

# Icarus Wing

Brent Baccala

for Bruce, who knows  
we learn from failure more  
than from success

*I'll keep this novel about real people  
I'll not get lost in ivory towers  
I'll remember those who do the hard work  
I'll thank them for being so kind to me  
God I pray inspire this work  
Man I remind of its errors  
The Great American Novel it's not  
The Great anti-American one, maybe  
The Great Hawaiian novel, blalah?  
Da kine.*

## Requirements for The Great anti-American Novel

workers must be slack  
crime must pay  
drug use must be promoted  
religion must look like a waste of time  
school must be a bore  
curiosity must kill  
youth must be corrupted  
Christians must seem crazed  
it must be sly  
friendship must be paid for  
heroes must act like bums  
danger must appear innocent  
it must be funny  
long political rants must be interspersed throughout  
authority must be defied  
America must be run by fools  
nobody must have to work  
nobody must play by the rules  
there must be a sex scene  
madness must prevail  
somebody must die  
suicide must be contemplated  
communism must be preached  
some system must run all our lives  
suicide must occur  
some anti-government plot must be hatched  
the media must expose themselves  
treachery must strike  
it must be against democracy  
it must be anti-Semitic  
some sick "freedom" must win in the end

T - 1642 days                      workers must be slack

“*Columbus*, Houston, for EVA.”

Andrea finishing aligning the screwdriver with the bolt and pressed the drive button. She heard no sound but felt the vibration through her gloved hand as she watched the bolt spin down, tighten, and lock. Then she let go of the screwdriver and let it float away on its tether.

She was suspended by the side of an open access panel on the Hubbel Space Telescope, her feet secured in a foot restraint, a \$100,000 bag of one-of-a-kind tools dangling in the vacuum next to her. Screwdrivers that required no torque to turn. A drill with an LCD screen that displayed its force and speed settings. A mass spectrometer the size of a shoebox. Levered clamps custom designed to insert and remove circuit panels of which no more than a dozen had ever been manufactured. Though she floated forty feet over the space shuttle’s open cargo bay, she had no fear of falling. Had she released her feet, she would only have drifted away gently, the slight pressure from her foot pushing her up, away from the shuttle bay, instead of down.

The sun blazed gloriously and bathed her entire side of the shuttle in a dazzling white light, but it would be inaccurate to say that there was not a cloud in the sky. A swirling tropical depression was clearly visible over the South China Sea, extending from Guangzhou to Kyushu, the counterclockwise swirl of its cumulus clouds clear evidence of the “forces” envisioned by Coriolis. Much of Japan’s southern archipelago was obscured by the storm system, but clear skies over Hokkaido and Honshu left the island chain distinct and instantly recognizable.

*Why are most of the great civilizations in colder, temperate climates? Japan, England, the United States, China. Israel is hotter. Christianity, Judaism, even Islam; religion comes from hotter climates.*

Israel. A desert land cut though by springs, wells, and one great river that watered its fields and inundated its history. Narrow winding streets cut through limestone walls of an ancient city. Beachfront condos and gleaming glass skyscrapers of

a modern tech hub. Cool oases on the shore of Lake Galilee. Teenage soldiers toting M16 rifles. Yad Vashem. The Occupied Territories. Olive trees and palm fronds.

*Who's ever grown an olive tree in space?*

What would it take? Needless to say, no living creature, not even a tree, could survive in a vacuum, so it would have to be encased in an aluminium satellite. The sapling could be grown in a hydroponic garden, but even a single full grown olive tree would never fit in the space shuttle, or even the *Mir* space station. A custom satellite, with dozens of specialized devices, would be required, along with a constant resupply of water, carbon dioxide, and plant nutrients without which the tree would die. Direct sunlight, with its bizarre 45 minute day, would hopelessly upset the plant's circadian rhythm. Unless its satellite was positioned in an geosynchronous orbit, the tree would need to be shielded from natural sunlight and instead nurtured, if that were the word, under artificial grow lights. Even when full grown, no man ever would relax from his labors under the shade of its boughs, but would instead retrieve the olives by servicing the satellite, likely garbed in a pressure suit, much as she was now.

Andrea looked again at her surroundings. Any living creature that might have stowed away aboard the Hubble had long since perished in the harsh vacuum of space. Astronomers had no worries of a mouse gnarling its electrical cables, or a gnat foiling its pristine optics. The most careful forensic examination of its surface might reveal the RNA of a cold virus that had slipped unnoticed into the clean room where it was assembled. If this race of man perished in a nuclear holocaust or a deluge from God, the satellite would simply wait for radio instructions that would never come, or perhaps continue to image distant galaxies and quasars according to some pre-programmed command sequence, oblivious to war or revolution, famine or plague, transmitting images to a dead planet into whose atmosphere it would one day spiral and burn. Even the inanimate satellite required a constant resupply of fuel from the planet below.

*What are you doing up here?*

Servicing the Hubble helped develop the tools and techniques needed for men to live in space. Plans were well underway to launch an International Space Station, and its daunting assembly schedule made working on the Hubble look

like assembling an erector set. After the ISS, Mars was the next logical step...

*A cold, lifeless planet...*

Andrea gazed again at the planet beneath her. Japan was rapidly disappearing over the western horizon, replaced by the undulating expanse of the Pacific Ocean. The light blue tinge of the Asian continental shelf quickly gave way to the deep blue of the ocean deep, unbroken except for some wispy cirrus clouds and in one spot, the glare of reflected sunlight.

Yet even here, there was life. *Even here?* Earth's oceans teemed with life! From the great leviathans hunted nearly to extinction for their blubber and oil to the microscopic plankton they filtered through their baleen plates, and the myriad of fish, crustaceans, jellyfish and sea mammals in between.

*Are you talking to anyone about Christ?*

Well, what was the most important thing? Wasn't it preaching the Gospel? Isn't that what her religion taught?

*What are you doing up here?*

*"Columbus, Houston, for EVA."*

Andrea nearly jumped in her suit. Why had she stop working on the ECUs? Had he just called her already? How long had she been just floating here? Pressing a button on front of her spacesuit, she keyed the suit's radio.

*"Houston, Columbus, loud and clear, Kyle."*

*"Andrea, we'd like you to take another attempt at latching the gyro door."*

The gyro door. She had closed it after replacing the gyro assemblies, then Goddard had attempted to latch the door remotely, but the latches hadn't locked. They had moved on to the electrical control units and solar array carriers while ground controllers had studied the problem.

*"We think the temperature changed enough while the door was open to keep it*

from latching. If you and Story each apply some pressure on both ends, we'll try again to latch it."

*The most experienced space shuttle crew ever, and they want us to jam a door shut.*

She looked over at her spacewalk partner, a flight instructor and medical doctor with degrees in mathematics, chemistry, literature, and business administration. He simply shrugged.

Andrea starting mentally sequencing the steps required. The foot restraints were still in place below the gyro door, so she could just pull herself there along a handrail, transferring her safety teathers as she went. On the other hand, Claude would have to adjust the robotic arm to position Story on the other side of the door, so she might as well just hitch a ride with him on Canadarm. She paused and gazed out over the Pacific Ocean. Japan had vanished beyond the western horizon and no land was visible, only ocean and clouds. Soon Hawaii would appear in the east, as the sun sank low into the western sky and the day/night terminator approached at orbital speed.

*So now we're going to jam a door shut.*

*That's why we're the most experienced shuttle crew ever.*



It was a brilliant hack. It topped the one in college, when the net-news server was configured to refuse the student lab. They'd recompiled the server, altered so that after printing ACCESS 5 DENIED the program would accept posts anyway, went in as "root", dropped the raw binary straight to the drive, and used it daily for six months until the system staff updated the whole install. But then they were just kids.

Burns parked in the employee lot, behind the water fountain's dancing white froth display and meter-high "Chesapeake," the k's back cast like a sailboat's mast, and its whole visage that of whitecaps breaking on the bay. Chesapeake Computer Corporation: world's largest router manufacturer, A-list stock darling of the dot-com-ers, high priesthood of the Internet who built sleek metal semaphores humming away on backroom metal racks of ISPs around the world, that same one-word logo emblazoned on the case of every one.

Fashionably bearded, Burns wore dot-com standard: blue jeans, sandals, and a T-shirt emblazoned with the Generalized Stokes Theorem in its most abstract form.

$$\int_{\delta C} w = \int_C dw$$

"You wouldn't understand," the caption read, "it's a MATH 462 thing."

He strolled into the lobby like a favorite son into his father's restaurant, breezed past the rock garden and the potted palms, blew off the break room, its Phillie cream cheese bagels and stocked 'fridge, jogged right at the conference rooms and entered a two-story cave partitioned by a hundred cubicles – his life, ten hours a day the last six months. These steel and fabric walls held Chesapeake's true wealth, the coddled technocrats who built the company's flagship products from caffeine and white-board markers. Wisely management consigned itself across the street.

The key card was real; Burns was totally legit. A roaring economic boom kept restaurants, book stores, golf courses and concert halls jam packed with twenty-

some things who had never flown economy in their lives. Every other car on College Avenue was a Mercedes, or a BMW, or a Land Rover. Chic restaurateurs provided their patrons colored Crayons and blank paper place-mats to brainstorm slick new proprietary server architectures while waiting for twenty dollar lunches. Programmers were hot, and Burns' qualifications made him a genuine find. A white board talk was his job interview; the background check, his resume. He quickly got the run of Chesapeake, concerned far more with the next million-dollar order than deploying any real security against an inside hack.

Today, the cubicles were largely deserted. As he slipped into his, an attractive femme in 'business casual' race-walked past. A product specialist skilled in trade show acronyms, Samantha Pride was always ready to remind 'her' programmers of the obvious. When Burns had quit this job, he would not miss *Big talk today, Burns*, or *Cable's loose, Burns*, or

"System goes down today, Burns!"

He pushed back his chair and watched her tight ass disappear around a corner.

"Wouldn't miss it for judgment day."

The main development computer, scheduled for a hardware upgrade, would be shut down in less than an hour. His e-mails, mostly notes from various employees turning the day's outage into an excuse for a holiday weekend, offered no reason to change plans. He logged out, shouldered his laptop case and headed for the server room.

Back in the nineteen seventies, those halcyon days when spam came in cans and porn sites were on Gay Street, Brian Kernighan, inventor of UNIX, demonstrated that a compiler could covertly alter the programs it compiled, including itself, and who would write a compiler without having a compiler already? A Kernighan virus is particularly effective on closed, heavily customized systems, like those of a router manufacture wanting custom, proprietary software to take advantage of custom, proprietary hardware.

Burns slid his key card through the slotted box. A light turned green; a bolt clicked back; a line printer rattled. Above an elevated floor that covered a halon fire extinguisher system were floor-to-ceiling arrays loaded with switch hubs,

firewalls, RAID arrays, and, in the corner, a massive air conditioner plant to dissipate the heat. A brand new multi-processor system sat, unpowered and silent, while several workers chatted leisurely amongst themselves, including one sporting a shock of red hair.

“Hey, Burns, what’s up?”

’Red’ Rimdew specialized in diving into stalled projects and finishing them by pounding out code. Burns, really more a designer than a programmer, respected Red for his staying power with the boring tedium that the finicky machines imposed on their masters. Yet today no deadlines loomed...

“Want to hit the bay?”

An afternoon of sailing on Red’s thirty-six-foot Catalan was an enticing idea, but Burns thought first of the weeks spent designing and writing his laptop’s “screen saver”; the hours spent drilling dozens of variants on a thirty-second procedure; the flowcharted contingency plans on an encrypted hard drive; his roommate waiting at the apartment with a network link and two phone lines.

“No, thanks. I gotta get this done.”

He crossed to the other side of the room, where he was working on a tricky install in one of the test machines. Somehow, he just couldn’t seem to get the settings right. Once set up, he emailed his roommate, *How about lunch? Sounds fine*, came Mercuriou’s reply.

Forty five minutes later, with the main system shut down and two of the three techs out of the room, Burns sent another email, *Let’s try Bogart’s*. Back in the apartment, Mercuriou skimmed down a list of local restaurants and the names they translated into, then picked up the phone. A minute later, the third tech was called out to answer a phone call. Burns had contemplated taking a shot of J.D. that morning to steal himself for this moment, but decided that he had to be absolutely sober in case *anything* went wrong.

He dashed across the room as the door closed. It was one of the scenarios he had drilled for. He connected two cables, hit a three-key sequence on the laptop, and ventured a glance at the door. Nobody. The laptop beeped. He disconnected

both cables and dashed back across the room. It would become one of the world's most infamous hacks. It had taken less than 15 seconds.

*Forget Bogart's; let's hit Vacarro's!* he emailed Mercuriou, floated back out to the parking lot, tossed the laptop in the back seat, fired up a sneak-a-toke, cranked the tunes and floored the rag-top all the way home.

“The routers run the network; hell the routers *are* the network. You control the routers, you control the network. You’re God. I’m telling you, this thing’s like super-hack.”

“Burns.”

From his perch on the couch, Mercuriou nodded in assent. In his early thirties and an inch under six feet, he was indifferently clad. What differentiated him more was his refusal to allow a television into the apartment; an hour each day, timed on a stopwatch, devoted to reading Latin; a framed letter of rejection from the University of Chicago. Vic Antonov, waiting in the kitchen for the teakettle to boil, was nearly ten years older, heavy set with a bristling mustache that often covered a mischievous smile.

“So what’s the point? Why?”

“We’re going to Mars.”

Vic furled his brows and looked at him like he had just claimed to have discovered extraterrestrial life. Mercuriou stared back impassively, his heart racing. No, he was serious. Walking into the living room, Vic had to return to the kitchen for teabags, as the mugs contained nothing but hot water.

“Burns’ got a plan, and I think it’ll work. Spaceflight is perfectly doable; that’s been demonstrated over and over for fifty years. The problem is money; the problem is always money! You can’t fly without money, you can’t ride without money; no money means no electricity, no house, no food; now they sell bottled water ’cause half the planet can’t drink the crap that comes out of the tap, and a dollar on number seven won’t get you to number eight!”

He produced a pack of fifty-dollar bills and fanned them on the table.

“Well, now we’ve got money.”

Vic stood in the doorway holding something forgotten.

“Let’s just say that there are some Keno systems out there that are no longer completely random.”

“Marc, this isn’t like you, you’re not a thief.”

“Well, maybe I’ve changed.”

Vic looked straight into his eyes. He had changed, as all men do. Yet now he switched his tone of voice to that of a teenager stammering to explain a 2 A.M. party to his parents.

“I’m going to Mars, Vic! I need the money!”

Vic sighed, handed one of the mugs to his young friend and sat down.

“They’re gonna catch me, Vic. It’s just a matter of time. I’m into too much cash! I gotta be gone... like *really* gone!”

“Mars, huh... Did you steal the money to go or are you going because you stole the money?”

Mercuriou didn’t answer. Couldn’t answer.

“Why are you doing this, Marc? What’s it all about... really?”

Finally, they went for a walk, out into the high summer of the New Mexico mountains, hot and dry, a day that made Mercuriou wish for a convertible, a surf board, and the PCH before Southern California had turned into a giant game of Sim City. They were at the end of a long driveway that wound between a fifty-foot cliff rising to the left and a dry riverbed on the right. He paused and inhaled deeply, saving the aroma of desert flora.

Vic lead him down a dirt path through the scrub to the door of a second trailer some distance away. It looked much like the first one, except that all of the window curtains were drawn. Closer inspection revealed that white drywall backed the curtains, making it impossible to see in or out. Vic unlocked a padlock and

led the way in.

An overwhelming smell hit Mercuriou – skunk. Inside, the trailer had been stripped of its original furniture and fixtures. The main room, some thirty feet long, was lined on both sides with plastic tubs raised about a foot off the floor. Inside the tubs were perhaps a hundred potted cannabis plants, each sporting a bushy top of their distinctively branching five-part leaves. Two rows of grow lights hung down from the ceiling on chain links that could be adjusted in length as the plants grew upward. A child’s toy pool half full of liquid fertilizer ran off the same timer as the lights and also caught the runoff as the liquid percolated back down from the plants. An air conditioner hummed in the window, and a dehumidifier discharged into the pool the water it condensed from the air. Another hour of small talk found them back out in front of the cars, intoxicated with a full-body high that they were just beginning to experience.

