increase the Solar System's spunnel range, capability and capacity to teleport matter across interstellar space in a continuous flow and in

sufficient quantities to satisfy the purpose of the Objective;
Construct and dispatch an advance fleet of drone scouts to the Alpha Centauri star system at the earliest possible time to survey, analyze and report via spunnel on the availability, locations and accessibility of resources specified generally in the Objective;

Concurrently, design, construct and position an interstellar spunnel portage system consisting of two terminals, each of which would include an integral, fully self-sufficient facility for command-and-control, self-service and repair, logistical and other operations essential to its unique mission. Designate the terminal at 'star' destination the Extractor and the terminal that remains on the solar rim, the Collector.

-- The Extractor selects and draws usable non-organics from the Alpha Centauri star system, and collects, converts and channels the product into its teleport shipping facility for point-to-point spunnel transfer to the Collector.

-- The Collector receives the product, converts it to its original form, and classifies, identifies and ejects the substance for storage along the solar rim or at a point Authority determines to be more appropriate.

Construct the terminals four million kilometers beyond Pluto. During construction, secure the terminals to each other and separately, to Pluto, employing mass attractors and position stabilizers, as required. Disengage the Extractor from Pluto at launch employing Pluto's outbound orbital momentum in a manner that the combined fleet retains its integrity in perpetuity.

Deploy the Extractor to Alpha Centauri and position it in orbit above a point commensurate with data provided by the drone scouts. Maintain constant surveillance and exercise control over operations and maintenance via spunnel analyses of the Extractor's functions, structures and equipment.

Position the Collector along the solar rim and orient it consistent with the Extractor's position and operations in the Alpha Centauri system.

Stages

The Extractor, in position at destination, analyzes, selects and draws substance from proximate asteroids, comets, satellites, planetoids, swarms, star surface and other accessible bodies and strata, reduces the substance to spunnel-teleportable constituents, loads the mass into the spunnel facility and dispatches the product.

The Collector, positioned in the Solar System oriented to the Extractor, receives and converts the Extractor's transmissions, processes substance into its original or a refined state, classifies and ejects the mass for positioning in the storage zone.

Resources and Schedule The Task requires six Earth centuries to design, construct, equip, test, deploy and activate. The millennia of delay in initiating the Task imposes inescapable hardships on the Solar Community.

Accordingly, when justified as essential to the Objective, solar governments divert work forces, systems, and material resources from throughout their jurisdiction to the Task. The consequences of these diversions are expected to significantly curtail construction, activities, lifestyles of Earth and space colony populations, the distribution of the solar system's residual resources and, possibly, the independence of governments, organizations, and individuals throughout the solar realm.

Critical to the program's success is timing the Extractor's launch.

Piggy-backed to Pluto during construction, the Extractor exploits the planet's

orbital momentum for launch. The window is precise and short-lived along Pluto's outbound orbit; there will be only one launch opportunity for the Extractor. Disengaged from Pluto, the Extractor fleet will accelerate along its course to optimum velocity through integrated thrust of multiple thermonuclear burst-propulsion systems or other, more advanced propulsion systems, that are or become available for the Task.

##

The Interplanetary Era's second millennium was tumultuous. The harsh austerity imposed by the increased deficits in metals, minerals and other industrial materials and their substitutes created one set of problems; human cloning augmented with genetic engineering and their societal and cultural effects, especially beyond the Asteroids, created others. Human survival in scores of widely scattered and unaffiliated space colonies, loosely called "tank towns," encouraged scientific and social experiments that altered traditional cultures as well as human physiological and psychological characteristics. Cumulative genetic and accelerated evolutionary alterations to the human body along with the effects of unique, often hostile, environments plus sheer distance from the familiar transformed humans-in-space into something else. The unifying forces that had survived the Great Migration withered. In time, the once shared interests of peoples, and allegiances to a home planet, sundered.

Varied and increased rates of change opened doors to pretenders among a colony's populace.

Opportunists promoted a multitude of causes, usually self-serving.

Anticipating advantages to themselves, they combined forces and became influential advocates for disengagement from political, cultural and judicial dominance by the totally foreign open sky government of Earth, billions of kilometers distant.

Disengagement, the opportunists agitated, was long overdue; Earth inhabitants would never really understand what life in deep space was about.

The crisis came in the middle centuries.

Bureaucrats representing the central government on Earth were isolated from the affairs of the colonies they administered. The indigenous populace ignored their authority, their credentials were challenged, and they were invited to return to their home planet -- with no options.

The central government on Earth, weakened by shortages and distracted by agitators at home and in space, was neither vigilant nor prepared.

Early in the second millennium of the Interplanetary Era, several colonies in the Outer Region declared their independence of the original United Planetary System and of each other. Other colonies and outposts joined and within a decade, all had proclaimed themselves as newly constituted nation-states. Each reserved exclusive rights to negotiate with other nation-states of the Region. New agreements were implemented on matters of common interest, such as credits, industry, a judicial system, trade and commerce, science and technology, space traffic control, education and cultural exchange, and creation and management of infrastructure and management of life-support resources within their territories and jurisdictions.

The Outer Region's proclamations panicked the central government.

On the one hand, Earth ethicists argued, were the rights of the inhabitants of the space colonies. As members of distant societies they had modified their bodies, their environment and their cultures, therefore, they had a right to seek their own destiny unfettered by well-intentioned, but obviously impotent

laws that originated on Earth.

The advocates of this philosophy emphasized the Outer Region's right to their own physical, technological and cultural development. As unique civilizations, evolving at an unprecedented rapid pace, they were already radically different from the humankind that had remained on distant Earth.

On the other hand, claimed others, the system-wide scarcity of natural sources vital to the survival of the species was a shared crisis. The crisis could be solved, if at all, only through the most concerted application of humankind's intellectual and collective genius. In one context, they were indeed unique civilizations: robust, sophisticated and divergent, nevertheless, instinctively taking nourishment from a common fealty to humankind's ultimate destiny among the stars. Humankind would be far stronger and effective together, they argued, than it would be, divided within a common species.

The debate raged across the System. The separatists won.