“I’ll play their money game... I’ll get out there and ‘hustle’, I’ll ‘compete’, I’ll rip and claw my way to the top, and when I get there, I’ll turn around and ram their global capitalist system right back down their throats.”

“How often do you pray, Marc?”

“Right now, my only prayer is that Burns can get us into orbit!”

“I need some time to think about this.”

Mercuriou nodded and left. Vic stood standing in the shade, watching the driveway down which the car had disappeared. The dust settled, and nothing disturbed the scene except the buzzing of dragonflies.

“This will require a vision quest.”

The entire eastern sky was lit a brilliant red hue, as if a pane of clear red glass had been slipped in behind the mountains and lit from below. Eyes closed, wrapped in a light Indian blanket, Vic awaited the dawn. A bright yellow light pierced out from a gap in the mountains and began to widen into the orb of the sun. Though conscious of the light, Vic put off opening his eyes.

One of his favorite prayer spots, the desert canyon looked like a giant had slashed through the brown hills with a knife and the desert had bled a river. Pristine granite boulders blanketed the slopes fifty feet on either side of the water. Cactus and scrub brush covered the surrounding land. Amid patches of sandy beach, swirling pools and murmuring cascades were two-foot diameter logs wedged between boulders twenty feet above the water line, mute witnesses to the tropical cyclones that, two or three times a century, settled over the canyon and filled the arroyo with the raging waters that had carved it out over the ages. The water was drinkable, and a gentle breeze often discouraged insects. There were flat rocks to lie out on in the sun, and shady crevices to evade the heat during the peak of the day, not to mention ample bathing spots in the cool river.

Vic had put this off for weeks, inventing one excuse after another why he couldn't do it just yet. He had to let his clients know he'd be gone for several days. He had to find someone to take care of the cat. There was something on TV he wanted to see. The moon wasn't the right phase. He wanted to finish the book he was reading. It was already too late today. It was still pretty early, he could putter around for another hour or so before leaving.

The truth was, though Vic had decided to undertake a vision quest, and knew intellectually that this was the course he wanted to follow, neither was he looking forward to it. Days of silence and solitude. He had done this before, and knew what he was getting into.

He opened his eyes, turned around and looked east. The sun was the distance of a man's fist over the horizon. The doctor rearranged his blanket so he could contemplate its orb, then spread his arms apart and closed his eyes again, basking



in the gentle warmth of a new born day. *Another day among days. Uncountable as our breaths of air*

*Marc Mercuriou wants to fly to Mars.* Vic turned the thought over in his mind for the hundredth-odd time. He drifted back over the years, the college parties, the mathematical discussions and philosophical debates, the night Burns drove home on three hits of acid, the program, the lawsuit, the expulsion. His head snapped back up. Had he been sleeping? He wasn't sure. The sun hadn't moved, or had it? Perhaps it was infinitesimally higher in the sky.

*Marc Mercuriou's flying to Mars.* Vic laughed out loud, softly. What really were the chances? Yet Burns was involved, so who could say? A pair to draw to, those two were. And they say they've got some kind of super-hack, no, that he could believe. If Burns wrote it, they probably did control half of the Internet. Burns had always led the mathematical discussions, and rarely participated in the philosophical debates.

The sun crept higher and the desert began to heat. Vic unfurled himself from his blanket and spread it out as a ground cloth. He thought of all the stuff he could be *accomplishing* right now. He needed to transplant those seedlings, and take more cuttings. The fence along the riverbed still needed to be repaired after the storm. He could be making lasagna for lunch, ahhh, lasagna, he could go back now and at least have it for dinner. Drive into town for the noodles, tomatoes from the garden, cheese, he had Ricotta but needed Parmesan.

Vic physically shook himself. *What are your priorities?* Is it the perfect baked lasagna or discerning the Great Spirit? *Some people go through life for the lasagna.*

Had the sun moved? He wasn't sure. *We waste so much time*, he almost cried. Of course, after a while, you know that you'd be filling the hours with all the *distractions* - television, food, drugs, games, books, sex, talking, walking, driving, cleaning. Out here, alone, you realize that this is what you waste seven times a week, and then we die.

Vic stood up and stretched. The strict Indian vision quest required not only fasting and sleep deprivation, but was also done naked and confined to an area no bigger than a patio. Of course, the strict Benedictine monk arose at three in

the morning to pray, and the strict Buddhist drank no water after sunset. Vic fasted and prayed, but was clothed and allowed himself a somewhat wider leash. He climbed down to the water, hopping from boulder to boulder, then striped naked and bathed. The stream was still cool, and the morning breeze imparted a definite chill that turned it downright cold, but in this place, the rushing arroyo was a luxury that Vic indulged. He plunged his head under a ten-foot waterfall and whooped out loud, then stretched out and floated on his back in the pool at the waterfall's base. Emerging from the stream after a time, he laid naked on one of the boulders, waiting for his skin to dry.

*If you go, you might never come back*, his own voice practically spoke in his head. *Well, no*, he answered, *one day I won't come back*. One day he might be driving down the highway, or walking to the store, and in the next moment meet the Great Spirit. Maybe he would pick the day and time himself, Lord knew he had contemplated it enough. Might he go like some of his patients, lingering, faltering, fighting death every step of the way? *Just not like my father*, please God, *not like my father*, not witless and lost in his own home, surrounded by the family he couldn't tell from strangers.

*We're all going to die. It's how we live that defines us.*

The sun was now halfway to its zenith. Slowly, Vic dressed, then returned to his blanket. Perhaps later he would indulge in another bath. Hunger was present, but by the third day it manifested itself more as fantasy than as any physical need. A piña colada. That's what he wanted – a piña colada, made fresh from coconuts and pineapples, pureed in a blender with only a flavoring of rum.

*Mars! He can't be serious*. Yet he was. Vic had known Mercuriou too long to suppose that he was joking, too well to suspect that he was incompetent, and too dear to consider that he was insane.

Or not. Their encounter had been shocking. How much he had changed! They were like children who had grown up in a nursery, with cartoon wallpaper and colorful mobiles, and only occasional flickers of a distant fire glimpsed through the window. *Men with guns on a cruise ship. An angry speech in a foreign tongue. Soldiers patrolling a street. Protest marchers burning a flag.*

Then they emerged from the nursery to find the house engulfed in flames, and no

way out. Many gave themselves to the fire, toyed with the fire, learned to play with the fire; many assumed that houses were meant to burn, as they were made of wood. Some had cowered in the basement, or taken refuge in the game room. Some tried to fight the fire. Some jumped.

*Where'd you hide, Vic? The smoking parlor? While your best friends became thieves?*

Without moving, Vic looked to where an iguana had just scampered across one of the boulders and darted into a crevice. Life! The great mystery! All around him, the plants, the animals, the birds in the sky, the algae on the rocks along the riverbed, all alive! All part of some greater consciousness! What would an iguana know of Mars? Yet both were here, the iguana and the red planet, somewhere there in the sky. *We know as much about life as the iguana knows about Mars.*

Was it noon yet? He wasn't sure. He certainly hadn't brought a watch. No, the morning sun still faltered the zenith.

*What else am I going to do? Take my stolen millions and retire on a beach?*

It was hopeless to talk him out of it. Maybe before, when Vic hadn't been there...

*What else am I going to do? Live in a trailer and grow pot in the mountains?*

Vic's own life certainly hadn't turned out the way he'd expected it.

*I wanted to be a doctor!*

*Did the fish want to live in water? Did the cow want to be a steak?*

Once in his life he had been in a slaughterhouse. Hundreds of cattle passing through a chute to be stunned and butchered, an assembly-line of death. *We don't always get to be what we want.*

What did he want? Did it come down to that? Maybe it wasn't about the Great Spirit after all, maybe it was about Victor Antonov...

*Heresy! Heresy! We don't choice for ourselves; we must DO THE WILL OF GOD!*

He awoke with a start. The sun was visibly into the western sky. How long had he slept? At first he felt rage at himself for sleeping, then disappointment, then resignation. *I'm sorry, father, he prayed, I'm not a kid anymore.* He lay back down on the blanket and slept.

The sun was deep in the sky when he woke. He sat and watched it slip down behind the mountains, until shade came to the arroyo, then watched the light retreat up the slopes until only the summits were in direct sun.

*If I were up there, I could still see the sun.*

Finally the sunlight was gone, leaving only a blue sky that deepened into purple, then black. Crickets and frogs trumpeted the arrival of night. A rattlesnake slithered silently across the still warm sand. Here, away from the city lights, stars began to emerge, first a dozen, then uncountable thousands.

*The stars!* Could there be life out there, too? How could there not be, in such vast reaches? Was the Great Spirit only for this world? Was there a different Great Spirit for every world, every sun? And the Greatest Spirit that transcended all?

*Who knows? This is dogma.*

Dogma. The bastard son of religion raped by logic. The pseudo-science of devising laws that govern a game we do not understand. For all the paucity of science, at least the physicists demanded that their equations predict something real.

*Space.* Vic gazed up at the sky. Blackness filled with light. Thousands of tiny blazing suns, subtly hued and interspersed with dim nebulae. Orion loomed overhead. Nor was the sky still. Not only did the stars shift through the night, but the lights of airplanes high above passed slowly through the constellations and the occasional unannounced meteor would flash past in a fraction of a second. A satellite transited overhead, still illuminated by the sun.

*So what now?* Vic didn't expect a booming voice from the heavens, or a dramatic vision, though such things had been known to happen to others. At best, these quests ended in a quiet determination, a clarification of purpose, a sense of a direction forward. At worst, a torrent of tears, disillusionment, and doubt that only time, prayer, and more vision quests could peer through.

*It's how we live that defines us.* How was he going to live? Growing pot in the mountains? Twenty years in the big house with Mercuriou? Blown to bits in some goof-ball launch attempt?

*What if it works?* It was almost impossible. How could something this *crazy* actually work? *Crazy.* Yes, *crazy.* Maybe he was ready for something crazy! He grinned, closed his eyes and tried to empty his mind, tried to open himself to the Great Spirit.

*I'm sick of being sane!* Vic practically leapt to his feet at the thought. Why be sane? Why not do something *crazy*? What's the worst that could happen - death? No, jail would be a fate worse than death. Death he could handle. Death meant meeting the Great Spirit.

Vic chuckled, this time aloud. *Look at yourself. A trailer full of marijuana plants and you're worried about jail?* Well, uh, yes, actually, he was. *Ahh, to hell with it.*

If he went with Mercuriou, it might be a long, long time before he returned to this place. *Or ever.* He looked around - the rushing water in the arroyo could now be heard but no longer seen. Dim outlines of rocks and scrub bush surrounded him. This land was beautiful. Did he really want to part with it? Locked in an air-conditioned tube for who knows how long? *Some people go through life for the lasagna.*

Orion had crept into the western sky. To the south, a jet airplane crossed to the east. Vic cast his mind to it. Most of the passengers would be asleep, or trying to catch what sleep they could in the jet-lag abbreviated night. In a dimly lit cockpit, the pilots guided the plane along an airway, marked by radio beacons and GPS coordinates, colorful radar displays and video simulations of the antique instruments that Earhart and Lindbergh had relied upon. Would they peer down into the darkness below? Would they wonder if anyone was looking back up?

Once, long ago, a monk had prayed for guidance. An angel appeared in a vision to say that God's will was to serve men and in serving them, to reconcile them to him. Serve men? The monk was incredulous. Three times the angel repeated the command, then disappeared.

Serve men? Serve Marc? Did Marc need him? *Oh my God, yes.* He's a thief! He's lost his entire moral compass! *If this thing works...*

He was a trial judge. The murder defendant had been convicted by the jury, but Vic wasn't convinced. He wrestled with his conscience. Dare he overturn the verdict? Dare he let an innocent man die? In the courtroom, spectators laughed, ate, talked on their cell phones. Angry, Vic called for order, pounded on his gavel. Didn't they understand that the issue was life or death? He struggled to deliver the verdict, started, stammered, started again, and then the prosecutor spoke. There was new evidence. The defendant was innocent. The charges were dropped.

Vic awoke. Was there light? Yes, the eastern sky was beginning to brighten and he could just make out the ridge line of the mountains. What did the dream mean? That he was off the hook? That he had made the right decision? Do they mean anything? He lay on the cool earth, wrapped in his blanket, watching the stars fade out above. *Sometimes the searching can get in the way of the finding.*

Another day had past, another had come, and the cycle of life continued. He would not fear death; he would not fear jail. Nor would he keep living in a house trailer, puttering back and forth to his hydroponic garden. He stood up and stretched, then sat still until it was light enough to see, though not yet dawn. Slowly he rolled his blanket, then started down the trail as the sun peaked over a ridge line. Halfway to the car, he looked back toward the arroyo, regretting that he had forgotten to bathe.

“Approximation lies at the heart of physics. We don’t use Einstein’s theory of relativity to design a skyscraper, because it’s irrelevant. The distances and speeds relevant to designing even the largest buildings on Earth produce relativistic effects so minute that including them in the design calculations would only complicate the equations unnecessarily. On the other hand, relativistic effects must be accounted for when designing GPS satellites, because the time measurements required to determine the distance to a GPS satellite are on the order of nanoseconds, while relativistic effects cause the clocks on the satellites to run faster by about fifty microseconds per day. Now, what’s bigger, a nanosecond or a microsecond?”

An awkward pause followed, as Andrea waited for a response from her third period A.P. Physics class. She continued to wait, knowing that although the class had not yet studied relativity, they had completed a section on SI units and should be able to answer the question. She began silently counting to ten, and a fifteen-year-old junior, one of the youngest students in the class, raised his hand and answered as her internal count reached six.

“A microsecond is a thousand nanoseconds, right?”

“Right. So the relativistic effects caused by Earth’s gravity introduce an error of about fifty thousand nanoseconds every day in the satellite clocks, while the speed of light is about three meters per nanosecond. The GPS system works by using timing to measure distance, so if you’re off by a thousand nanoseconds, that’s going to introduce an error of about three kilometers, and that’s not acceptable.”

Andrea reinforced her point by picking up a dry erase marker and writing on the whiteboard that dominated the front of her high school classroom. She first wrote the speed of light, in meters per nanosecond, then multiplied it by a thousand nanoseconds and obtained three kilometers.

“Engineers call this a back-of-the-envelope calculation. It’s a real simple cal-

calculation that couldn't be used to actually design a GPS satellite, but it shows you that if you want to obtain sub-kilometer resolution, you need to take general relativity into account."

"A big part of mastering physics is to develop an intuitive sense of when you can approximate and when you can't, and to make these kind of simple calculations to guide you in that assessment. Even the simplest problems would be unsolvably complex if we tried to take every known physical phenomenon into account."

She picked up a block of wood from her desk and exhibited it before the class. They had spent the last month analyzing and measuring simple machines constructed from blocks, rope, and pulleys.

"We've been studying the motion of these wooden blocks while completely ignoring their internal structure. Analyzing all of the atoms and molecules in this block of wood would be a hopeless task! Instead, we ignore its atomic structure, its chemical composition, the biological structure of its cells, its electrical and magnetic properties, how it deforms under stress, all of it! We know that if we exert enough force on this block, it will break into pieces. We know that if we heat it hot enough, it will burst into flames. We're guided not so much by equations and calculations, but rather by an intuitive sense that for the purpose of these block-and-pulley problems, none of that stuff matters."

"This is called the 'Rigid Body' approximation, that these blocks maintain an exact shape that never changes no matter what kind of forces we subject them to. In reality, there are no rigid bodies, any more than there are frictionless tables or massless pulleys. All actual materials, even the hardest diamonds and the strongest metals, deform somewhat under even the slightest force."

"Rigid body motion is very simple. A rigid body can translate and it can rotate. That's it. Its state is completely specified by its position and its orientation."

"So far, we've been using free body diagrams and Newton's second law to analyze the translational motion of a rigid body. Now we're going to perform a very similar analysis for rotational motion."

Andrea walked back to her desk, where she had assembled two simple machines before class. Each consisted of a pair of steel weights, a large one and a smaller



one, tied onto opposite ends of a rope which was looped over a wheel, the axis of which was mounted on a wooden frame. The two machine were identical except for the wheels – one was made of plastic and the other of steel.