Earth's General Assembly acceded to the demands for self-determination. The new status of the outer and inner regions was confirmed in The Treaties on the Separation of Jurisdictions for the Planets and Satellites of the Inner Region and the Independent Nations of the Outer Region.

The outer periphery of the Asteroid Belt became the boundary. The United Planetary System was dissolved and reconstituted as the United Inner Planetary System (UIPS). The natural and artificial colonies that orbited the planets and satellites of the Outer Region, or the central sun, retained their original identities (Ganymede, Titan, Callisto, etc.), and Pluto added "Planet" to its name to distinguish itself from planetary satellites. The former colonies beyond the Belt formed a loose federation: Independent Nations of the Outer Region (INOR).

The United Inner Planetary System insisted that Planet Pluto and its contiguous space remain within the UIPS Slingshot Special Zone of Operations until the Extractor and the Collector were both safely away from Pluto's jurisdiction, as judged by the UIPS. The Plutonian government refused. The other INOR nations, immersed in their own problems, were indifferent. The issue was left to the UIPS and Planet Pluto to resolve.

The UIPS continued, without prior consultation with INOR and Planet Pluto, to construct and operate Slingshot logistics sites and facilities on Pluto's surface, in contiguous space, and within and along the Planet Pluto orbit. The UIPS, interpreting traditions and treaties that had evolved from Earth's ancient Laws of the Seas and Space, exercised and defended free and unencumbered travel and passage by its citizens and vessels in deep space and throughout the INOR jurisdictions.

The UIPS took steps to ensure the security of Slingshot construction and logistics support sites and space-ways.

##

The Slingshot Advance Cadre arrived in the Neptune-Pluto orbit-crossing sectors toward the end of the Interplanetary Era, before the breakup of the old United Planetary System. Colonizing Pluto and constructing space kits that would be transformed into surface habitat and supply depots began centuries earlier when Planet Pluto was barely past aphelion but within economical range of deep space transports. The cadre's vessels carried and towed communications gear, specialized construction rigs, platforms and infrastructure kits which had been fabricated or assembled in the industrial tank towns above Luna, Venus and Mars, and by cooperating governments of satellites in the outer region.

The Cadre's primary mission was to establish a base of operations on Pluto. The program called for the planet to support a colony of fifty thousand specialists and construction workers -- and their families -- for the

assembly, construction and testing phases, plus ten thousand transients and temporary residents. The latter would comprise 'rest and relaxation' visitors, liaison and special missions staff from a nearby logistics depot and the construction sites, and agricultural and food processing workers from Planet Pluto's moon Charon. Also expected were cargo handlers and ship's personnel from transports entering and departing Pluto from-and-to points throughout the system.

About eighty percent of Pluto's permanent adult population would work on the two terminals.

The specialized professions for the initial phase ranged from scientists and engineers to artisans, skilled and semi-skilled workers in all of the disciplines and industrial skills required to construct and operate a complex station in space and service and maintain a permanent habitat and population on Pluto's surface.

Children would be born on Pluto, natural or cloned.

They, as well as the general population, would be cared for and supported by a host of administrative, health care, educational, recreational, life support and community services.

The Cadre's mission was in phases. The first task of the initial phase was to land on Pluto's surface, seek out stable surfaces or create them by fusing subsurface strata to sufficient depth for support of massive structures.

Gravity enhancement surface panels and their energy sources would be installed wherever enclosed communities or special purpose structures were to be constructed. A detachment of the Cadre would land on Charon, Planet Pluto's moonlet, and fuse and seal sections of the moonlet's surface and subsurface same as on Pluto.

On the solidified, stabilized surfaces of Pluto and Charon the Cadre would erect a tank town dome. The dome would have a ten-kilometer radius on Planet Pluto and a one-kilometer radius on Charon.

Construction would proceed concurrently on surface and subsurface utility and life support facilities essential to human habitation. When enclosed areas were shirtsleeve ready for occupancy, the Cadre would erect essential life support, residential and recreational facilities. These would be followed by technical, communications and transport networks for Slingshot scientists, industrial technicians, and staff, followed by enclosed living areas for the remainder of the general populace that would train and do the work during the subsequent phases.

The tanktown on Planet Pluto would be named Coldfield; its counterpart on Charon would be Lamplight.

An On-site Project Management Team (OPMT) directed the Advance Cadre. The OPMT formed the nucleus of upper level managers, scientists and engineers, and other experts charged with organizing and guiding the functional task groups. The functional staffs would bring into being the on-site technical and administrative support facilities, install and operate its equipment, and govern the communities within which the populace worked and resided.

The OPMT was organized into three groups: Group One: Planet Pluto; Group Two: Charon, and Group Three: Logistics Depot. Each Group had its mission:

Group One (Planet Pluto) Mission

Five kilometers from Coldfield, construct and operate a simplified fusion-based energy generating and power transmission system to provide

sufficient output to support all anticipated power and network requirements of the planet;

Beneath and adjacent the Coldfield dome, construct, organize and operate encapsulated surface and subsurface laboratories, manufacturing and overhaul plants, space and surface transport and traffic routes and controls, surface roadways, utility and communications systems, landing and mooring facilities, energy hubs for gravity enhancement grids, and other essential utilities and facilities;

Establish and administer institutions for law enforcement, public health, education and other community affairs.

Group Two (Charon) Mission

Convert Lamplight into a food-growing and processing plant capable of feeding the entire Plutonian permanent and transit populations, and on-site personnel at the Logistics Depot and the Terminals Construction Site. Encapsulate Lamplight in an impermeable radiation-resistant plastic membrane and introduce and maintain constant temperature and air-moisture and other agriculture-supportive atmosphere and environment that meets prevailing deep space colony or equal standards;

Constructively use Charon's and Pluto's water ice and substances generated as waste and by-products of human habitation throughout the Pluto and near space sectors. Conduct research and develop drip, hydroponics and other agricultural systems, protein synthesis and manufacture, and ship to Coldfield, the Slingshot work site and the Logistics Depot high-quality foodstuffs suitable for storage and consumption. Charon operations are to be fully automated and robotically maintained.

In support of the Charon agricultural mission, Planet Pluto, the Slingshot Logistics Depot, the Terminals' construction site, and ships moored or in transit within the Special Zone constitute an integrated ecological entity. All organics and all mineral and chemical plant growth stimulants, such as discarded or excess food and fluids, bio-waste, usable industrial and community waste, and cadavers are committed to processing as fertilizers or for specialized application to the creation of foodstuffs. Organic waste and cadaver parts unsuitable for constructive purposes (fertilizer) on Charon will be fully sterilized and reduced as close as practicable to zero residue.

Group Three (Logistics Depot) Mission Construct a space station to specification above Coldfield and designate it 'Slingshot Logistics Depot'. Arrange for the depot to serve for central receiving, warehousing and shipping center for materiel committed to the Slingshot Terminals, and for processing materiel through all active Planet Pluto surface and sub-surface technical and servicing facilities;

Provide the Depot with facilities and train its personnel for emergency backup in manufacturing and servicing capabilities redundant to those on the planet;

Create a highest level technical capability to synthesize materials, and manufacture, fabricate, test and calibrate those precision parts, tools and accessories which are best made in the micro-gravity and pollution-free conditions of deep space and/or safely distant from Pluto's and Charon's surfaces and their gravitational influences;

Augment the Depot's security with a gated force field that fully encapsulates and protects the Depot and all vessels engaged in loading and off-loading personnel and materiel; patrols contiguous space and keeps the Logistics Depot and UIPS citizens and property self-sufficient and safe from disease, harassment and harm;

Install on the Logistics Depot and at the Terminals Construction Sites

independent communications, cargo, living organism teleport centers, each capable of receiving and dispatching authorized cargoes, passengers, dispatches and communications via conventional, spunnel, and specified non-conventional channels.

##

The Terminals Construction Site is the focal point of UIPS operations. The Construction Site's mission is to research, design, fabricate, test, assemble and, ultimately, launch, position at destinations and operate, monitor and maintain the Slingshot Extractor and Collector terminals en route and at their destinations.

##

The planning did not anticipate the dissolution of the United Planetary System, the creation of independent and estranged Regions in their place, and a hostile government on Pluto.

Military forces had been non-existent for more than fifteen hundred years when the colonies of the Outer Region seceded from the United Planetary System. Weapons of mass destruction had had no purpose since the birth of the first World Federation in the fourth century of the Interplanetary Era.

In place of an organized military, the succeeding World Federation had created an Interplanetary Constabulary to protect lives and property, investigate crimes, control traffic, and maintain general order. Their charter extended to all planets, satellites, colonies, outposts, stations, and all places throughout the void into which humankind had ventured.

The mission of the Constabulary remained unchanged during political reorganizations within the first World Federation and its successors. Its agents ranged the Solar System, and performed their duties quietly and efficiently. Few dared challenge their authority. When challenges did occur, they were not for long.

War, and the effects of war on people and things were forgotten.

It was inconceivable, in those times, that the region beyond the Asteroids would become politically and culturally alienated from the unified community that humankind had created to guide them into the future. History, the citizens of the world concluded, had demonstrated the impotence of the ancient, long-discarded array of adversarial nation-states and come-by-chance leaders to govern an intellectually advanced species.

No one expected a return to the old, long-discarded ways.

When separation of the Inner and Outer Regions became inevitable, scholars in both Regions explored the possible and the probable relationships that might develop under the new order. The studies predicted that politically independent nation-states would create multilateral alignments and conflicting societies, lifestyles and philosophies.

They took into account evolving technological and industrial capabilities, prevailing energy and declining reserves of industrial metals, minerals, and other usable substances and related them to the Solar System's demographic trends and resources predictions. When the United Planetary System dissolved, the successor UIPS felt it had no choice but to continue the Slingshot program.

The conclusions of humankind's most distinguished scientists and philosophers suggested that two independent orders in space would bring with them a heightened likelihood of social and technological dislocations and disruptions. There would be interregional and, within INOR, international competition that would increase the rate of depletion in resources. There would be a multitude of disputes, often intentionally misinterpreted, to resolve territorial and jurisdictional differences that were already caught up in and molded by the dynamics of orbiting planets, and their satellites and

connecting space-ways.

The effects on Slingshot could be catastrophic.

Its security was paramount. Immediately following separation of the two Regions the President of the new UIPS directed the creation of a powerful Military Space Force.

The UIPS searched the ancient archives of Earth's military history and designed weapons of defense and offense. Ships of war and their supporting systems were brought back into being, and spinnel gateways expanded to accommodate them. A militant phoenix rose from its ancient ashes.

The Military Space Force was charged with patrolling the space-ways beyond the Asteroids to protect UIPS vital interests. Their responsibilities included protecting the lives of UIPS citizens and private and government property throughout INOR wherever they happened to be, in space or on the surfaces of planets and satellites.

The role and intent of the UIPS military was explained to all INOR governments. "The Military Space Force," proclaimed the President of the UIPS, "would remain until INOR's member Nations were sufficiently stabilized to participate in ensuring peaceful coexistence and passage along space-ways and at moorings throughout the Outer Region, and separately and collectively agree to participate in and support the Slingshot Program."

INOR, as a Federation, interpreted the formation of the UIPS Military Space Force and the President's proclamation on its role as contemptuous of their social and political maturity. The outcome was predictable.

Local INOR Defense Forces were hastily organized and equipped. Dozens of ships of war were built and many space transports were converted into armed vessels. Each INOR government, using self-defense as justification, established controlled corridors extending hundreds of thousands of kilometers into its contiguous space, often far beyond their legitimate jurisdictions. Passengers and crews of foreign space transports, passenger liners, and utility and pleasure craft, whatever their points of foreign origin or destination, required visas, local pilots, and armed escorts upon arrivals and departures. Suspicions festered on all sides.

It was an era of international and interregional political tensions and harassment, and military, technological and industrial sabotage and espionage. The history of Earth's ancients had returned to haunt the solar community.

The rate of depletion in the Solar Community's reserves of vital but nonrenewable substances rose rapidly.