Andrea took hold of the smaller steel weight on the machine with the plastic wheel, pulled it down towards the floor, then released it. The larger weight on the other end of the rope caused the wheel to turn, pulling the smaller weight upward faster and faster, until the large weight hit the floor.

“This is called an Atwood machine. Its behavior can be well understood using the rigid body approximation, but not without taking the rotational motion of the wheel into account. The net force on the wheel is zero, so its center of mass doesn’t move, yet it does rotate.”

Andrea now performed the same demonstration on the other machine. The weights moved much slower, taking a full ten seconds before the large weight hit the floor.

“What’s the difference between the two machines?”

This time, she didn’t even have to start counting. A girl in the front row answered immediately.

“The one wheel is heavier than the other.”

“Right! So we can’t just ignore the wheel! Its properties are critical to understanding the machine, but we need something other than  $F$  equals  $m a$ .”

Next, Andrea wrote two equations on the board:

$$F = ma \quad T = I\alpha$$

“In a rotational analysis, the analog of force is torque, mass becomes moment of inertia, and linear acceleration is replaced by angular acceleration. We also want to know the axis of rotation; this is an additional issue that we didn’t have to consider in a translational analysis. For the Atwood machine, the axis of rotation is obvious, but that isn’t always the case.”

Andrea drew a free body diagram on the board: a circle representing the wheel, two arrows pointing straight down from the sides showing the pull of the weights on the rope, an arrow pointing straight down from the center of the circle indicated how gravity pulled down on the wheel, and a fourth arrow, right next to the third one, pointed straight up at the center of the circle and represented the reactive force of the axle.

Andrea spent the next fifteen minutes analyzing the motion of the Atwood machine. First, she balanced the forces and demonstrated that the net force on the wheel was indeed zero, so that it's center of mass did not move. Next, she showed the class how to compute torque by multiplying the magnitude of each force vector by its distance from the center of the wheel and the sine of the angle it made with a line from the center of the wheel. Then she introduced the concept of moment of inertia and discussed how to approximate it in the case of the wheel using only basic calculus concepts. Finally, she combined all of her calculations together to compute the wheel's angular acceleration and the time required for the weight to hit the ground, only to discover that she had dropped a two somewhere and had calculated a time twice the measured value. Just before the bell rang, she told the class that there was a slight mistake somewhere in her algebra, gave them the correct answer, and dismissed them.

After waiting for the halls to clear of teenagers, she walked down to the nearly deserted cafeteria and grabbed an early lunch from the school's in-house Subway – a six-inch turkey sub with a bag of Fritos and a Coke. Then she walked back to her classroom and set about grading first period's collected homeworks.

*I do talk about Christ... sometimes.*

Have you sold your worldly possessions? Given the money to the poor?

Andrea leaned back in her chair. I can't heal the sick or raise the dead. I'm not even a doctor, like Story. I'm an engineer. All I can do is teach AP Physics.

Anyway, didn't the church preach the Gospel?

Well, no, not really. They did, to an extent. They talk about Jesus, and the Bible does get read in church every Sunday, but they managed their churches like corporations. Budget meetings, profit and loss statements, the minister's salary;

it didn't look anything like Acts 2. *No one claiming anything for themselves, they held all their possessions in common.*

Our churches don't look anything like that today.

So, actually, no, the church didn't really preach the Gospel. More precisely, it preached half the Gospel, and practiced half the Gospel. *The Laodecian Church.* In the Book of Revelation, the church in Laodecia was judged by God for its lukewarm ministry and condemned to be spit out of his mouth like a glass of tepid water.

Andrea got down on her knees, right there in her classroom, and bowed her head to the floor. *I don't know how to obey you, Lord, she nearly cried, please show me what to do.*

After a minute, she got back up. Well, what should I do? *Sell your worldly possessions and give to the poor.* Then what? I need the car to get to school.

Andrea finished off her work day with a pair of Algebra I classes that may have bored her more than her students, but they came with the job. In the first class, she handed out a worksheet, then walked around the room observing the students' work, clarifying for two boys that factors, but not terms, can be cancelled in a rational function. Realizing that other students might be having the same problem, she started the second class with a short lecture on cancellation before moving on to the worksheet.

*At least I was able to help some of them with their math.*

After driving home from work, she put on some linguine to boil, then called her mom at home in Iowa. She briefly shared her frustration with school, but spent more time listening to her mother's frustration with a flight of concrete steps that eroded badly after every rain, her concern that the septic system was now forty years old, and her uncertainty over how much longer she would be able to drive. After the phone call, she ate dinner, finished grading first period's homework, then began planning the next day's classes.

In 1998, John Pople became the first man in history to win a Nobel Prize for writing a computer program. It was called *Gaussian*, and it numerically simulated Schrödinger's equation, the crucial formula for explaining the complex interactions that formed atoms and molecules. *Gaussian*, and programs like it, made it possible to analyze atomic structures in much the same way as numerical simulations of Newton's equations made possible the analysis of planetary movement in solar systems. For hundreds of years, scientists had sought the master formulas of a purely mathematical Theory Of Everything. Like two teams drilling a tunnel from opposite directions, physicists and chemists had pursued a crucial thread of this common quest, the physicists digging deep into the mysteries of the atom while the chemists measured and categorized the myriad array of substances. Then, in the early decades of the twentieth century, the physicists broke through their side of the tunnel. Quantum mechanics, the most spectacularly successful physics theory of all time, came with one slight caveat – nobody knew how to solve its equations.

“Bloody hell!” exclaimed the young South African as he smacked the side of the computer monitor. The screen image wavered and then recovered its form as Burns walked over behind him. The engineer was sporting a dark red T-shirt bearing a limerick:

*The computer PC revolution  
has advanced mankind's evolution  
But the coders use drugs  
So there always are bugs  
that impede the machine's execution.*

“I'd kill this program, but it already died!”

“Remember, this stuff's primitive,” Burns calmly noted.

“Yeah, yeah,” Alister Compton muttered, pushing his chair violently back from the desk.

“Think of the Tacoma Narrows bridge collapse. We’ve been building bridges for over two thousand years, and still we occasionally drop one into the river. We’ve been building computers for fifty years. The technology moves so quickly because it’s so primitive. All of it – *Gaussian*, Linux, the web – a thousand years from now, people will look back on it like we look back on the pyramids today. How the hell did they build it with just ropes and levers? How did they do quantum mechanics with a number system that doesn’t even form an algebraic field?”

“It’s just so *stupid!* Three hours wasted for a bloody semicolon! How did we invent a new rocket fuel with this crap?”

The office was actually the living room of a large plantation house that Mercuriou and Burns had converted into an office for a team of a half-dozen young programmers. The parquet floors and picture windows overlooked a sandstone cliff dropping to an expansive ocean beach fringed by coral. Waves crashed against a nearby point, surfboards were stacked in a rack near the beach trail, and broad overhead fans circulated the sea breeze. In a pair of curtain-side semis parked outside hummed a parallel-processing system of more than a thousand processors.

A few hours later, Alister was working alone, and took the opportunity to crank the stereo, letting the windows reverberate with the hard rock beat as a guitar lick arched to its climax.

*Everybody says this’ll lead you to doom  
But that don’t help you in the...*

“**Bed-rooom!**” Alister bobbed his head and sang the refrain out loud. Twenty three years old, with matted blond hair, he had left South Africa to study abroad, finished a double major in chemistry and physics, then stayed in America after graduating. TenTech was his first job after college.

Yet the young chemist fancied himself a hacker, and Burns had carelessly allowed Alister to watch him login to their most secure computer. Alister now used that password to enter the system and look around. Its accounting records showed one program used more than any other, so he ran it.

A new window appeared on his screen. On it, brightly colored graphics portrayed a cue stick deflecting billiard balls into a neat square. Each ball contained a number - sixteen, then thirty-five, then four. Alister recognized it immediately. It was a Keno game of the type you might find in a casino. *What's all this secrecy about a game*, the young man wondered. Then the bottom of the screen caught his eye, where the machine displayed the current date and time. *Bloody hell!?!*

“What did he see?”

Mercuriou gazed out the window behind his desk, over the ocean frothing and seething gray-green under a steady rain, reflecting the chaotic smear of light patterns that radar engineers dubbed “sea scatter”, then morphing into an indistinct horizon where rain met cloud met ocean.

“He ran the program.”

Today’s T-shirt featured a cartoonish caricature of Albert Einstein smoking a marijuana joint, the smoke wafting up into the air and forming the equation  $E = mc^2$ .

“Did he understand what he saw?”

“Probably. He’s pretty sharp.”

Mercuriou started to laugh, “...so he knows we’re thieves!”

“You think this is funny?”

“I think it’s hilarious! Our whole operation is made possible by Burns’ super-hack, and now along comes this twenty-year-old kid who hacks *our* system!”

“Now, where are we at?”

“The older engines work with the new fuel. We’ve got a synthesis pathway, but it can be improved. We still need an airplane, spacesuits, launch towers, cargo modules and just about everything that goes in them, more fuel...”

“Plus we’re short on cash, so we need another big hack.”

“I’m swamped.”

“But we’ve found a hacker!”

Burns screwed his eyebrows and thought for a moment.

“He’s sharp, real sharp. One of the best kids I’ve got, and it looks like he can hack. I guess... will he hack... for *us*?”

Mercuriou raised a finger in the air and rose out of his chair, an adrenaline rush surging within him, like he was asking a stranger out on a date.

“Let me take care of that. Go get Alister.”

As soon as Burns was out the door, Mercuriou lept into action, erasing the whiteboard then rearranging the chairs. By the time Burns returned with Alister, Mercuriou was back in his own chair, having swung it around again, and was leaning back against the desk, watching the rain pelt against the executive suite’s plate glass windows. Vic directed Alister to sit in front of the desk, and Burns closed the door. The pelting rain and the breaking surf were the only sounds as Mercuriou watched the streaks of water sliding down the glass and gazed on toward the reef break beyond. Finally, he spoke.

“There was an unauthorized connection to ‘genie’ from your workstation last night at 9:43 PM. It was encrypted, of course, but we know that it lasted about half an hour, and there are accounting records.”

He turned as he was speaking and Alister’s face flushed red. There seemed little point in denying the obvious, but it was curiosity that had driven him; Alister was neither a natural liar nor thief.

“I saw Burns type that password.”

“You’ve seen me type the password?”

“I read it off the keyboard, over your shoulder.”

Mercuriou almost snickered again, then covered his mouth with his hand, recovered, and pressed on.



“...and what did you see?”

After an awkward silence, Alister answered. “It’s tomorrow’s lottery numbers today.”

Mercuriou now got up out of his chair and walked around it. A deep calm overcame him. He visualized himself as an ace closer walking to the mound in the bottom of the ninth, digging in on the rubber, looking in for the sign... He stopped directly behind his chair and locked eyes with Alister.

“OK, you figured that out, but it’s a lot bigger than that. This is a *heist*.”

“You’re robbing a bank?”

“We’ve already cleaned out one, and we’re thinking about taking down another. We’ve got to get away, though; we’ve stolen too much already. That’s why we need a new rocket fuel.”

“So, you’re going... into space?”

“Mars.”

“Yeah, and I’m Nelson Mandela.”

“This is no joke.”

“What I saw on that computer screen was nooo space shuttle.”

“There will be! Not exactly like NASA’s; we’ve got a different design. But I’m no petty thief! We’ve stolen because we *need* the money, need it to do something that’ll make a difference for the whole world!”

“Is the future here on Earth, Alister? What do our leaders want? To drive technology forward? Really? Promote innovation? Promote freedom? Is that why they’ve outlawed on-line libraries? Is that why they want a wall across our southern border? Liberty? Is that what they call the drug war?”

“They want to sell you gasoline, or video games, or stadium tickets at prices

people will grumble about and then pay while they eat out every night and take their vacations on Maui. We could have video-on-demand, right now, I'm telling you! We could take every T.V. show aired in the last week and have it right there at the push of a button! We could take every book in the Library of Congress and put it online for anyone in the world; we've *got* that technology! People in Cambodia could be building their own computers, but we keep the designs secret while they sew our T-shirts. The only innovation our leaders want is innovation that they can control!"

"So we need a revolution, and it's not going to happen in this world; the establishment is too strong. But out there..."

"Think about it, Alister! Grow your own food! Make your own power! The asteroids are practically pre-mined! If we find a pure vein of gold, everyone will be copying this design to build their own spaceships and race after us."

"Six billion people on this people! Think about it! *Six billion* of us! How many of them make a difference, really? How many of them get out of their easy chairs and change the world? If the human race is going into space, we've got to jump start it and show the world that ordinary people can do it, not just seven colonels and majors in a space shuttle! And *to hell* with what our great leaders here on Earth think about it!"

"Picture yourself in a spacesuit, Alister! Picture yourself on the first manned mission to Mars!"

Mercuriou returned to the window and gazed out again over the ocean. The steady rain had cooled the air and precipitated a dense fog that rose from the sea and enveloped the land. Beyond the edge of the cliff there was only mist; the rhythmic sound of beating surf rose from an unseen beach a hundred feet below.

"...but it all sounds so crazy... too wild to be true!"

He turned and looked Alister straight in the eye. The young man was plastered back in his chair, his eyes riveted on Mercuriou.

"I think you're intrigued, Alister! So check out our launch complex, and *then* tell me what you think!"

“So what’d you think?”

Kyle’s Volkswagen zoomed down Interstate 45 toward the Johnson Spaceflight Center. The morning rush hour had passed, and an electronic sign over the roadway advised, ‘NASA Road 1 – 5 minutes’.

“When I heard the learn’d astronomer...”

“Oh, come on, Andrea! They’re publishing the whole synthesis pathway! ...and disclaiming all the patent rights! I thought you’d love it!”

She thought over yesterday’s press conference. Some new rocket fuel, no *revolutionary* new rocket fuel, truly revolutionary. What were they calling the company? TenTech?

“Kyle, I just get sick of all these guys who act real cool, and wear blue jeans to work, and call everybody ‘dude’, and deep down inside they’re a bunch of bastards. I’ll bet you they’ve got some kind of angle on this, just wait. The engineer really knew his stuff, but the CEO was a con artist.”

“Well, 1033’s no con, Andrea! TenTech’s ramping up to full production! Terry and Steve are working on a new design; they’re talking about a shuttle without SRBs! Maybe single stage to lunar orbit! I thought you’d be excited about this, I mean, this could really mean people living in space!”

“Kyle, we’ve got airplanes flying between all of our major cities every day, and for most of the six billion people on this planet, they might as well *be* space shuttles. Our problems are here on Earth.”

“Well, I thought you’d be excited about this.”

“I didn’t mean it like that. I mean, if you want to do it... I just know that *my* problems are here on Earth. I’m not blasting off from the Cape again.”

“OK, well... OK.”

“Thanks for inviting me down, though; it’s been too long since we’ve seen each other!”

“Next time take a plane, I’ll pay for it; you give me such a fright hitchhiking!”

“You put your faith in God, Kyle... and you tie your hair up under a cap and lose the miniskirt!”

Kyle pulled off I-45 and stopped at a city bus stop. Andrea got out and pulled her bag out of the trunk.

“Sweetheart, you sure you don’t want a plane?” She shook her head as he pulled out five twenty-dollar bills and handed them to her along with a bus token.

“Just this once take the Greyhound!”

“Thanks, Kyle. I love you.”

She hugged him, and he got back in the car before quietly answering, “I love you too, girl,” and then cried out “Call me when you get home!” as he drove away.

It was ten o’clock in the morning. Andrea climbed on a half empty downtown local and gazed out the window as the controlled access highway gave way to mid-market chain restaurants, landscaped malls, downtown streets and finally the transfer station. *What’s wrong with me*, she wondered. Wasn’t Kyle right? Wasn’t it good of these men to disclaim the patent rights on their invention instead of trying to monopolize it? *Give to all who beg of you*. Wasn’t it the Christian thing to do? *Maybe I’m just being cynical*.

At the transfer station, instead of walking the three blocks to Greyhound, she spent five minutes deciphering a wall of posted bus schedules, then climbed onto another local headed into one of the older sections of town, walking the last quarter mile to a hundred-year-old Catholic church that occupied an entire city block. Built of iron, stone, and glass, it could have been mistaken for a prison except for the cross mounted on its steeple. Walking around back, she found a rear entrance sporting a colorful sign that read, ‘The Franciscan Fryer’.