Appendix

Principles of Governance Among Nations in Space

An article by the Associate General Counsel for the Smithsonian Institution reported in THE FUTURIST, page 60, May-June 1990 (Common Era) that the Smithsonian Institution's National Air and Space Museum had speculated on a Declaration of First Principles for the Governance of Outer Space Societies. The project's participants represented a broad array of disciplines and interests, including engineering, biomedicine, law, economics, psychology, bioethics, and philosophy. Rather than attempting to frame an actual constitution for space societies, which normally would be reserved for sovereign governments. The document would be a reference for interested government entities responsible for space policy, and to define the fundamental rights and freedoms of those who might some day migrate to space.

I wrote to the article's author, told him I was working on this story and included a draft of 'core principles' I had drafted. I asked for more information on the Smithsonian's study. The author's reply included a copy of the Declaration and permission to quote from it. It follows:

Astrolaw: Carrying Human Rights into Outer Space On the occasion of the Bicentennial of the Constitution of the United States of America and in commemoration and furtherance of its values, we the undersigned petitioners, Bearing witness to the exploration and inevitable settlement of outer space; Recognizing the universal longing for life, liberty, equality, peace and security;
Expressing our unshakable belief in the dignity of the individual;

Placing our trust in societies that guarantee their members full protection of the law, due process and equal protection under the law;

Reaffirm our faith in fundamental freedoms;

Mindful, as were our nation's founders, of the self-evident truth that we are endowed by our Creator with certain inalienable rights;

Recognizing the responsibility of a government to protect the rights of the governed to exist and evolve;
Do assert and declare in this petition the intrinsic value of a set of First Principles for the Governance of Outer Space Societies and, at the beginning of this third century of nationhood under our Constitution, resolutely urge all people of the United States of America to acknowledge, accept and apply such First Principles as hereinafter set forth.

ARTICLE I

The rule of law and the fundamental values embodied in the United States Constitution shall apply to all individuals living in outer space societies under United States jurisdiction.

Appropriate constraints upon and limitations of authority shall be defined so as to protect the personal freedom of each individual, such as the right to reasonable privacy, freedom from self-incrimination, freedom from unreasonable intrusion, search and seizure, and freedom from cruel and unusual punishment.

Toward this end, the imperatives of community safety and individual survival within the unique environment of outer space shall be guaranteed in harmony with the exercise of such fundamental individual rights of speech, religion, association, assembly, contract, travel to, in and from outer space, media and communications, as well as the rights of petition, informed consent and private ownership of property.

The principles set forth here should not be construed to exclude any other such rights possessed by individuals.

ARTICLE II

Authority in outer space societies, exercised under principles of representative government appropriate to the circumstances and degree of community development, shall reflect the will of the people of those societies.

All petitions to the United States Government from outer space societies under its jurisdiction shall be accepted and receive prompt consideration.
The United States shall provide for an orderly and peaceful transition to self-governance by outer space societies under its jurisdiction at such times

as their inhabitants shall manifest clearly a belief that such transition is both necessary and appropriate.

In response to aggression, threats of aggression or hostile actions, outer space societies may provide for their common defense and for the maintenance of essential public order.

Outer space societies shall assume all rights and obligations set forth in treaties and international agreements, relevant to the activities of such societies, to which the United States is a party and which further freedom, peace and security.

The advancement of science and technology shall be encouraged in outer space societies for the benefit of all humanity.

Outer space societies shall protect from abuse the environment and natural resources of Earth and space.

End quote.

##

Core Principles drafted at the First Solar Conference on the Relationships between the United Inner Planetary System (UIPS) and the Independent Nations of the Outer Region (INOR)

Preamble

In order to:

Create and foster political, societal, economic, and cultural environments throughout the Solar System which will preclude or minimize acts of international and inter-regional aggression, economic warfare, cultural disruption, and other forms of active hostility between the United Inner Planetary System (UIPS) and, separately and collectively, Independent Nations of the Outer Region (INOR);

Establish the framework for peaceful coexistence within which all Nations respect the sovereignty, territorial integrity, and political independence of each other;

Recognize the mutuality of interests among all peoples and Governments of the Solar System in sharing the benefits of The Interstellar Mining and Teleport System; and

Prepare for and extend the human experience into interstellar space and toward the coming Interstellar Era.

We agree to the following:

ARTICLE ONE

We reject and renounce economic, cultural and military warfare, and the threat of warfare to attain national and regional objectives. We will settle all disagreements and disputes through peaceful means.

ARTICLE TWO

We affirm that the peoples of all nations, states, colonies, settlements, communities, howsoever they may be designated now and in the future throughout the Solar System and, eventually throughout the Interstellar Realm, have ecological unity. Their harmony is such that none are truly independent of the others.

ARTICLE THREE

We affirm that the Solar System is the common heritage of humankind, and all the resources of the Solar System, now and in perpetuity, are part of that common heritage. We agree that each Government representing the people of a planet, satellite, independent space entity or a legally constituted part and collective thereof, is entitled to its fair share of the natural resources originating within the Solar System or acquired from other star systems. Such resources will be available, proportionately, from the Common Reserve in conformance with a nation's or government's verified needs and technological capabilities to utilize the resources for peaceful and beneficial purposes.

ARTICLE FOUR

In furtherance of ARTICLE ONE, we most solemnly declare that continuance of organized military forces by any Government of the Solar System can serve no useful purpose. We manifestly recognize that the existence of military mass destruction weapons and their supporting agencies and facilities increase the likelihood of their utilization to resolve differences or jurisdictional disputes, with consequent harm to human life, properties, and civilizations. We, independently and collectively, agree, without reservations except for the EXCLUSION stated in this ARTICLE, to the phased reduction of all military spacecraft, weapons, facilities, personnel training and other support systems and technologies to the point of their complete elimination not more than five Solar Standard Years from the date affixed to this Declaration of Principles.

EXCLUSION

We exclude from this ARTICLE specified accords which are, or will be, required by a legally constituted Government to exercise normal internal constabulary powers and authority on, and in space contiguous to, their planet, satellite, independent community or zone, and between and among Governments, as mutually agreed to among the Parties concerned. The UIPS and INOR will be kept informed of such constabulary agreements prior to implementation and their views considered.

ARTICLE FIVE

We recognize that precise delineation's of spatial jurisdictions are essential for the orderly processes of government. We agree that jurisdictions to be defined and delineated include: a. the outer limits of any one nation's spatial control and administration. Such delineation shall take into account the irrevocable right and obligation of any Government which exercises legitimate influence or control over a non-hazardous natural or artificial planet, satellite, planetoid, space station, outpost, spunnel node, link, net or booster; transiting comet, asteroid, meteor swarm, planetary or satellite ring, or other astrophysical body to ensure absence of human interference to that body's or phenomenon's free and unencumbered passage through that Government's spatial jurisdiction. b. control and operation of space communications booster, relay, and terminal stations and their supporting research, development, manufacturing, and logistics systems and technologies. The intent of this delineation is standardized and economically operated and serviced conventional and hyperspace communications systems throughout the Solar System and in interstellar space. c. traffic control, flight safety, and management of UIPS and INOR approved inter-regional, interplanetary, inter-satellite and other space-ways. Acceptance of responsibilities shall not exceed the Party's existing technologies, resources and capabilities.

ARTICLE SIX

We commit our Governments to accept financial, fiduciary, material and technological assessments for our utilization of the common space-ways. We agree that these assessments are for the purpose of defraying the expenditures of any one Government toward maintaining and upgrading those common space and

traffic management systems that fall within their borders, or other mutually agreed upon jurisdictions, and for performing such services for the common good as: a. removal of hazards to innocent passage; b. traffic control; c. search and rescue; d. acquisition, deployment, operation and servicing of communications and navigational aids; e. construction, operation and maintenance of space and surface ports of entry and departure for the common use of all spacecraft; f. trained, equipped and ready investigation teams to assist Governments of Primary Concern in determining the facts of "incidents-in-space" which occur in proximate international areas, and g. emergency logistical support capabilities for performing urgent essential repairs to damaged spacecraft of other Nations in peaceful transit. Such repairs shall be to internationally accepted standards that will permit the craft to continue its flight to a location designated by the Government having legal ownership, or authority to repair or dispose of the spacecraft. h. We agree that spacecraft, spacecraft parts, otherwise man-made artificial bodies and parts thereof, wreckage, and human-generated excess materials and human waste, will NOT be discarded or abandoned in space. Derelicts and unattached parts thereof, rubbish, waste matter, and all man-made objects in space are considered to be hazards to traffic or are pollutants. They will be collected or tagged with an active signal and towed or transported to where they will not be a hazard to traffic or pollute the space environment. The Government of the nearest surface or colony habitat will be notified immediately and institute actions for the objects' reduction to harmless residue or its temporary or permanent removal to a safe location.

ARTICLE SEVEN

We announce the formation of an international apparatus, with representation from all Governments, to assemble within three Solar Standard months from the date affixed hereto. The primary purpose of this Assembly is to facilitate implementation of this Declaration. They shall also create and ensure support for an interplanetary citizen's volunteer group to review and resolve complaints and suggestions from the populace that may lead to recommendations toward improvements to this Declaration that will: a. promote the free and unencumbered passage of vessels, people and commerce between and among the Nations of the Solar System; b. encourage cultural, economic, and scientific research, and exchanges of scholars, students, and information for the benefit and betterment of humankind; c. enhance the understanding of all peoples regarding the positive values which have evolved over the millennia since the beginning of the Great Migration from Planet Earth, and, d. organize and begin the planning for humankind's exploration and migration into the Interstellar Realm.

ARTICLE EIGHT

We declare and affirm we act in concert with the spirit and letter of this Declaration of Principles in the interests of international cooperation, interplanetary peace and security, mutual understanding among our far-flung peoples, and the survival of our species.

ARTICLE NINE

We encourage all Parties to expand on these accords through their initiatives and agreements for mutual benefits to themselves and to all Governments and peoples in the peaceful use of space.

The References ASTROLAW. Carrying Human Rights into Outer Space.
George S. Robinson, The Futurist, May-June 1990.

BIOSPHERE. A New Consciousness for a New Century. Jeremy Rifkin, 1991, Crown Publishers.

(How industrialized nations exploit the sea beds of the world for industrial

minerals, especially as land-based minerals are depleted.)

COSMIC WORMHOLES. The Search for Interstellar Shortcuts. Paul Halpern, 1992, Dutton, Penguin Group, New York, NY.

MINING THE SKY. Untold Riches from the Asteroids, Comets, and Planets. John S. Lewis, 1997, Helix Books, Addison-Wesley, Reading, MA. (Foreseeable technologies may reveal huge quantities of raw materials from space.)

MONITORING AND CONTROLLING DEBRIS IN SPACE.

Nicholas Johnson. August, 1998, Scientific American.

OPENING THE DOOR ON TIME MACHINES. Caltech physicist Kip Thorne explores the limits of Einstein's theory of gravity, where spunnels -- or tunnels through space -- lurk. (K. C. Cole, Times Science Writer, The Los Angeles Times, February 13, 1998.)

RE-EXAMINING OUR CONSTITUTIONAL HERITAGE.

A Declaration of First Principles for the Governance of Outer Space Societies. (An Essay by George S. Robinson, 1989, High Technology Law Journal, School of Law, University of California, Berkeley.)

RESOLUTION ADOPTED BY THIRD UNITED NATIONS

CONFERENCE ON THE EXPLORATION AND

THE PEACEFUL USES OF OUTER SPACE.

The Space Millennium: Vienna Declaration on Space and Human Development.

<http://www.oosa.unvienna.org/unisp-3/> or

<http://nuclearfree.lynx.co.nz/canadatreaty.htm>

THE LIMITS TO GROWTH. A Report to the Club of Rome (Depletion of the world's non-renewable natural resources). <http://dieoff.com/page25.htm> CHINA PLANS

MOON LANDING, October 5, 2000, by Charles Hutzler, Associated Press.

QUANTUM TELEPORTATION, Anton Zeilinger, Scientific American, April 2000.

(Abstract:

The "spooky action at a distance" of quantum mechanics makes possible the science-fiction dream of teleportation -- a way to make objects disappear from one place and reappear at another.

It has already been demonstrated with photons.)

QUANTUM TELEPORTATION, an IBM Research article.

<http://www.research.ibm.com/quantuminfo/teleportation/>

TERRITORIAL SEA AND CONTIGUOUS ZONE, Part Two, United Nations Law of the Sea Convention. <http://www.un.org/depts/los/index.htm> (Precedents.)