Entering, she found herself in a tiled dining room set with white plastic tables and metal chairs. Three men were preparing for lunch. Hanging against the far wall was a rood icon cross, painted in Byzantine style, with a red background and a bevy of saints behind the figure of the crucified Messiah. Andrea recognized it immediately – the San Damiano Cross, replica of the crucifix which, eight hundred years earlier, had spoken in a vision to the young man who knelt before it in prayer near the Italian village of Assisi.

**“Now go hence, Francis, and build up my house, for it is nearly falling down!”**

Francis had looked about him at the crumbling chapel he knelt in and set out to do as the vision commanded. Returning to his father’s shop, he took several rolls of fine cloth (without permission), rode to a nearby market town, sold both cloth and horse, and returned to the chapel, where he tried to press the money into the hands of a very reluctant priest. Andrea had always felt that it was a typical message from God: simple, powerful, and very easy to misunderstand.

“We don’t serve until eleven.”

“I’m looking for Brother Dunstan.”

“Oh, he’s probably in the kitchen.”

She walked to the rear of the room, separated from the kitchen by a long counter. A pot-bellied man in his late forties, with balding hair and a worn apron covering the brown habit of the Franciscan order, muttered to himself as he stirred a steaming kettle on the commercial stove that dominated the rear of the kitchen.

“Andrea!”

“Hello, Dunstan!”

“Oh, Andrea! What a joy it is to see you!”

“Thanks, hey this place looks great!”

“Well, you know, I had somewhat different expectations for it. I’d wanted something more like a restaurant, you know, that would also serve as a soup kitchen

if people couldn't pay, but Andrea, we just couldn't pay the rent downtown!"

"That was the place on Travis Street?"

"Right! I mean, a lot of people did pay, but usually only just enough for their own food, you know, and then with those who didn't pay or couldn't pay, well, we just couldn't afford to stay there. It was a nice location, but we just had to leave. I prayed a lot, well I worried a lot, and then this place turned up! The rector here said we could use the church's kitchen for free, and Andrea, it's been a real blessing, because I try to keep the place open seven days a week, you know, and on Sundays now so many people stay after church for lunch that it's really helped the congregation, you know, their social life, and I get regular donations now from them, and well, I just don't know what I would have done without it!"

Andrea sat down as the workers finished setting up the room, and Dunstan put the finishing touches on lunch, which they shared just as the first customers, mostly homeless, came in. The food, especially considering its meager pretensions, was excellent. There was fresh baked bread, coffee and orange Tang ("the drink of astronauts!"), Dunstan toasted), a thick lentil soup with just enough tomatoes and onions to give it depth, and tuna salad, replete with chopped Granny Smith apples and stuffed into the fresh bread, one of Dunstan's signature dishes.

"Can you stay until Sunday, I'm making stuffed peppers, you know, I always like to do a nice lunch for the congregation?"

"No, thanks, I'm heading back to my mom's place in Iowa today. I just came down to visit Kyle Lankier, he has a new project, some people have developed a new rocket fuel."

"You know, I heard about that! They say it's quite revolutionary, is that true?"

"Yes, it seems to be. Kyle's quite excited about it."

"Well maybe we'll have one of our oblates flying back into space, eh?"

Andrea shook her head vigorously.

"No way, not a chance; I've made my last shuttle landing."

As she was leaving, she quietly took one of the envelopes from a holder on the table. It was blank, except for a quote from the Gospel of Matthew:

**“When I was hungry, you fed me.”**

She fished the bus transfer slip out of her pocket and inspected it closely. It was still valid. She put the rest of her money into the envelope, sealed it, and slipped it into the drop box on her way out the door. Using the transfer to take a city bus to the northern extremities of Houston, she walked another quarter mile to the Interstate, sat down her duffel bag beside the ramp, and began thumbing for a ride.

More than a hundred cars passed in about an hour before a cab stopped. Andrea had almost not bothered to raise her thumb when she had seen the distinctive yellow car. *Judge not by appearances...*

“I’m only going about twenty miles to pick up a fare.”

Those miles conveniently ended at an exit with a truck stop. She didn’t want to go into the restaurant, because she didn’t want to harass the truckers for a ride while they were eating, nor did she want trouble with the management. Instead, she fashioned a cardboard sign reading “Iowa” and sat down with it between the parking area and the on-ramp, making sure she could be seen from both. Trucking companies didn’t like truckers giving out rides, but one of drivers gave her a lift anyway. He was going right through her state.

They talked through the afternoon as the miles drifted away. He was an aspiring writer who wanted to hear everything she could tell him about NASA. He was also a convicted hacker and was wearing a monitoring bracelet on his ankle. As dinner time approached, Andrea explained a bit more about her religious order.

“I appreciate the ride, and don’t expect you to feed me just because I gave all my money away. I can fast until I get home. Seriously.”

“But you get everything by begging, right?”

Darren bought dinner at a diner in Oklahoma, during which Andrea showed him a small plywood replica she kept of the San Damiano cross and told him the

story of St. Francis.

“So why did he give everything away?”

“He was inspired by a Gospel quotation during mass: Do not possess gold, nor silver, nor money in your purses. This was two years after the vision.”

“How on earth did he live?”

“Well, when he was rebuilding the church, he actually sang in the marketplace and then asked his audience to donate stones. The old priest there would feed him dinner every night, but Francis didn’t want to impose on him, so he started taking a bowl and begging door-to-door at dinner time. By the time he ended his circuit through Assisi, his bowl would be full, and that would be his dinner.”

“So you go around town with a bowl!?”

“No, I’m not as good a Franciscan as Francis was. Nobody is. What’s happened to me is that I’ve found good friends and family to be my surest supporters. I don’t travel as much as I should. Maybe I’m becoming a Benedictine.”

...and then they talked on about how the Benedictine order favored stability over the nomadic life, establishing monasteries and working to maintain them rather than begging. Later, Darren began squawking into his C.B. radio as they approached the Iowa line.

“Got a rider here looking for a ride to Iowa Springs... Any drivers out there heading towards Iowa Springs?...”

After nearly an hour of intermittent radio calls, driving closer to Iowa all the time, he finally raised a truck delivering a load to a silo only twenty miles from Andrea’s family farm. Andrea helped that trucker navigate the back roads, called her mom for a ride from the silo, and was home in bed by three o’clock in the morning.



T - 93 days                    it must be sly

*“Technical Sketch One?”*

Mercuriou put his hands on his hips and stared at Burns.

“Well, that’s how I think of it..”

“Do you have an actual suggestion for the name of this vessel?”

They stood at the base of a 767 airliner, its jet engines replaced with rockets, its doors welded shut, a hydraulic mating adapter on its nose. Its avionics had been re-programmed to feature an orbital mode of navigation, carbon dioxide scrubbers had been retrofitted into its air conditioning system, and the rear half of the passenger cabin had been sealed off and converted into an extra fuel tank. It now sat parked in a hanger adjacent to their private runway, on a cliff overlooking the Pacific Ocean.

*“Manifesto of the Secessionist Party?”*

Mercuriou rolled his eyes, then turned to the ship’s doctor.

“Vic, please...”

*“How about *On The Evil of Capitalism and The Danger of Democracy?*”*

Mercuriou now physically shook. “You want me to put *that... there!*” he exclaimed as he waved toward the ship’s cockpit. They all studied the spot thoughtfully.

“Something shorter would be better.”

*“The Great Hawaiian...”*

Vic’s voice died off as he groped for a fourth word.

*“The Great Hawaiian WHAT?”*

Vic shook his head and finally just shrugged.

*“Icarus Wing!”*

“What?”

“You heard me.”

In the year and half since the South African had joined the crew, Mercuriou had grown accustomed to his youthful outbursts, but nothing had prepared him for this. Icarus was a fictional character from Greek mythology, who had escaped from the island fortress of Crete using wings that his father Daedalus crafted from bird’s feathers and wax. Daedalus survived the flight, but Icarus flew too close to the sun, the wax melted, and he fell into the sea and perished.

*“It doesn’t even make sense grammatically.”*

*“So? Why does everything have to make sense?”*

Mercuriou stared at the Afrikaner in disbelief.

“You know who Icarus was?”

“Yeah.”

*“Like hell we’re naming it Icarus Wing! We’re naming it Xplorer One!”*

T - 7 days                      friendship must be paid for

"I'm inclined to say the thing looks like a front operation, but that doesn't make any sense, either."

Sitting in the shade of her mother's porch, with a pitcher of iced limeade on the table and two glasses half consumed, Andrea read a stack of papers in silence.

"You were right about Mercuriou, too. I don't believe a word that comes out of the man's mouth anymore. I just can't figure out his angle."

"There's no question that this stuff works."

"None! That's what doesn't make sense! They're always having production problems; they need more time."

"No way. Not with the quantities of nitric acid they're consuming. They've already been shipped enough to fuel about three conventional shuttle launches."

"And why are they doing all this in Hawaii... why?"

"Sounds like you need a detective, Kyle."

"I need somebody who can't get blown off by a bunch of techno-babble!"

"What are you getting me roped into?"

He looked deflated. Andrea sighed. *Give to all those who beg of you... especially your best friend!*

"All right. I'll go."

"Great! Listen, I've got everything set up; I'll pay for the plane ticket and advance you a thousand dollars. Their main facility is at a place called South Point..."

Thirty thousand feet over the Pacific Ocean, the inter-island jet darted across 'Alenuihāhā Channel, swept down Hawaii's leeward coast, grazed Keahole Point at two thousand feet and touched down at Kona International Airport amid a broken jumble of blackened lava flows. Unlike Honolulu's congested and dilapidated air hub, Kona was more a collection of stone huts than anything bearing the grandiose title "International Airport". As the ground crew pushed a ramp up to the plane (there was no jetway), the passenger in window seat 8A stared morosely at an ATM card.

*What am I supposed to do with this thing?* "Just stick it in the machine and don't worry about it." ...*in no manner are they to receive coins or money ...*

She broke it in half and threw it in the trash almost as soon as she got off the plane. *It has to be done The Royal Way.*

"Excuse me, can you tell me how to get to South Point?"

"You can catch the Hele-On there in front of the space center."

The space center? Indeed. After the Challenger disaster, Hawaii had built the Astronaut Ellison S. Onizuka Space Center to commemorate the life and loss of one of her most prominent citizens. The small white building was closed when Andrea walked up to it, so she merely peered through its windows and set down her backpack to wait for the bus. Experience told her that bus drivers would sometimes give free rides to the destitute, and that other passengers might assist when drivers were unwilling.

No such finagling was necessary. The Hele-On was a free service operated by Hawaii county, so Andrea took a seat, cracked open a window, and enjoyed the ride as the bus meandered past shopping malls, more broken lava, seaside villages, beach parks, a high school campus, an elevated tennis court and over every rise and around every corner, the ocean, the ocean, the ocean. The empty bus soon filled with an assortment of locals heading home, and the driver even

waited for one passenger to mount a bicycle on a rack before boarding. An intermittent drizzle began to fall as Kona's rich volcanic soil gave way to the rolling forested hills on Mauna Loa's southern flank.

Dusk was falling two hours later when Andrea disembarked at the road leading to South Point. Few riders were left on the departing bus; most had gotten off at a park-and-ride a few miles back. There was little to remark upon except a road sign and an abandoned building, which Andrea immediately seized upon as a Godsend. A quick investigation of its contents revealed a detachable bench seat that would serve as a small but usable bed, and several scraps of carpet that could be passably used as blankets. Weeds were growing up through the floorboards, while liquor bottles and graffiti bore mute witness to the transients that, like her, occasionally livened the old building for a few hours.

Yet was this The Royal Way? It hardly seemed fit for a queen, but then neither had Christ's crown, nor had his throne. Andrea took one of the carpets, walked back across the road, wrapped it around her, and sat down to see if anyone would take pity and give her a ride. Several cars passed, but none stopped. After half an hour, the rain began to fall again, so Andrea returned to the old building and settled in for the night.

Perhaps here, in this world, this *was* The Royal Way.

T - 1 day                      danger must appear innocent

It had rained off and on throughout the night, but the old building's roof was solid and the carpets had cut enough of the chill to allow at least a few hours of sleep. Now, shortly after dawn, Andrea packed her bag, straightened up the ramshackle furniture, and walked out to the road, where a young couple was waiting for the bus.

"Do you know what time it is?"

She fished her cellphone out of her pack long enough to check.

"Seven-thirty."

They reacted with disappointment. The Hele-On was a free service, but ran only once or twice a day, and they were waiting for a 7 AM bus. Andrea wished them luck and set off on what she thought was the last leg of her journey.

Edged by low stone walls on either side, the lonely asphalt road meandered south through a forest interspersed with orchards and citrus farms. She sipped some water from a rusty basin on the side of the road. After an hour of walking, fatigue and doubt began to conspire against her.

*This is stupid.*

*I look like a bum not an engineer.*

*I can't function in this society.*

*How long is this road?*

*What do I tell Kyle? How much money have I lost? Just the airfare.*

*If I go back now, he can turn the card off, not too much damage done.*

*He might have to come out to Hawaii to get me, maybe he can hold my hand through this...*

*You need him to hold your hand?*

As the tears rolled down her face, she looked skyward and implored God.

“Why am I here? This is stupid! This is all because I decided to do some stupid favor for money.”

No answer came back from the heavens, only the mid-morning sun blazing down from the sky. The silence encouraged her to speak loudly and openly to the deity, something she rarely did in the crowded city. She fell on her knees in the middle of the road.

“I’m sorry; I’m sorry! I thought this was the right thing to do! Now, please God, how do I get out of this without losing Kyle’s money?”

Physically and emotionally exhausted, she sat down right there, cried steadily for several minutes, then took stock of her situation. Her jeans were ripped from where they had snagged on a nail, her right side was covered in dirt from the carpets, her hair was matted with dried sweat, and she had slept in her clothes.

*This is stupid. I am NOT OK. I’m filthy and exhausted, and I can’t show up looking like this.*

*No dumb fuel problem is worth this...*

*That’s what I’ll tell Kyle...*

*No dumb fuel problem is worth this...*

*That’s what I’ll tell Kyle...*

She was awake before the car stopped.

Two men were seated in the car, both dressed for the endless Hawaiian summer in shorts, T-shirts, and sunglasses. The man in the passenger seat was talking

on a cellphone and completely ignored her. The driver, a friendly fellow in his early twenties, asked her in a funny Australian accent if she needed help, and she mumbled something about heading back into town. She climbed into the back seat, and he started driving again. The passenger waved them both silent.

“No, no, no, we’ve got plenty of 1033. We’ve got tanks and tanks full of it. You can come see that for yourself. We just have to get the export paperwork taken care of. It’s just a delay.”

“Of course it works! You have the samples, don’t you?”

“Well, then make it yourself! We can pay for the spacesuits in cash.”

“I will need time to find another buyer.”

“I know I just said that, but you said we could pay in fuel...”

“Just let me handle it. I’ll make it work. I promise.”

“Cpacebo. Cpacebo. Do cbidaniy.”

The passenger clicked the cellphone off, then punched some more buttons on it. While Andrea slowly digested what she had heard, he made another call.

“Yeah, what’s up?”

“Well, if he doesn’t show, he doesn’t show.”

“A woman?”

Without disconnecting or even lowering the cell phone, he slowly turned around in his seat, looking at her almost as if seeing her now for the first time.

“I’m sorry, ummm, we weren’t really introduced...”

“Andrea Yeats. I’m with NASA.”

At various times, Andrea had seen people red-faced with excitement, hysteria,



and embarrassment, but now, for the first time in her life, she actually watched someone's face as it turned red. The flush began just above Mercuriou's cheekbones, then, in a split second, spread to his cheeks, his forehead, and then ran across his entire face. He clenched his teeth and turned back around in his chair.

"I'll get back to you," he told Vic in a clipped voice, severed the connection without waiting for an answer, took the earpiece out of his ear, wound its cord around the telephone and put it down on the dashboard. For a moment they drove on in silence.

"Turn around," Mercuriou quietly told Alister.

"Look, I'm heading into town, I can just walk back..."

"You're not going anywhere," Mercuriou interrupted as he unclipped his seat belt, turned fully around in his chair, and revealed the handgun he had covertly retrieved from its holster under his seat.