THE CLASH OF CIVILIZATIONS AND THE REMAKING

OF WORLD ORDER. Samuel P. Huntington, 1996, Simon & Shuster, New York, NY.

THE MILLENNIAL PROJECT. Colonizing the Galaxy in Eight Easy Steps. Marshall T. Savage, 1994, Little, Brown & Company, New York, NY.

PRESIDENTIAL SPEECH. Vision for Space Exploration.

<http://www.whitehouse.gov/news/releases/2004/01/print/20040114-3.html>

Words With(Out) Diacritics These two words were stripped of their diacritical marks for wider compatibility: *communiqué* *melange*

Creative Commons License

This work is under a Creative Commons License.

You are free: to copy, distribute, and display the work under the following conditions:

-- By attribution. You must attribute the work in the manner specified by the author or licensor.

-- Noncommercial. You may not use this work for commercial purposes.
-- No Derivative Works. You may not alter the text, transform, or build upon this work.
-- For any re-use or distribution, you must make clear to others the license terms of this work.
-- Any of these conditions can be waived if you get permission from the copyright holder.
-- Your fair use and other rights are in no way affected by the above. about "zen markup language" this document was prepared in z.m.l. format -- "zen markup language", or "zero markup language". z.m.l. leverages plain-text conventions as "markup" which -- when shown with a z.m.l. viewer-program -- displays as a very-nicely-formatted e-book with many powerful features and capabilities for readers. load this file in a z.m.l. viewer and it springs to life, from an ugly ascii duck to a beautiful e-book swan.

END OF THE PROJECT GUTENBERG EBOOK THE UNIVERSE -- OR NOTHING

***** This file should be named 18257.txt or 18257.zip *****

This and all associated files of various formats will be found in:

<http://www.gutenberg.org/dirs/1/8/2/5/18257>

Updated editions will replace the previous one--the old editions will be renamed.

Creating the works from public domain print editions means that no one owns a United States copyright in these works, so the Foundation (and you!) can copy and distribute it in the United States without permission and without paying copyright royalties. Special rules, set forth in the General Terms of Use part of this license, apply to copying and distributing Project Gutenberg-tm electronic works to protect the PROJECT GUTENBERG-tm concept and trademark. Project Gutenberg is a registered trademark, and may not be used if you charge for the eBooks, unless you receive specific permission. If you do not charge anything for copies of this eBook, complying with the rules is very easy. You may use this eBook for nearly any purpose such as creation of derivative works, reports, performances and research. They may be modified and printed and given away--you may do practically ANYTHING with public domain eBooks. Redistribution is subject to the trademark license, especially commercial redistribution.

*** START: FULL LICENSE ***

THE FULL PROJECT GUTENBERG LICENSE

PLEASE READ THIS BEFORE YOU DISTRIBUTE OR USE THIS WORK

To protect the Project Gutenberg-tm mission of promoting the free distribution of electronic works, by using or distributing this work (or any other work associated in any way with the phrase "Project Gutenberg"), you agree to comply with all the terms of the Full Project Gutenberg-tm License (available with this file or online at <http://www.gutenberg.org/license>).

Section 1. General Terms of Use and Redistributing Project Gutenberg-tm electronic works

1.A. By reading or using any part of this Project Gutenberg-tm electronic work, you indicate that you have read, understand, agree to and accept all the terms of this license and intellectual property (trademark/copyright) agreement. If you do not agree to abide by all the terms of this agreement, you must cease using and return or destroy all copies of Project Gutenberg-tm electronic works in your possession.

If you paid a fee for obtaining a copy of or access to a Project Gutenberg-tm electronic work and you do not agree to be bound by the terms of this agreement, you may obtain a refund from the person or entity to whom you paid the fee as set forth in paragraph 1.E.8.

1.B. "Project Gutenberg" is a registered trademark. It may only be used on or associated in any way with an electronic work by people who agree to be

bound by the terms of this agreement. There are a few things that you can do with most Project Gutenberg-tm electronic works even without complying with the full terms of this agreement. See paragraph 1.C below. There are a lot of things you can do with Project Gutenberg-tm electronic works if you follow the terms of this agreement and help preserve free future access to Project Gutenberg-tm electronic works. See paragraph 1.E below.

1.C. The Project Gutenberg Literary Archive Foundation ("the Foundation" or PGLAF), owns a compilation copyright in the collection of Project Gutenberg-tm electronic works. Nearly all the individual works in the collection are in the public domain in the United States. If an individual work is in the public domain in the United States and you are located in the United States, we do not claim a right to prevent you from copying, distributing, performing, displaying or creating derivative works based on the work as long as all references to Project Gutenberg are removed. Of course, we hope that you will support the Project Gutenberg-tm mission of promoting free access to electronic works by freely sharing Project Gutenberg-tm works in compliance with the terms of this agreement for keeping the Project Gutenberg-tm name associated with the work. You can easily comply with the terms of this agreement by keeping this work in the same format with its attached full Project Gutenberg-tm License when you share it without charge with others. This particular work is one of the few copyrighted individual works included with the permission of the copyright holder. Information on the copyright owner for this particular work and the terms of use imposed by the copyright holder on this work are set forth at the beginning of this work.

1.D. The copyright laws of the place where you are located also govern what you can do with this work. Copyright laws in most countries are in a constant state of change. If you are outside the United States, check the laws of your country in addition to the terms of this agreement before downloading, copying, displaying, performing, distributing or creating derivative works based on this work or any other Project Gutenberg-tm work. The Foundation makes no representations concerning the copyright status of any work in any country outside the United States.

1.E. Unless you have removed all references to Project Gutenberg:

1.E.1. The following sentence, with active links to, or other immediate access to, the full Project Gutenberg-tm License must appear prominently whenever any copy of a Project Gutenberg-tm work (any work on which the phrase "Project Gutenberg" appears, or with which the phrase "Project Gutenberg" is associated) is accessed, displayed, performed, viewed, copied or distributed: This eBook is for the use of anyone anywhere at no cost and with almost no restrictions whatsoever. You may copy it, give it away or re-use it under the terms of the Project Gutenberg License included with this eBook or online at www.gutenberg.org

1.E.2. If an individual Project Gutenberg-tm electronic work is derived from the public domain (does not contain a notice indicating that it is posted with permission of the copyright holder), the work can be copied and distributed to anyone in the United States without paying any fees or charges. If you are redistributing or providing access to a work with the phrase "Project Gutenberg" associated with or appearing on the work, you must comply either with the requirements of paragraphs 1.E.1 through 1.E.7 or obtain permission for the use of the work and the Project Gutenberg-tm trademark as set forth in paragraphs 1.E.8 or

1.E.9.

1.E.3. If an individual Project Gutenberg-tm electronic work is posted with the permission of the copyright holder, your use and distribution must comply with both paragraphs 1.E.1 through 1.E.7 and any additional terms imposed by the copyright holder. Additional terms will be linked to the Project Gutenberg-tm License for all works posted with the permission of the copyright holder found at the beginning of this work.

1.E.4. Do not unlink or detach or remove the full Project Gutenberg-tm License terms from this work, or any files containing a part of this work or any other work associated with Project Gutenberg-tm.

1.E.5. Do not copy, display, perform, distribute or redistribute this electronic work, or any part of this electronic work, without prominently displaying the sentence set forth in paragraph 1.E.1 with active links or immediate access to the full terms of the Project Gutenberg-tm License.

1.E.6. You may convert to and distribute this work in any binary, compressed, marked up, nonproprietary or proprietary form, including any word processing or hypertext form. However, if you provide access to or distribute copies of a Project Gutenberg-tm work in a format other than "Plain Vanilla ASCII" or other format used in the official version posted on the official Project Gutenberg-tm web site (www.gutenberg.org), you must, at no additional cost, fee or expense to the user, provide a copy, a means of exporting a copy, or a means of obtaining a copy upon request, of the work in its original "Plain Vanilla ASCII" or other form. Any alternate format must include the full Project Gutenberg-tm License as specified in paragraph 1.E.1.

1.E.7. Do not charge a fee for access to, viewing, displaying, performing, copying or distributing any Project Gutenberg-tm works unless you comply with paragraph 1.E.8 or 1.E.9.

1.E.8. You may charge a reasonable fee for copies of or providing access to or distributing Project Gutenberg-tm electronic works provided that - You pay a royalty fee of 20% of the gross profits you derive from the use of Project Gutenberg-tm works calculated using the method you already use to calculate your applicable taxes. The fee is owed to the owner of the Project Gutenberg-tm trademark, but he has agreed to donate royalties under this paragraph to the Project Gutenberg Literary Archive Foundation. Royalty payments must be paid within 60 days following each date on which you prepare (or are legally required to prepare) your periodic tax returns. Royalty payments should be clearly marked as such and sent to the Project Gutenberg Literary Archive Foundation at the address specified in Section 4, "Information about donations to the Project Gutenberg Literary Archive Foundation."

- You provide a full refund of any money paid by a user who notifies you in writing (or by e-mail) within 30 days of receipt that s/he does not agree to the terms of the full Project Gutenberg-tm License. You must require such a user to return or destroy all copies of the works possessed in a physical medium and discontinue all use of and all access to other copies of Project Gutenberg-tm works.

- You provide, in accordance with paragraph 1.F.3, a full refund of any money paid for a work or a replacement copy, if a defect in the electronic work is discovered and reported to you within 90 days of receipt of the work.

- You comply with all other terms of this agreement for free distribution of Project Gutenberg-tm works.

1.E.9. If you wish to charge a fee or distribute a Project Gutenberg-tm electronic work or group of works on different terms than are set forth in this agreement, you must obtain permission in writing from both the Project Gutenberg Literary Archive Foundation and Michael Hart, the owner of the Project Gutenberg-tm trademark. Contact the Foundation as set forth in Section 3 below.

1.F.

1.F.1. Project Gutenberg volunteers and employees expend considerable effort to identify, do copyright research on, transcribe and proofread public domain

works in creating the Project Gutenberg-tm collection. Despite these efforts, Project Gutenberg-tm electronic works, and the medium on which they may be stored, may contain

"Defects," such as, but not limited to, incomplete, inaccurate or corrupt data, transcription errors, a copyright or other intellectual property infringement, a defective or damaged disk or other medium, a computer virus, or computer codes that damage or cannot be read by your equipment.

1.F.2. LIMITED WARRANTY, DISCLAIMER OF DAMAGES - Except for the "Right of Replacement or Refund" described in paragraph 1.F.3, the Project Gutenberg Literary Archive Foundation, the owner of the Project Gutenberg-tm trademark, and any other party distributing a Project Gutenberg-tm electronic work under this agreement, disclaim all liability to you for damages, costs and expenses, including legal fees. YOU AGREE THAT YOU HAVE NO REMEDIES FOR NEGLIGENCE, STRICT

LIABILITY, BREACH OF WARRANTY OR BREACH OF CONTRACT EXCEPT THOSE PROVIDED IN PARAGRAPH F3. YOU AGREE THAT THE FOUNDATION, THE TRADEMARK OWNER, AND ANY DISTRIBUTOR UNDER THIS AGREEMENT WILL NOT BE LIABLE TO YOU FOR ACTUAL, DIRECT, INDIRECT, CONSEQUENTIAL, PUNITIVE OR INCIDENTAL DAMAGES EVEN IF YOU GIVE NOTICE OF THE POSSIBILITY OF SUCH DAMAGE.

1.F.3. LIMITED RIGHT OF REPLACEMENT OR REFUND - If you discover a defect in this electronic work within 90 days of receiving it, you can receive a refund of the money (if any) you paid for it by sending a written explanation to the person you received the work from. If you received the work on a physical medium, you must return the medium with your written explanation. The person or entity that provided you with the defective work may elect to provide a replacement copy in lieu of a refund. If you received the work electronically, the person or entity providing it to you may choose to give you a second opportunity to receive the work electronically in lieu of a refund. If the second copy is also defective, you may demand a refund in writing without further opportunities to fix the problem.

1.F.4. Except for the limited right of replacement or refund set forth in paragraph 1.F.3, this work is provided to you 'AS-IS,' WITH NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.