Alister brought the car to a stop, then looked back and forth between his two passengers with a pained expression on his face. Meanwhile, Andrea slowly realized that she was being kidnapped.

"Turn around. Go back."

Within sight of the highway, Alister executed a three-point turn and headed back down the road. Again past the stone walls, the orchards and farms, past her break-down spot, they drove on as the forest gave way to broad meadows framed on three sides by hundred foot cliffs and the Pacific Ocean beyond. They passed through an automatic gate, crossed a runway that stretched fully from one side of the point to the other, and drove past a hanger into a complex of low buildings.

They walked into a large room whose walls were lined with whiteboards hung over cluttered office tables amid a jumble of cardboard boxes and packing material. Andrea walked willingly, partly out of curiosity, partly because there was simply no other place else to go. She never thought of running. Burns was there, sporting a black T-shirt that read simply "CAPITALISM SUCKS", as was Vic, who looked up from a notepad as they came in.

“The man who called was named Kyle Lankier...”

His voice drifted off when he saw Andrea and an awkward pause ensued. Mercuriou turned around.

“Doctor Yeats... during the ride here... I was trying to decide, umm... exactly...”

“What you’re going to do with me?”

“Precisely.”

“What’s going on? What happened?” Vic asked, the second question addressed to Alister as if expecting an explanation from him.

The young man opened his mouth as if to speak, but couldn’t quite explain how he had picked up a woman seated crying in the middle of the road, or how Mercuriou had continued his imprudent cellphone conversation, or how they had discovered the true identity of their passenger. Finally, after a second or two, he just shrugged his shoulders and closed his mouth without saying a word.

“I believe the colloquial expression is that I ’know too much’.”

“Um-hum,” Mercuriou responded, nodding in agreement before turning towards Burns.

“The old server room, can you rig the door so it can’t be opened from the inside?”

The engineer leaned back in his chair and nodded slowly.

“What are you thinking, Marc?” Vic asked with concern in his voice. The only reply was a raised palm.

“Yeah... the locking mechanism is in the wall, so I could weld the door handle in place, along with the bolt. You’d need a card key to open it from the outside, and you couldn’t open it at all from the inside...”

“Fine. Do it.”

“Now, wait a minute, Marc, you’re talking about kidnapping now.”

“Vic, we will have this discussion later.”

“No, we won’t have it later...”

“He’s not talking about it, he’s done it... Vic.”

“Vic! We will have this discussion later! We will have this discussion *when Dr. Yeats is not in this room*. OK? Now, *please*, let’s just get all the loose stuff out of that room while I stay here with the doctor.”

The other three men looked slowly at one another. None of them liked what they were being asked, no, told to do, but Burns got up and led Alister down a hallway, leaving Andrea, Marc and Vic to eye each other in silence, she sitting on a chair in the middle of the room, the captain perched on a tabletop with his pistol still in his hand, and Vic still seated in his chair. Twenty minutes later, the concierge returned to announce that the room was ready. Mercuriou escorted the NASA engineer down a hallway and around a corner to a windowless forty-by-one-hundred-foot room populated solely by a rectangular grid of floor-to-ceiling black steel frames. Upon entering, Andrea turned back to face Mercuriou.

“Don’t I get some fancy explanation of what you’re up to?”

“No,” he answered, then closed the door behind him, insured that it was locked, and began to walk away.

“Mr. Mercuriou,” she called through the wall, “I’m sure we can discuss...”

The card key flashed through the lock with such a swoosh that Andrea took an involuntary step back from the door, then another as it was pushed open.

“Captain Mercuriou, it’s *Captain Mercuriou!*”

...and he was gone.

“No, Marc, no, absolutely NO!”

“Three days, Vic, that’s all we need – three days! Burns wants a week, but I’m compromising on three days!”

“You’re not compromising on a damn thing, Marc! You’re talking about holding someone prisoner – an innocent person – for days! You’ve already held her captive for a night!”

“It has to done, Vic! It just has to be done, and we’re not arguing about it! Alister!”

“Yes, we are arguing about it, Marc!”

“Alister! Get an MRE and a bottle of water and give it to Dr. Yates! Dammit, Vic, don’t fight me on this!”

“Marc, you can’t do this, you just can’t!”

Andrea had woken early in the darkened room. She had no watch, and there were no windows, but it had *felt* like morning. At least she seemed rested. She sat up against the wall and began to pray, starting with the Lord’s Prayer. Softly, just barely audibly, she repeated it three times, each more slowly than the last, contemplating the words more deeply each time.

*Thy will be done. Am I here for a reason, Lord? For your reason?*

*...as we forgive those who trespass against us... ...if someone forces you into service to walk a mile, walk two... I forgive these people here, Lord, they’re almost comical*

As she did so often, she returned to Christ’s prayer in the garden, “not my will, Father, but thine.” *Not my will, Lord, if you have some reason for me to be here,*

*and you must, thy will be done, Lord, thy will, not mine, thine.*

She sat still, practicing a Buddhist exercise that she had learned at a class and adopted for Christian use. She focused on her breath, in and out through her nostrils. She tried to clear her mind of her own thought and cast it upward, trying to enter a calm state where she could, just maybe, like Elijah in the cave, hear the still, quiet voice of God. When she got caught up in her own imagination, she re-focused on her breath and tried to calm her mind again.

She didn't do a very good job. In fact, she never did a very good job. Meditation was the hardest thing that she had ever attempted, far more difficult than executing some suited procedure that she had practiced a hundred times in a water tank on the ground. Her mind kept racing back to her present situation, all the craziness of the last two days, *why didn't she run?, what do they want with spacesuits?, breath in, breath out, breath in, breath out.*

At least she resolved upon a plan, if you could call it that. She waited quietly until the electronic lock clicked and the door was cautiously pushed open. It was the blond-haired youth with the foreign accent.

*"Sorry... I brought you some breakfast!"* he announced as cheerily as he could muster, putting a bottle of water and a military ration down on the floor next to the door.

*"Do you think I could use the bathroom?"* Andrea asked, standing up and pushing her hair back. He seemed indecisive, and didn't answer at first.

*"Look, I'm covered in dirt; I haven't bathed in two days; I've slept in my clothes for two nights; I'd like to at least splash some water on my face and go to the toilet."*

There was no need to lie. It was all true.

*"OK... uh, sure, it's right down the hall,"* he answered, before leading the way about a hundred feet to a restroom.

*"I'll wait here,"* he mumbled.

Once inside, she turned on a water faucet and immediately started searching for a way out. The room had no windows but was covered with a ceiling of drop panels. Climbing onto the back of a toilet, she could reach the ceiling and push one of the ceiling panels aside. She started to scramble up, but saw that the wall continued straight up to another ceiling several feet above the panels.

“Shoots!” she muttered to herself, then climbed down and went to the other side of the room. The sinks might not be strong enough to support her weight. Returning to the toilet, she realized that she could just reach a large, circular pipe above the panel ceiling. Climbing up again and grabbing it, she pulled herself up and found herself crouched in a dark, dusty space between the two ceilings. In the dim light, she could make out the course of the wall down to where it met the hallway. In the other direction, the crawl space seemed to extend beyond the bathroom wall, so she clambered along the pipe in that direction, picking her way around cables and pipes as she went. Once past the bathroom, she opened one of the ceiling panels below, swung her legs down into it, and dropped down into the sunlit room below, slipping, grabbing the ceiling, and bringing part of it crashing down with her.

There were chairs, a desk, books, a drafting table covered with papers. She picked up the telephone handset on the desk, then stopped to look at the books on celestial mechanics, materials science and rocket propulsion. She put down the phone and walked over to the drafting table. *Spain never designed a rocket engine. They aren't selling fuel; they're hoarding it. They need spacesuits, too.*

“Vic, we are not arguing about this! This is a command decision!”

“I will not accept this. I will not accept this.”

“I am in command of this mission! I am giving an order!”

“Give your order, Marc, I'll go to police right now! I'll pick up that phone myself! I mean it!”

“Vic, if you pick up that phone, I'll... I'll... I'll... What!!!?”

“It's Dr. Yates, she's still in the bathroom, and I heard a noise...”

Mercuriou marched down the hallway and announced his presence.

“Coming in, professor, pull up your pants!”

Broken from her reverie, Andrea snatched up the phone once more and dialed, listening to the noises in the next room as it rang in Houston.

“Kyle, it’s Andrea!”

“My God, girl, where are you?”

“I’m at TenTech; they’ve kidnapped me and are holding me prisoner here!”

“What?!”

“Look, they’ve got a launch on!”

“What kind of launch?”

“Manned. They have spacesuits...”

She paused, remembering something odd about the storage tanks they had drove past on the way in. Their fire diamonds displayed red threes, indicating strong flammability danger, yet the notice code was “OX”... oxidizer... nitric acid...

“...and forget three shuttle launches; they’ve got enough fuel here for three hundred!”

The door’s electronic lock clicked and Andrea dropped the phone, threw the chair through the window and leaped through after it before Mercuriou could circumnavigate the desk. *They’ve got guns! They’ve got guns!* Running up the road, she began to calm down as she reached the runway. *So what if they do?* She slowed down and finally stopped completely as she reached the automatic gate. *Where are they?*

They were glued to a webcam of the highway junction, relying images of a half dozen police squad cars peeling off to the south in response to a kidnapping report.

“OK, our launch clock’s at zero... Let’s get to the ship!”

All four of them dashed out of the building and piled in the Jeep. Alister gunned it up the road to the hanger, where they found Yeats inspecting the exterior of *Xplorer One*.

“This is quite a rocket ship you’ve got here.”

Mercuriou motioned his crew towards the access platform.

“You have some kind of launch planned?”

“Why don’t you just get lost? Haven’t you caused enough trouble today?”

Mercuriou followed his crew up the metal staircase to the airlock while Andrea followed him. *A private manned launch*. For the first time since Kyle had talked her into this, she actually wanted to laugh. *THIS I have GOT to see*.

Mercuriou had reached the hatch, climbed inside, and turned around, ready to close it.

“Well, Doctor, you can go now. Sorry for your detention...” he began, but never finished, because Andrea grabbed the rim of the hatch, swung her feet up, and kicked him squarely in the chest.

“Captain Mercuriou! *Captain Mercuriou!*” she hollered, clambering in behind.

“What’s going on?” Vic called from the cabin.

“It’s Captain Mercuriou! He fell!”

Mercuriou flew to his feet, so enraged that he half-hallucinated four men with red shirts and black pants, already moving to seize the intruder and awaiting only his order to throw her out. He blinked and they were gone.

“Do you want the hatch closed now? Is that your next order... *sir?*”

Mercuriou gritted his teeth and snarled through them.



“You don’t what you getting into, lady.”

“Then clue me in.”

They locked eyes for a moment, then Mercuriou pressed his face within six inches of hers and hissed “Mars!”

“That’s great; I’ve always wanted to go to Mars! Now, you might need an experienced astronaut; I’ve had three weeks on orbit. You’ve got suits; I hope you’ve got motion sickness drugs...”

He tried to interrupt, but she shushed him.

“...but first, you’ve got to *get* into orbit, and that I’ve *got* to see!”

“Here come the kêrels!”

“Burns, start the engines!” Mercuriou yelled, then turned back to Andrea.

“OK, this is it, this is it, I’m not kidnapping you – Vic you are my witness! – I’m not forcing you, but you get out now, I’m telling you we’re not coming back for a long long time, I say get out right now, or you’re in this for good, and I mean for good!”

The two rocket engines roared to life and the ship began to tremble. Andrea felt like she had when she picked up Dunstan in the rain, when she wrote ‘math class’ on the auction form, when she decided to quit NASA. She nodded her head.

*Xplorer One* sped down the runway as police cars swarmed the complex. Some of the policemen watched with their mouths agape, deafened by the roaring engines and stunned by the sight of a jumbo jet belching rocket exhaust as it lurched off the cliff, dipped perilously close to the ocean a hundred feet below, then gained speed and climbed to ten thousand feet.

“Launch cargo!”

Alister keyed a command sequence on his computer. From camouflaged launchers in the forest below, first one rocket thundered aloft, then another, and another.

“Three all-green; four launching!” Alister called out from his computer monitor, while Vic and Mercuriou were arguing again.

“She doesn’t really need a spacesuit,” Mercuriou tried.

“She most certainly does need a spacesuit, Marc. We have spares in cargo, but what happens if we lose cabin pressure before then?”

Mercuriou was silent for a moment. Only Alister’s voice was heard.

“Seventeen’s up; sixteen just went inertial; eighteen launching!”

A panic seized the nearby towns as missile after missile streaked skyward; many thought the nation had gone to war with Libya.

“We have to abort the mission.”

“We are not aborting this mission!”

“I’m fine; I’ll take the chance.”

“No, you are not fine! I am the ship’s doctor, and I’m telling you, Marc, we have to abort this mission because we have an untested design and *she could get killed* if we lose cabin pressure.”

“Nine just acquired LEO; thirty-four launching.”

Burns turned to Mercuriou from the pilot’s seat, “Marc!”. “What?” “We need to *leave!* What if the Air Force shows up?”

“Let her take mine.”

“No, she can’t take yours, because then *you* won’t have a spacesuit.”

“OK, so then I’ll die and you’ll be rid of me and you can do whatever you want! Look, Vic, we can’t go back! If we go back, we go to jail! I’ll take my chances with death!”

Vic relented. Death over jail, that he understood. Andrea got the spacesuit.

“How do we look, Burns?”

“We’ve got clean launches on the first fifty-one cargo rockets... make that fifty-two; everything’s fine.”

As soon as Andrea was suited and seated, Burns put the plane into a near vertical climb. It wasn’t the most optimal launch profile, but the aircraft wasn’t designed for supersonic flight, so Burns made sure that he climbed above the atmosphere before beginning a true orbital insertion. As they passed fifty miles in altitude, he nudged forward on the joystick, the engines pivoted, and the giant blue ball of the Pacific Ocean swung up below them. They were now above most of the atmosphere, and Burns began their insertion burn proper, firing the engines continuously for nearly ten minutes, then cutting them off and letting the ship coast. Finally, he fired the engines again for several minutes more to stabilize their orbit.

On Earth, confusion reigned. Cable news channels reported the last several cargo launches live, and speculation was rampant that the missiles contained some kind of chemical or biological agent. Around the world, TV networks began interrupting their regular programming to cover the event, showing graphical ground tracks of the orbiting cargo modules and warning people as they drifted above. The U.S. State Department was fielding a barrage of queries from foreign embassies anxious to know what was happening. The President abandoned a trip to Europe and turned Air Force One back towards the capital. Once there, he held a hurried meeting of his national security team, finally blowing up in frustration, throwing a briefing folder and sending Top Secret papers flying.

“Why the hell do I have find out from CNN when 170 missiles get fired off in Naale-Naale-...whatever-the-hell!”

That evening, the President addressed a rapt but unshaken nation, refining the news that the networks had been reporting for hours. A renegade group of entrepreneurs, under investigation for wire fraud and kidnapping, had somehow managed to execute the first private manned space launch. After reassuring the public that the government was carefully tracking the situation, the President correctly identified the four principle suspects, then took three questions. When

asked if he was pursuing a diplomatic solution to the crisis, the President replied only that attempts were being made to contact the perpetrators. When asked if a military response was being considered, the President replied that the military always stood ready to defend the nation, but it was not yet clear if an attack was imminent. When asked if the U.S. military was capable of striking a target in orbit, the President had no comment on U.S. military capabilities.

In Houston, Kyle Lankier watched the press conference alone and in silence.

Andrea Yeats was never mentioned.

T + 1 day            long political rants must be interspersed throughout

“Excuse me? What are you doing?”

Mercuriou had hollered since launch to get lined up with the cargo modules. They assembled them together by matching orbits, docking their nose, then repositioning them into a higher orbit, connecting them together as they went. They collected first module A-1 Captain’s Quarters and then attached module A-1-1 Captain’s Storage. Mercuriou then halted the entire operation to dock with A-1 Captain’s Quarters, equalize pressure, and disappear inside.

“I’m working on my speech for this evening, Dr. Yates. It must be delivered live in American prime time. I wish I had longer to prepare, but your stunt disrupted my timing. Now please leave me alone.”

Andrea mumbled a reply into the closing hatch.

“You know, there’s really a lot of work to be done with the cargo modules...”

The hatch flew back open.

“Dr. Yeats, my speeches are the most important cargo this vessel carries!”

News of the rocket launch had galvanized the world, or at least everyone in the world, or at least everyone in the Most Important Country In The World. Now came live pictures of a man floating in zero-gee, in a manner quite unprecedented.

Red banners festooned A-1’s rear wall, and hid the access hatch to A-1-1 behind them. Two vertical Roman lances impaled with globes of Mars rose on either side of a desk, behind which Mercuriou now appeared seated with a tablet computer in front on him, dressed in a crisp white uniform as might be worn by a cruise ship captain. The rest of the crew watched from behind the camera.

“Good evening. My name is Marcellus Mercuriou, and I am the captain of the

spaceship *Xplorer One*. Most people call me Marc. Some people call me Sir.”

“I and my compatriots have today launched a bold new venture. We intend nothing less than to begin the colonization of our Solar System! We do this not so much because we wish to, but because we must! We can not wait around and let our planet be destroyed while some cynical group of global manipulators push everyone to ‘compete’! We must protect our freedom; we must safeguard our independence! Like the pioneers who set out across America’s wilderness 300 years ago, we know that the path forward into uncharted lands is fraught with danger and discomfort, yet it is the only way forward.”

“We do this because America is committed to enslaving the world, and her only condition is that the chain be fashioned out of gold. Your choices under capitalism are to become a capitalist, or to work for them, or to be thrown homeless on the streets. Becoming a capitalist means becoming a cynical, indifferent bastard who stands behind a counter, shrugs his shoulder if you don’t have money, and tells you to get a job.”

“Such people are, of course, hated. Many of us bitterly resent their rule; why else would phrases like ‘Love It Or Leave It’ have become part of our national lexicon?”

“So I have decided to Get The Hell Out! Why not? We know what kind of leadership America has. It’s not going to change. Why would it? It’s what The People want. It’s just not what *I* want.”

“I am declaring tonight the Republic of Mars. Let me inculcate some of our principles, starting with freedom of speech. Unlike capitalists, who, like communists, see information as something to be locked down and controlled, we are determined to construct on-line public libraries, available free of charge to everyone on this planet. We have already begun such a library, and I will now begin transmitting its books to anyone with a satellite dish. We do this both as a moral duty to provide mankind with this knowledge, and also as a legal right, because as a sovereign nation the Republic of Mars can operate these transmitters, much like the United States operates the Voice of America.”

“See, we believe that political freedom is meaningless without economic freedom. It isn’t enough to let the Maldives have an election. They need to build

their own computers, their own cars, their own houses. To do this they need information, information about how factories work, blueprints, source code, chip masks, all kinds of things. They need an information society. We're committing to making that information free, rather than locking it down to maintain our own economic control."

"Free technology isn't just about free software, it's about the environment; it's about going green. What happens when one of your capitalist gizmos breaks? You toss it into the nearest landfill. Now if the design is open, that device can be repaired. The capitalists don't want this. They don't want technology that can be repaired. They want throw-away technology. Instead of repairing these devices, they want you to buy a new one. Going green isn't mandated carbon scrubbers on smoke stacks. It's building clean, open, sustainable technology that everyone can build, improve on, and repair, and the first step is make sure everyone knows how it is designed and built."

"We're committed to freedom of travel as a fundamental human right. True freedom comes not from an election, but from variety among nations, coupled with the freedom to travel. I call on the United States to open her borders, to become once again the nation that beckoned 'give me your tired, your poor, your huddled masses yearning to be free'. Our own borders are completely open; anyone can come to Mars, and anyone can leave."

"We will, of course, abolish this outrageous drug war on Mars. It is a gauntlet thrown at the foot of liberty, the government's claim that it can tell the individual what he can put in his own body. All of these 'people's governments' are the same. They always end up at war with their own people, and most of them call it war, too. The Drug War is America's Cultural Revolution, our Committee of Public Safety. We've got a problem, The People are going to fix it, and the government is going to make the people do it."

"We're going to build a society where people respect each other, respect each other's talents and well as each other's differences of opinion. We're going to preach tolerance, not Zero Tolerance. We're going to build a society where people like each other, and help each other out."

"Some of you are wondering how we funded our launch. Well, how could we have funded it? Venture capital? Only if I'd lied through my teeth about my true

intentions, right? The government? They only put Air Force colonels into space, don't they? So we developed, let's say, an alternative source of financing. We robbed a few banks."

"I feel as bad about ripping off capitalists as I would about ripping off communists or fascists, because to me they're the same. Just another bunch of men with some nightmare system to be jammed down everyone's throats."

"The only opportunity America offers is the opportunity to sell your soul to these bastards, I mean you really convince them that you're one of them, that you believe in their nightmare philosophy of greed, you bring them on your management team, you sign off on some 'business plan' that tells how you're going to patent and control this technology once it's developed, because they won't do anything for anyone unless they're getting money for themselves, and then you fight like hell just to keep 51 percent. Or you toil away in your garage for ten years of nights and weekends while working some stupid job just to pay for the stupid garage, and I'm not much of a stupid garage guy."

"See, spaceflight *can* be done, but we live in a society hell-bent on forcing people to work for a System, and telling them constantly that they have freedom. You don't believe me? Ask yourself if you'd rather be flying into space right now or doing whatever mindless job you've got? Our great capitalist leaders could be mass producing spacecraft by the thousands. Ask yourselves, 'if they needed them for a war...?'"

"Let's apply their own rationale. I'm 'helping them compete'. If a few banks go out of business, so what? Throw it into a chapter! It's nothing personal; businesses fail every day. I'm developing technology to fly to Mars, so the whole society benefits."

"Oh, and one other thing... I'm not part of the majority... I'm a druggie! I'm a socialist! I'm an anarchist! I'm farther left than Jane Fonda! I'm more anti-American than Eagle Six! I'm against everything 'The People' believe in, and they're against everything I'm for! I'm not part of the majority, and I don't like democracy."

"'The People'. They make it sound like it's what *all* the people want. Then why do people blow up federal buildings; why do they bomb our embassies, why do



they burn the country's flag? Why do we have the largest prison system in the world? Do the people locked up there choose their own leaders?"

"Obviously, there's a lot of people who don't agree with America, and I'm one of them. The majority makes up these rules, and then expects everyone else to obey just because they're made 'through a democratic process'. People obey the rules because they're afraid of what will happen to them if they don't. The only thing that's different about democracy is that it's a different group of people making the rules. In Russia it was the proletariat; in Germany it was the Aryan race; here it's the majority. It's always the same. Some big bunch of people think that because they're more genetically advanced, or because they're the workers, or because there's more of them than anybody else, that they become 'The People' and they have the right to rule over everybody else."

"But there are alternatives! Not many left on Earth, mind you. Earth is civilized, which means it's been conquered, colonized, and commercialized. No matter where you go, there's some established government, be it democracy or dictatorship, and you're just a little cog that better turn when its supposed to and not need too much oil. Out here, though, an entire solar system is waiting to be tamed!"

"The first thing we're going to do is land on Mars, and plant our flag there, because that is where our capital will be! Then we'll explore the asteroid belts. If we find almost anything valuable, gold or silver, platinum or pure silicon, it'll be 1849 all over again! And when you think that there's a whole planet out there, all broken up into pieces already..."

"Then we'll have something Earth wants! Then we'll trade with them on equal terms! Then we'll have freedom!"

"Think about joining us! Maybe not literally, at least not yet, but perhaps spiritually? We have a website, when it is not blocked. We have satellite equipment, when it is not jammed. What skills can you offer? Let us know! Write a biography of yourself! Upload it to our website! Join our movement and help build a new tomorrow! Onward Martians! Onward to Mars!"

T + 3 days

authority must be defied

*Xplorer One* began her third full day in orbit amid a jumble of cargo modules, nearly two dozen of which had now been assembled into a dense, interlocking tree. Burns and Alister were planning their next series of orbital maneuvers, while Vic was organizing the medical supplies and Mercuriou reviewed video recordings of the major political talk shows. Andrea was squirreled away in module C-3 Electronics Lab, studying the ship's infamous "library".

It was extensive, numbering well over ten thousand books, completely electronic, and completely illegal. Every major publisher of technical books in the English language had been targeted by Burns' super-hack, and the few books they wanted which Alister couldn't spirit off from the publishers' computers had been purchased and scanned in by illegal immigrants. Without launching more than a few pounds of books, most of those for nostalgic value, the *Xplorer One* crew enjoyed easy access to major reference works on every aspect of technology. There was an entire book, for example, simply titled *Uranium*, that described almost everything known about the chemistry of that important element – it's dozens of compounds, their properties, the reactions used to convert between them, and of course its nuclear properties, despite the fact that the ship carried only a small sample of uranium in its chemistry lab and Burns had no intention at all of using nuclear fuel. In fact, all of the major chemical elements were well represented, with entire books on silicon, iron, and dozens on carbon and its various compounds. The ship's custom navigation software was littered with references that hyperlinked directly into a book called *Celestial Mechanics*. There were dictionaries, encyclopedias, handbooks, and entire scientific journals. There were books on antenna theory, orbital mechanics, geology, hydroponics, plant pathology, and Mercuriou's hand-picked collection of literature, both in translation and in the original tongues.

Almost as impressive was the software collection. Every major technical product was present, many including all of their source code, stolen from the manufacturer's computers by Burns and Alister. The scientific software was second to none. In addition to Gaussian and programs like it, there were sophisticated packages to model and simulate high-frequency microwave circuitry, the most

advanced robotic control software from Japan, factory blueprints for a complete semiconductor fabrication plant, and several sophisticated mathematical packages. The three-pound computer tablet in Andrea's hand offered the same information that would fill an elite university library, and the same software packages available at the most prestigious research centers. The legal penalties for acquiring and possessing all of it added up to more than a hundred and eighty years of prison time.

"We've got a pressure drop," Alister announced on the flight deck, as a chime sounded and an amber alert window appeared on the LCD screen to his right. Burns stopped programming the flight computer and Mercuriou floated in from his captain's quarters.

"We're down to 97.4 kilopascals," Alister informed them, reading off the atmospheric pressure.

"That's not much," Mercuriou observed.

"Yeah, but it should be a closed system," Burns answered, sporting a new T-shirt that asked "Why drink and drive, when you can fry and fly?"

"97.3," Alister stated.

"Let's go to Condition Zed," Burns suggested, and Mercuriou nodded.

"Captain to crew, set Condition Zed," Mercuriou announced into the microphone clipped to his shirt, while Alister keyed a command sequence on his computer. An audible chime sounded throughout the ship, and the hydraulic doors separating the different modules hissed shut.

"What's happening?" Andrea asked as she watched the door close on C-3.

"We're closing the airtight doors, Dr. Yeats, we seem to have a pressure leak. Vic, where are you?"

"I'm in sickbay, of course," the doctor answered, stopping his inventory of the ship's drug supply.

“He’s got a spacesuit in there if he needs it. What about Dr. Yeats?”

Burns was shaking his head, no.

“I don’t think there’s a suit in here. All I see is oscilloscopes and signal generators.”

“We’re down to 90 in C-4. Looks like the rest are holding.”

“That’s right next to where Yeats is.”

“It’s probably a micro meteor strike, ’cause we’re not fully assembled yet and the shield isn’t in place. But if we lose ’C’ node, she’ll be cut off, so we probably want to get her out of there.”

“OK, Dr. Yeats, why don’t you exit the module you’re in and come back here to where we’ve at least got a spacesuit for you, then we’ll check on the problem, it looks like it’s in C-4.”

“I can open the pressure doors from here.”

Burns opened the door to C-3, and Andrea pulled herself through it into a mating node. Burns next opened the door to C-core, which lead back towards the 767.

But Andrea didn’t go there. Instead, she went to the door leading into C-4, and was about to ask what its pressure was, when she saw it displayed on the LCD panel by the door. 87 kilopascals. She knew as a rough rule of thumb that supplemental oxygen wasn’t needed until the pressure dropped to 70. She keyed the sequence on the panel that opened the door. Designed to seal its pressurized contents against an exterior vacuum, it popped open under the force of the higher pressure outside, accompanied by a whoosh of air flowing into the damaged node. Andrea’s sinuses popped under the pressure change.

“I’m going to take a look at the problem in here,” Andrea informed the others as she pushed herself into the node.

On the flight deck, colors changed on the computer animation of the ship’s layout.

“She just opened the door to C-4!” Alister declared in surprise.

“That node appears to be damaged, it’s loosing pressure, Doctor!”

In C-4, Andrea could hear a quiet whooshing of air. She removed her water bottle from her belt and carefully squeezed it to release a stream of liquid aimed straight down the center of the module, then watched to see where it went.

Meanwhile, Mercuriou had dove to the rear of the 767 and grabbed a spacesuit.

“Open the door!”

“Opening main airlock,” Burns stated in a resigned tone of voice as he keyed a computer panel. Mercuriou dove into A-core with the suit.

“What’s going on?”

Mercuriou flushed red, clenched his teeth, and smacked his fist into his palm.

“We’ve got a pressure leak, Vic, and Dr. Yeats, as usual, is EXACTLY where we don’t want her to be!”

“Aren’t you going to prep?”

“I don’t have time! What if she gets stuck in there?”

Andrea released the harnesses on several large packing crates and moved them aside to follow the trail of the water droplets. A wave of fear swept over her. *You have no spacesuit.* Calming herself, she said a silent prayer, *Father, watch out for me in here.*

“Alister, keep reading the pressure off to me.”

“It’s at 82 now. It came back up for a second when you opened the door, but now it’s dropping again.”

“Opening ’B’ node,” Burns dryly noted as he continued to open pressure doors in front of the captain, now moving down the central chain of cargo modules,

bumping against walls as he went, partly because he hadn't fully learned how to maneuver in zero-gee, but also because he grew ever more irate the further he went.

Meanwhile, Andrea had found the pinhole leak at the root of the problem. Unlike the space shuttle, designed for manned spaceflight operations from the beginning, the cargo modules were large pressure tanks with cargo containers secured to their side. At times this meant an inconvenient jumble of conduit that could have been better designed, but in this case it meant easy access to the punctured wall of the module. She began looking around for something to plug the hole with, just as Mercuriou opened the door and propelled himself into the module.

“Doctor Yeats, we’ve got to get a few things clear right now...”

“Excuse me... sir,” she interrupted as she reached for the spacesuit and pulled out one of its gloves. Turning back to the puncture, she slapped the glove against it.

“That’ll hold until we can patch it permanently,” she announced, then put her left hand on her hip while still holding a cargo strip with her right.

“You wanted to get some things clear? First, no matter how much reserve oxygen you’ve got now, it’s not enough. Second, it’s a lot easier to find the leak while there’s still air in here. Finally, bring two suits next time. It’d really suck if we both got stuck in here with only one suit between us.”

Red-faced, Mercuriou stared at her for several seconds, then turned and left without saying another word.

Perhaps because of his attitude, perhaps because of his altitude, perhaps because of his impunity, completely beyond the reach of any terrestrial authority, or perhaps simply because of what he said and how he said it, *Captain* Marc Mercuriou seemed to incite the ire of nearly every American political leader, regardless of party affiliation or personal background.

“Get the hell out of the left lane, fifty-five!”

Congressman Richard Ecks leaned on his horn and zoomed around the slower car, passing it on the right. His radio and TV show had been on the air longer than he had been in Congress, and this harried commute from his office on Capital Hill to his studio in Fairfax had become a daily ritual. He pulled into his reserved parking spot and hustled inside, skipping the elevator and instead jogging up three flights of stairs.

“What did I miss?” he gasped as he reached the top, where his producer met him with a blank stare.

“Nothing. We’re still on with the space captain at five.”

Ecks gulped down one of the steamed broccoli and banana seed milkshakes that he relied on to keep his 300 pound bulk under control. He changed, put on his makeup, drank half of another milkshake at his desk on the set, then set it out of view as the cameras came on.

“Good evening, and welcome to ‘Outside the Beltway’.”

“Capitalism has produced a society with the highest standard of living that has ever been seen on this planet. People are well-fed, well-housed, generally content with their jobs, with a surplus of leisure time and disposable income. Yet our opponents slam us at every turn because they can’t stand the idea of people working hard and getting rewarded for that work. Now this thief comes along, this criminal who has taken advantage of our society, stolen from our businesses

and our government, lied, cheated; he comes along with the nerve to blame capitalism for what? For letting him take advantage of our freedom? For giving him the opportunity to pull off one of the greatest con jobs in history – the 'Republic of Mars'? Let me start by asking you, *Captain* – how do you justify your theft?"