1.F.5. Some states do not allow disclaimers of certain implied warranties or the exclusion or limitation of certain types of damages. If any disclaimer or limitation set forth in this agreement violates the law of the state applicable to this agreement, the agreement shall be interpreted to make the maximum disclaimer or limitation permitted by the applicable state law. The invalidity or unenforceability of any provision of this agreement shall not void the remaining provisions.

1.F.6. INDEMNITY - You agree to indemnify and hold the Foundation, the trademark owner, any agent or employee of the Foundation, anyone providing copies of Project Gutenberg-tm electronic works in accordance with this agreement, and any volunteers associated with the production, promotion and distribution of Project Gutenberg-tm electronic works, harmless from all liability, costs and expenses, including legal fees, that arise directly or indirectly from any of the following which you do or cause to occur: (a) distribution of this or any Project Gutenberg-tm work, (b) alteration, modification, or additions or deletions to any Project Gutenberg-tm work, and (c) any Defect you cause.

Section 2. Information about the Mission of Project Gutenberg-tm

Project Gutenberg-tm is synonymous with the free distribution of electronic works in formats readable by the widest variety of computers including obsolete, old, middle-aged and new computers. It exists because of the

efforts of hundreds of volunteers and donations from people in all walks of life.

Volunteers and financial support to provide volunteers with the assistance they need, is critical to reaching Project Gutenberg-tm's goals and ensuring that the Project Gutenberg-tm collection will remain freely available for generations to come. In 2001, the Project Gutenberg Literary Archive Foundation was created to provide a secure and permanent future for Project Gutenberg-tm and future generations.

To learn more about the Project Gutenberg Literary Archive Foundation and how your efforts and donations can help, see Sections 3 and 4 and the Foundation web page at <http://www.pglaaf.org>.

Section 3. Information about the Project Gutenberg Literary Archive Foundation The Project Gutenberg Literary Archive Foundation is a non profit 501(c)(3) educational corporation organized under the laws of the state of Mississippi and granted tax exempt status by the Internal Revenue Service. The Foundation's EIN or federal tax identification number is 64-6221541. Its 501(c)(3) letter is posted at <http://pglaaf.org/fundraising>. Contributions to the Project Gutenberg Literary Archive Foundation are tax deductible to the full extent permitted by U.S. federal laws and your state's laws.

The Foundation's principal office is located at 4557 Melan Dr. S. Fairbanks, AK, 99712., but its volunteers and employees are scattered throughout numerous locations. Its business office is located at 809 North 1500 West, Salt Lake City, UT 84116, (801) 596-1887, email business@pglaaf.org. Email contact links and up to date contact information can be found at the Foundation's web site and official page at <http://pglaaf.org> For additional contact information:

Dr. Gregory B. Newby Chief Executive and Director gnewby@pglaaf.org Section 4. Information about Donations to the Project Gutenberg Literary Archive Foundation

Project Gutenberg-tm depends upon and cannot survive without wide spread public support and donations to carry out its mission of increasing the number of public domain and licensed works that can be freely distributed in machine readable form accessible by the widest array of equipment including outdated equipment. Many small donations (\$1 to \$5,000) are particularly important to maintaining tax exempt status with the IRS.

The Foundation is committed to complying with the laws regulating charities and charitable donations in all 50 states of the United States. Compliance requirements are not uniform and it takes a considerable effort, much paperwork and many fees to meet and keep up with these requirements. We do not solicit donations in locations where we have not received written confirmation of compliance. To SEND DONATIONS or determine the status of compliance for any particular state visit <http://pglaaf.org> While we cannot and do not solicit contributions from states where we have not met the solicitation requirements, we know of no prohibition against accepting unsolicited donations from donors in such states who approach us with offers to donate.

International donations are gratefully accepted, but we cannot make any statements concerning tax treatment of donations received from outside the United States. U.S. laws alone swamp our small staff.

Please check the Project Gutenberg Web pages for current donation methods and addresses. Donations are accepted in a number of other ways including checks, online payments and credit card donations.

To donate, please visit: <http://pglaaf.org/donate> Section 5. General Information About Project Gutenberg-tm electronic works.

Professor Michael S. Hart is the originator of the Project Gutenberg-tm concept of a library of electronic works that could be freely shared with

anyone. For thirty years, he produced and distributed Project Gutenberg-tm eBooks with only a loose network of volunteer support. Project Gutenberg-tm eBooks are often created from several printed editions, all of which are confirmed as Public Domain in the U.S. unless a copyright notice is included. Thus, we do not necessarily keep eBooks in compliance with any particular paper edition.

Each eBook is in a subdirectory of the same number as the eBook's eBook number, often in several formats including plain vanilla ASCII, compressed (zipped), HTML and others. Corrected EDITIONS of our eBooks replace the old file and take over the old filename and etext number. The replaced older file is renamed. VERSIONS based on separate sources are treated as new eBooks receiving new filenames and etext numbers.

Most people start at our Web site which has the main PG search facility: <http://www.gutenberg.org> This Web site includes information about Project Gutenberg-tm, including how to make donations to the Project Gutenberg Literary Archive Foundation, how to help produce our new eBooks, and how to subscribe to our email newsletter to hear about new eBooks.

EBooks posted prior to November 2003, with eBook numbers BELOW #10000, are filed in directories based on their release date. If you want to download any of these eBooks directly, rather than using the regular search system you may utilize the following addresses and just download by the etext year.

<http://www.ibiblio.org/gutenberg/etext06>

(Or /etext 05, 04, 03, 02, 01, 00, 99, 98, 97, 96, 95, 94, 93, 92, 91 or 90)

EBooks posted since November 2003, with etext numbers OVER #10000, are filed in a different way. The year of a release date is no longer part of the directory path. The path is based on the etext number (which is identical to the filename). The path to the file is made up of single digits corresponding to all but the last digit in the filename. For example an eBook of filename 10234 would be found at: <http://www.gutenberg.org/1/0/2/3/10234> or filename 24689 would be found at: <http://www.gutenberg.org/2/4/6/8/24689>

An alternative method of locating eBooks:

<http://www.gutenberg.org/GUTINDEX.ALL>

*** END: FULL LICENSE ***