"Same way they justified Hiroshima – it had to be done."

"Hiroshima? We were at war, a war Japan started!"

"*Japan?! What Japan?* The women and children, the innocent civilians that died, *they* started the war? *They* attacked us? We did what we *had* to do to win, and there was some 'collateral damage'. Same thing here."

"And how... what war... again, how do you justify your theft?"

"It had to be done! To stop capitalism! To stop democracy! It had to be done!"

"...and all that justifies theft how?"

"It has to be stopped! Just like fascism! Just like communism! Now, I did what I had to do. I've answered your question, so move on."

There was a pause, and then another.

"...and this 'Republic of Mars'... how is its government structured?"

"I'm the acting chief executive"

"of course"

"...should we call you President?"

"Captain"

Mercuriou reached dramatically for a prominently positioned switch.

"Alright, *Captain*, capitalism may not be perfect, and this country may not be perfect, but what sets us apart from communism and fascism is our commitment to freedom."

"Freedom? What freedom? You have the freedom to be a capitalist, or to work



for the capitalists, or to be put homeless on the streets!”

“Well, I guess freedom *is* limited for people who don’t want to work...”

“Let’s shortcut this debate. ‘Work’ is a propaganda term that means ‘making money’, right?”

“No, ‘work’ means ‘work’! Work is what you do to put food on the table. We have to work in order to eat, Captain. We have to work to have houses, cars, clothes, computers, all of it. We have to sustain ourselves!”

“How do you sustain yourself? By refusing to do for people unless they pay you? How does that sustain anyone? But you dodged my question, Congressman. Are you defining work as making money, or doing something productive?”

“There’s no difference! That’s the beauty of capitalism; people get rewarded for hard work, and have the freedom to invest however they please!”

“No difference! Some kid makes millions throwing a baseball, and a father of five make pennies pushing a hot dog cart!”

“We have *freedom*! People can choose what work to do, and what to do with their money. You can be a businessman if you choose, you can be a social worker if you choose, you can be an author, you can be a doctor, you can be a baseball player; it’s nothing imposed by the government; it’s your choice! You can be Mother Teresa! And you don’t like to hear this, Captain, but most people want to better themselves through hard work, not charity handouts!”

“Capitalism rewards people who *do for themselves*! If you won’t work for them, you’re thrown away like a piece of human garbage, you’re talked to like garbage, you’re treated like garbage, you’re told to *get a job* and *do what you’re told*! The only way to get rewarded for hard work is to slap a credit card form on everything!”

“Because in the real world, if you just give everything away, you’ll be out of business!”

“That’s right! That’s the ‘freedom’ of capitalism – you become a capitalist or

you'll be put out of business! We pay pitchers millions a year, support video game, music and film industries that rake in billions a year, blow half a trillion a year on the military, but we can't afford to feed people in restaurants? Capitalism is depraved! Your leaders are trash! Your entire society is built on forced labor for these creeps!"

"Freedom, Captain, Freedom!! Who the hell are you to tell someone else what they can and can't do with their property?!! How dare you, you socialist crook, you shameless thief, how dare you tell someone who's sweated tears and blood that they have to give everything away for free?! I've let you rant on because I felt like listening to your bombast! You're like a blind man screaming 'You Blinked!' How are you so much better than all these terrible capitalists? You're the worst kind of capitalist – you've stolen millions, billions of dollars to build your own dream! You needed money – that's why most people go to work in the morning! That's why all these evil capitalists don't just publish all their books on the Internet – because the authors need money to write them, money to print them, money to put food on the table in front of their children! You've got a problem with *authority, Captain!* Let's take a break now and I'll introduce our next guest when we return."

Senator Patricia Wye had been a fixture on the Washington scene for decades, first as a dutiful wife and more recently as a power broker in her own right. Seated comfortably by the fireplace in the Senate Reading Room, she looked about her as the commercial break ran. The chair was positioned precisely; the coffee cup was filled to exactly the correct level; an edge of the ornate rug could just be seen on the video monitor. She waited until the tally light came on before smiling, to make this act seem more spontaneous. As she fell easily into a familiar patter with Ecks, the cameraman noted that her frosted blond coiffure hadn't changed in twenty years.

"Senator, what do you say to Captain Mercuriou?"

"Only that this country is run by its people, through their elected representatives, and the capitalists do not own everything. If anything, it's the other way around. Capitalism is chosen by the people and regulated by the government."

"Oh, it's regulated, all right. You've got laws to regulate factories, you've got laws to regulate fisheries, you've got laws to regulate farmers. If you chose

decent leaders to begin with, you wouldn't need all those laws!"

"Well, we have to have laws, Captain. Our opponents wants a society with no rules, but my vision of capitalism is that of a level playing field where businesses can compete honestly, officiated by the government, much like a sports game."

"Why? I'll tell you why. Because otherwise you'll have two factory owners build on the same river. One will be clean and safe; the other one will just dump his waste into the nearest pond. The first one will go out of business in a year, and the second one will retire at forty laughing 'Ha ha ha, you can't *com-pe-te!*'"

"And we don't allow that, captain! We allow free markets and free enterprise because they are beneficial to society, but we also need laws to protect the environment and ensure a level playing field, so that good corporate citizens are not victimized by abusers. Would you have us abandon the Clean Air Act, or the Clear Water Act? We have food stamps because we're not willing to let people starve! We have social security and Medicare because we're not willing to put the elderly out on the streets!"

"And who pays for it all? More taxes? Or just run it all up on the national credit card? How about a magician pulling a kerchief out of his fist – can he do it for the Federal Reserve?"

"We have to control spending, but we're not doing it by getting rid of the programs that we have decided are necessary."

"Bottom line – if America is so great and so wonderful, why do we need all these government programs?"

"Because these government programs help make our society great! We allow free enterprise, we allow competition, we allow people to earn a reward from their labor, but we also have programs in place to achieve a clean environment, a safe food supply, reliable transportation, a minimal social support system. Women and minorities need protection against discriminatory labor practices, and children deserve a quality education. These decisions are made through a cooperative political process."

"Your decisions are made on a TV game show, vastly elaborate, with stages all

over the country, and oh so expensive! You've got to be flying everywhere, giving speeches, buses, banners, balloons, all kinds of buttons and bumper stickers! It costs huuuuge amounts of money to play, the judges watch everything on TV, and they have an average IQ of 100! This is what your government has been since the invention of television! It's got troops all over God's creation, enough national debt to last a half century, the biggest prison state in the world, a wall across its southern border, and now it's out to enslave the planet under globalization! I call it a Game Show Government, and it's a disaster of truly Biblical proportions!"

"We're governed by our Constitution..."

"You're governed by a TV Game Show!"

Wye firmly grabbed her head, re-adjusted her hair, then laughed.

"So now you're against democracy..."

"Greek gods, am I against it? It's tyrannical! It's premise, that this one group of people, this majority, are somehow entitled to rule over everyone else just because there's more of them; it's a tyranny!"

"We have a participatory government, Captain! The people can petition their government to change the laws, and if enough people want change, the laws *will* change!"

"You didn't say the people could *participate*! You said the people could *choose their own leaders*, but in fact only the majority get to *choose their own leaders*; they do it on a TV Game Show; everyone else participates, and loses! Hell, I'll take 'participatory government' any day! You participate, and I'll make all the decisions! I'll even have my own TV Game Show! What do you say?"

"What do the people of this country want?"

"I don't care what they want, it's not what I want!"

"What about the *majority*?"

"All they want to do is to get rich, get tough, and get laid!"

“What about the people?”

“Oh, get off your cracked track! What’s so sacrosanct about that magic 50 percent, that *majority*?”

“You’ll have a dictatorship, captain, but I suppose that’s what you had in mind all along!”

“Nobody can just rule over everyone else like that. Nobody! Nobody has that right!”

“I’ve got a mission update for you, captain! The people of this planet have decided on democracy and we’re not going back!”

“I don’t care. I won’t accept it. Nobody should.”

Ecks’ final guest on the program was the Reverend Caiaphas Zee, a prominent Southern Baptist minister who had transformed a failed presidential bid into a mega church empire, and who now seemed content to advise the politicians he could not supplant. Standing in his pulpit on live T.V., clad in a black cassock and a starched white collar, a simple wooden cross hanging from a cord around his neck, his graying countenance seemed the very personification of a prophet of God.

“Captain, you are a liar and a thief!”

“I’ve said everything I intend to say on that issue.”

“Then let me say more! We have laws not because they are made by man, but because they are commanded by God! We are told ‘thou shall not steal’!”

“If that’s all you want to discuss...”

Mercuriou reached again for the switch, but Zee thundered on.

“Throw the switch, Captain, go ahead! That’s all I want to discuss! ‘Thou Shall Not Steal’! ‘Thou Shall Not Steal’!”

Mercuriou paused, then threw the switch. Nothing happened. He grinned.

“OK, Reverend, so maybe I won’t switch you off just yet.”

“Thou Shall Not Steal, Captain, *Thou Shall Not Steal!* God’s laws *command* capitalism!”

“God’s laws or man’s laws?”

“God’s laws, Captain, God’s laws! No sex! No drugs! And one more... *Thou Shall Not Steal!*”

“No sex?”

“Don’t you play word games with me, mister! You know what I mean! Marriage between a man and a woman!”

“Yet capitalism is moral... *why?*”

“Because God does not allow the government to steal! The government is responsible for public safety; the church is to handle charity!”

“After taking out a nice income for its preachers...”

“We live that gospel every day, mister! Our people work to help the poor, and many of them give quite a bit more than ten percent. We have some *very* generous members in our congregation.”

“You’ve got this nightmare of capitalism that’s another slavery all over again...”

“It is not! We don’t bind men in chains to force them to work! You should have been a politician; instead you became a thief! Now nobody will listen to you! Now I’m throwing the switch!”

Ecks interrupted before Mercuriou could fire back.

“Well, our time is growing short, captain, and it looks like our prison system is going to remain a little short, too. I don’t think it’s worth the expense to

apprehend you right now.”

Mercuriou now broke out into a long, half-genuine laugh. Ecks paused for a moment, then kept talking without waiting for him to stop.

“I suppose there’s no harm in leaving you be. You’ll eventually have to come back down. In the meantime, when you make it Mars, *if* you make it to Mars, do us a favor. Have the dignity to plant an American flag there. It’s the least you can do for the country that footed the bill.”

T + 54 days

nobody must have to work

“Whoo-hoo!”

Alister barreled down the module at the speed of a racehorse, his arms flailing wildly. He pulled them in to his sides and made his body rigid as he sailed through a mating node into the next module. Now he waved his arms in front of his face.

“Ahhhhh!”

Again he pulled his arms in to his sides, passed another mating node and began gyrating wildly.

“waHHHH!”

He tucked, grabbed a handlebar as he flew into the 767, and spun around into a pull up that he released with just enough backward momentum to let him glide into the cabin. Droplets of sweat from his forehead kept going, spraying out over where the rest of the crew were talking.

“Look, there are certainly plenty of people who would love to quit their jobs, throw off their leaders and fly away into space, but how are they supposed to get up here? The simple fact is that you had to steal billions of dollars just to launch five people into orbit, and that’s fairly consistent with NASA’s cost budget. What you’re suggesting is completely impractical.”

“OK, I’ll concede that they’re not going to make it up here exactly the way we did, but what’s the alternative? There’s nothing left on Earth. It’s a failed planet turning into one big global hegemony.”

“You can’t rationalize a decision just by saying that the alternatives are unacceptable.”

“Why not?”



“Because the solution to missing the school bus is not to invent a time machine! Sometimes *all* of your options are unacceptable. Then it becomes very easy to pick the most attractive one and gloss over its manifest defects. That’s why we have planning meetings and project cost estimates, Gantt charts and Capability Maturity Models. If *none* of your options are capable of hitting your target, then you need to know that *before* you push the little red button in the launch tower!”

Mercuriou paused and studied Dr. Andrea Yeats.

“Andrea, I have studied these options. The one I’ve chosen certainly has a lot of defects, but I really am convinced that it might work. Mars, I admit, is a bit of a publicity stunt, but after we’ve landed there we’ve got to take a close look at the asteroid belt. There are probably more minable mineral resources there than on the entire Earth. If we can set up a manufacturing plant there, with the robotic automation technology we’ve got, then we can build more ships like this one. We’ve already built one, so we know how to do it. We can set up hydroponics to grow food, establish a colony there and send ships back to Earth to bring more people.”

“We’re not going to need the hydroponics, Marc.”

“What do you mean?”

“I’m not sure, Marc. It’s just real clear to me now that you’re not going to need a doctor, and you’re not going to need the hydroponics.”

“So...what? We’re just going to give up after a year and go home?”

“Maybe. I don’t know.”

“What then? You’re saying we’re going to die up here?”

“No, I didn’t say that, either. I can’t really explain it, Marc, except to tell you that I wrestled mightily trying to decide whether to come along on this. I know now that it was totally worth it; I’m thrilled to be here; I don’t question it now for a minute, but I also know that... I’ve gotten *centered*, Marc, I don’t know how else to explain it, I’ve gotten centered, and I understand now that my presence here is totally superfluous. You don’t need me... not really.”

“And what happens when our food runs out?”

“I don’t know.”

“You’ve just got... one of your ‘feelings’?”

“More like a certainty.”

There was another long pause.

“Can I say something?”

“Sure, say whatever you want.”

“Well, if we move out of orbit, I mean, that’s what we’re taking about, right? That puts us out of range of the space shuttle!?”

“That’s a real good point, Alister. Look, you’ve made your point. Now we’ve got to test this craft. Let’s start looking at re-entry scenarios...”

“We’re going to Mars, Dr. Yeats, that’s not going to change.”

“Fine, you can go to Mars, but first you’ve got to test this spacecraft in a controlled environment where there are rescue options both in orbit and on the ground.”

“She’s got a good point, Marc.”

Mercuriou guffawed.

“First Vic, now you going turn traitor on me too, Burns?”

Burns answered with a laugh of his own.

“Hey, I’m just saying that what she says makes a lot of sense!”

“Burns, the minute, nay, the second these wheels touch the ground, we’re just five little nobodies at the mercy of those governments.”

“We could contact a neutral country... Switzerland might let us land.”

“Sorry, Doc, it’s not worth the risk. Burns, what do have to do to leave orbit?”

“Well, we’ve got to assemble the rest of the cargo modules...”

After assembling the rest of the cargo modules, they mated the 767 to the rear and drove *Xplorer One* into interplanetary orbit with a long engine burn. Meanwhile, almost imperceptibly, their dramatic space launch changed from Breaking News into Established Fact, and promptly vanished from the media news coverage.

T + 72 days                    nobody must play by the rules

The latest news updates from Earth had brought word of an explosion in Nigeria that had killed hundreds scavenging gasoline from an illegally tapped pipeline.

Mercuriou was grinning.

“Lycurgus would have approved.”

“You can’t be serious.”

“Why not? The African capitalists want to pump oil and ship it to America while their own people starve. What’s wrong with a little ‘competition’?”

“Who was Lycurgus?” Alister asked as Andrea shook her head in disgust.

“He was the founder of Sparta, maybe the greatest socialist success story ever.”

“Were they Communists?”

“Not exactly. Or maybe they were, depending on how you look at it. The parents didn’t raise their children, for example, the children were raised by the state. And their education consisted of leaving them to starve unless they could steal food to eat.”

“That’s insane!” the youth replied. “Why on Earth wouldn’t they feed their own children?”

“Lycurgus wanted a nation of warriors... and he got it. Maybe Nigeria can be the next Sparta!”

“Mankind’s determination to train children to do evil *is* amazing.”

A taunting grin materialised under Vic’s moustache.

“Well, maybe you can do Lycurgus one better, Doctor. Maybe you can prescribe a set of rules for us to raise our children to be Christians instead of warriors.”

“I think Jesus already gave us those rules far better than I could, Vic. Sell your worldly possessions and give to the poor. Give to all those who ask, including thieves; love and pray for everyone, including your enemies; see people as God sees them; work for God, not for money.”

“The problem is that people don’t play by those rules. Just because the teachings are transmitted, doesn’t mean they’re understood. Just because they’re understood, doesn’t mean they’re practiced. They’re talked about all the time, but mostly it’s just talk.”

“I don’t know about that, Vic. Edward Gibbon thought that Christianity was a major factor in the downfall of the Roman Empire. At first the Romans were Pagans, they gloried in the martial arts, taught their children the virtues of war, worshiped gods like Mars and Jupiter. Then came along the Christians, everybody started turning the other cheek and forgiving their enemies, before long, no more Roman Empire. What amazes me about Western civilization is how pervasive is this notion that the individual somehow owes something to the state, or at least to the society. In ancient times it was obedience to the King, now it’s obedience to democracy. And of course people are obligated to work, too. That’s all gotten embedded into the religion. It’s all part of propping up a society.”

“But people have to work to live, right? I mean, people have always had to eat!”

“It’s true that people have always had to work to eat, Alister, but this notion that people have to work *for the society* is what we’re talking about. Take the Native Americans, for example. If anything, they believed that society had a responsibility to the individual to raise him to be independent. They taught their kids how to build fires by rubbing sticks together, not by buying a lighter at a store. They were taught to recognize wild plants as edible or poisonous, to build a shelter or a bow and arrow just from the natural materials you’d find lying about in a forest. The net result was that by the time they were fifteen years old, they could literally walk out into the woods and take care of themselves. Their society was more voluntary. If anyone didn’t want to be there, they could just get up and leave. Murders, robberies, the violent crimes that we’re so familiar with, were almost unknown. I think it was because they raised their children to be truly

independent, while Western society for generations has raised people to be dependent. Most people wouldn't have the slightest idea how to feed themselves if they couldn't walk into the supermarket with a twenty dollar bill in their hands."

"So we should give up our technology and go back to living like Indians?"

"It might not be a bad idea. The human race might be too primitive for all this technology. You'd definitely be healthier living in the woods; maybe happier, too. What I'm trying to say is that industrialization had radically transformed human society, and the shock waves are still being felt. In the last hundred years, we've gone from a primarily agrarian society to a primarily industrial one; we've gone from people living on farms to people living in cities. That means people are dependent on each other to an extent never before seen, not in all of human history, and that exacerbates the problems. Most human societies are based on coercion, on greed, on the domination of man over man, of the strong over the weak. The more industrialized society becomes, the more dependent people are on it and each other, and the more oppressive society can become. There's just no way around this, unless millions of people are going to decide to change their human nature, to abandon greed for generosity, force for persuasion, and rights for responsibilities."

"So the philosophers have turned to politics to try and find their freedom there. Their latest dopey idea is democracy; they keep trying to convince us that freedom is to be found in that dumb vote, and don't you dare try to tell these people otherwise. They'll scream you down as a Communist until the work bell rings. Go to church on Sunday to hear how you need to work, work, work so you can give, give, give when they pass around the collection plate."

"Marc, do you still need me to distinguish true Christianity from bastardized Christianity? Jesus didn't teach us to work to eat, in fact, just the opposite. He taught us not to worry about food, or clothing, or housing. He said to put your faith in God for those things. He pointed out that the birds in the air don't sow the field, or reap the harvest, yet God provides them with all the seed they need to survive. Jesus taught us to put God first, put your fellow man second, and let God take care of the rest."

"That sounds good, Andrea, but faith in God didn't get any of us here. None of the companies that sold us this equipment did it for God or for love. They did it

because they thought they would get something out of it for themselves. We got here because we were willing to take it.”

“That’s funny, Marc, because I don’t remember taking anything from anyone. Faith in God got *me* here.”

T + 107 days

there must be a sex scene

The club was packed, and the music was pounding. Colored beams of light flirted with the twenty-something revelers on the dance floor as strobes pumped with the beat and lasers scanned above the fog that poured down from the rafters. Along one wall, a half dozen bartenders scurried behind a mahogany counter, pushing out beer and liquor as fast as they shove hundred dollar bills into their cash registers. By the bar and in the alcoves, older men flirted with the youth, or just rested for a moment with their backs against the wall. The crowd, high on liquor and pot, sweat and sex, moved and vibed with the latest hip hop hit.

*games are addictive*  
*games are insane*

Alister weaved and bobbed with a twenty-year-old brunette wearing a tight white top and blue slacks. She brushed against him as they twirled and then pressed her head against his chest. Breathing deep, he inhaled her fragrance and squeezed her tight.

*games waste your time*  
*games waste your brain*

“You know what?” she whispered in his ear, “I want to see you in your underwear!” They kissed, hard, lost in the crowd, the beat pounding.

*books are the ticket*  
*books are the tool*

“Let’s take a shower!” he yelled over the music. She shot him a coy look.

“You want to have sex?” she asked.

“No, no, I mean, maybe, I don’t know, I just mean, probably, but I just want to take a shower with you, I think it’d just be fun!”



*books ain't for nerds*  
*books ain't for fools*

Suddenly Mercuriou was there!

“What the hell are you doing!?” he shouted, “You’re supposed to be looking for Andrea Yeats!”

“Wha... what?” Alister blubbered as he jolted awake.

He was alone in his darkened compartment, wearing a pair of headphones connected to the laptop floating nearby. Yanking them off, his heart pounding, he listened intently for the captain’s voice, but heard nothing other than the constant hum of the air conditioner and the tinny noise squeaking out from the headphones. He yanked the cord from the laptop. Silence.

Calming, he stretched and exhaled. Grabbing hold of a pillow floating nearby and squeezing it in a tight embrace, he dozed back to sleep. *Man, she was HOT.*

T + 124 days                      madness must prevail

“We *have* to land.”

“Why? Why do you have to land? You’ve already accomplished more than any other space mission to date. *Xplorer One* will go down along with with Vostok 1 and Apollo 7. So what that we didn’t land...”

“We have to land! People don’t remember Apollo 7; they remember Apollo 11! If we don’t land, they’ll say we failed. Then they’ll come back a few years from now and make the first landing on Mars; hell, they’ll use our technology to do it, and everyone will remember Captain so-and-so or Major such-and-such saluting the first American flag on Mars!”

He now swung his face close to Andrea’s and lowered his voice.

“But they’ll be too late! I’m planting the first American flag on Mars – face-down in the Martian dirt!”

More than ten million people were watching the crew conference live on television. Now settled into Mars orbit, and with a landing attempt only days away, most terrestrial cable TV systems devoted a channel full-time to the *Xplorer One* video feed. During the crew’s sleep cycle, a scrolling orbital panorama of the red planet’s surface had become a standard fixture on many a TV screen, highlighted by a small colored box labeled “LIVE – Mars Orbit”.

“So let them! Why do you have to risk everything just to win your private little war? Or do you seriously think that you can survive down there?”

“Well, maybe you find this hard to understand from your cushy NASA perch, but there’s a lot of people back home rooting for us to show the world that you don’t have to become one of these ruthless bums to get something done in life.”

“Oh, please! Don’t you? Haven’t you? How many billions did *you* steal, Marc? How many toes did you step on? Don’t tell me you haven’t become ruthless!”

They locked eyes. Mercuriou fell into his slow-and-firm, no-nonsense tone of “command”.

“We are landing on Mars. That has been a primary mission objective since day one. We take the risks as they come. If you learn to live with disappointment, she’ll never leave you for another man.”

T + 150 days

somebody must die

“We’re getting a lot of vibration,” Burns reported from the left hand seat in the 767’s cockpit, descending backwards through the Martian atmosphere with the plane’s nose aimed at the sky and Vic seated next to him. Light engine thrust was being used as a brake. Andrea had finally got her demand met for a test flight.

“Is that unexpected?” Vic asked.

“It didn’t happen on Earth; I’m slowing down more.”

Burns pushed the throttles forward. They were still more than ten kilometers high, and he was clearly expecting the vibration to ease as the rockets slowed the vehicle.

“Burns, you, uh, you’ve got a lot of atmospheric turbulence developing around you,” Mercuriou reported from orbit, crammed into A-1 Captain’s Quarters along with Andrea and Alister.

“What’s going on here?” Burns wondered aloud. “This should be dampening!”

Instead, it was getting worse. The ship was definitely beginning to vibrate. The vibration somehow spread outward from the ship and coupled into the atmosphere, which responded by swirling around and buffeting the ship with wind.

“I’m aborting,” Burns declared as he pushed the throttles forward, and the entire ship began to shake like a washing machine.

The 767 was now in the center of a full-fledged Martian cyclone. The engines strained at full throttle. The ship slowed, stopped, and then began to climb. In the cockpit, the two men heard a terrible ripping sound as the rudder tore away from the fuselage and went careening away towards the red planet below.

“What was that?”

A wailing alarm, first three red lights and then dozens of red and amber lights on the instrument panel answered Vic's question. The space plane lost its equilibrium, pitched back and began to yaw, overwhelmed by the aerodynamic forces of the maelstrom, a raging hurricane with no eye. The left wing snapped off the fuselage, and slammed into the battered tail.

In the cockpit, Vic watched the mad swirl of the artificial horizon like a exposed tank commander staring at an armor piercing round headed straight for his turret. He glanced over at Burns, fighting madly against the controls, and a calm peace enveloped his soul.

*Now I get the answer key.*

“Is that a cliché?”

“What?”

“nevermind”

“I saw an angel, mommy!”

“Burns? Burns?”

T + 156 days                      suicide must be contemplated

The Captain stopped working. He moved into A-1-1 Captain's Storage and let Alister and Andrea do all of the work, or more precisely all of the work in A-1 Captain's Quarters, because Kyle's Mission Control facility in Houston was now constantly on one of the monitors. Sometimes Andrea would just stop and watch it for several minutes, unable to directly participate because of the nearly hour-long round-trip radio time lag.

"Oh, and thought you might want to see this," Kyle announced towards the end of his 0800 transmission, the first of the morning.

He held a popular American newsstand tabloid to the camera. A photograph of their spaceship was overlaid with a drawing of a wild-eyed seer with deep, penetrating eyes staring directly out at the reader.

"Apparently some of Nostradamus's quatrains referred to the *Xplorer One* – something about 'the great bird crippled in the night' – looks like the death of your chief engineer is only the first of many woes to befall you guys, let's see, the first death was by fire, the last will be by ice, and, oh yeah – none of you will ever make it back to Earth alive! Houston out!"

"Thanks a lot, Kyle," Andrea told the video screen as the transmission ended and was replaced by the usual screen cluster on the projector. "When I get home, remind me to read you *your* obituary over coffee in the morning!"

After finishing her coffee, she knocked on Mercuriou's hatch, entered without waiting, and closed it behind her. He turned around, surrounded in a haze of marijuana smoke, and faced his first officer as she cued a video on his tablet computer's monitor.

"This is what Alister recorded on the high-speed film."

The video showed the doomed 767 in high definition, seen from almost directly above, buffeted in slow motion by hurricane force winds.

“NASA’s been able to enhance it to show the eddies.”

The video now showed strong vortices coming off of the running engines, enlarging and growing, twisting and coalescing into a single massive storm. Andrea let it play through the breakup sequence.

“We’ve estimated the decent path of the cockpit, but there’s no reason to think that anybody’s still alive or that we have any kind of viable ground rescue option.”

The video played on, now showing only the storm slowly dissipating and disappearing like a voodoo phantom conjured by a pagan priestess.

“We just don’t know what happened. The engines obviously triggered some kind of storm, but nothing in any of our Martian atmospheric models predicts anything like it.”

Mercuriou said nothing.

“We’ve got OMS-27 coming up. It’s a 37 mega-newton burn starting at 13:42 tomorrow. It has a tapered entry and step cut-off, is 3 hours, 17 minutes and 13 seconds in duration, and puts us on course for Earth.”

“A three hour OMS burn?”

Secretly, Andrea was glad to see this reaction, much more so than quiet resignation, but this she tried not to show.

“We don’t have the 767 anymore, Marc. We’ve taken a spare engine out of storage just to get any propulsion at all. It’s going to take two and a half hours just to get out of Martian orbit. And our transfer orbit will be a year and half long.”

Mercuriou nodded assent, then changed the subject.

“I’m going to sickbay. I’ve got a headache.”

No one had been in sickbay since Vic’s death nearly a week earlier. The captain

keyed the lock, found that it didn't work until Andrea keyed it, then opened the hatch and pulled himself through. Andrea followed, then they stopped and looked around.

The room was immaculate. Everything had been cleanly stowed, including Vic's laptop, which was normally floating free at the end of its tether.

"Why can't I open the door?"

"You're on suicide watch."

"That's what you think I'm thinking?"

"I don't know, what are you thinking?"

"You don't want to know what I'm thinking."

"Yes, I do. I really want to know what you're thinking."

Mercuriou retrieved some pills, Andrea checked them and nodded her ascent, then he dry swallowed two of the capsules and shoved a third back into the container before stowing it.

"So what are you thinking?"

He floated still and was silent for a while. Encompassing the entire ship with a wave of his arm, he answered.

"I knew that this thing was dangerous. I guess I always figured if somebody was going to die, it was going to be me, so... so what, right? I didn't think it would be my best friends."

"We all knew it was dangerous."

"Oh no, you're right! We all knew it was dangerous! It's just... I... I never thought I'd survive! If we died, we died! We all agreed on it! We made a pact! I never thought that they'd die, and I'd survive! Oh my God, this is horrible! I don't know what to do! I don't... Oh my God!"



Andrea lowered her voice, moved closer, and took him by the arm.

“Look, they died because you aren’t perfect, and as you now realize, your plan wasn’t perfect, either. So now the whole thing’s a big disaster. But *I* knew your plan wasn’t perfect, and I came anyway. It’s over. It may take you a long time to forgive yourself; hell, you’ll *never* forgive yourself, but it’s over. You made a mistake that you’ll have to live with the rest of your life; guess what, it happens. It’s time to go on. And it’s a bit easier because we’ve only got one place to go.”

Andrea had by now received a special dispensation to celebrate Mass without a priest, and her televised Sunday services, often highlighted by direct dialog with her congregation of two, had earned her an unlikely reputation as a space-bourne televangelist. Today's Gospel lesson featured Matthew 7:21:

“Not every one that said to me, Lord, Lord, shall enter into the kingdom of heaven; but he that does the will of my Father which is in heaven.”

“This is one of my favorite parts of the Gospel, because it speaks to one of the deepest rifts in Christianity - the split between Catholics and Protestants. Five hundred years ago, the Catholic church had gotten into the practice of selling indulgences; essentially telling people that through charitable donations to the church they could buy their way into heaven. We have since repudiated that practice. Before that occurred, however, Martin Luther spoke out decisively against indulgences, among other things, and when he would not retract his statements was excommunicated from the Catholic church. He initiated the Protestant Reformation, founded the Lutheran Church, and adopted the doctrine of Justification by Faith, which teaches that salvation is achieved solely through accepting Jesus Christ as your personal Lord and Savior. In one form or another, this doctrine is accepted by most Protestant churches.”

“Matthew 7:21, however, shows that Justification by Faith, at least in its most extreme form, is itself seriously flawed. Merely mouthing the name 'Jesus', no matter how piously done, is not a substitute for actually doing what God wants. Christ told us the same thing, a little bit differently, in a parable. Let's look at Matthew 21:28:”

“What do you think? A man had two sons; and he went to the first and said, 'Son, go and work in the vineyard today.' And he answered, 'I will not'; but afterward he repented and went. And he went to the second and said the same; and he answered, 'I go, sir,' but did not go. Which of the two did the will of his father?”

“Actions speak louder than words.”

“Precisely. So when Christ says that not all who call him ‘Lord, Lord’ will enter the kingdom of heaven, but only those who do the will of his Father in heaven, not only is it an amazing suggestion, that God actually has a will for each and every one of us, all six billion of us, but it provides a simple statement of what our goal should be in life – to do the will of God.”

“This, of course, is much easier said than done, to the point where *discernment* has become a buzzword in religious communities. Some advocate meditation; St. Ignatius developed a lesson plan; Vic’s technique was the vision quest. Rick Warren developed a more autonomous approach. He encourages his readers to look at their own skills, their own interests, their own limitations – in short, their own gifts, and achieve discernment by asking how best to invest them, as in the parable of the talents. Whatever the method, the attitude is that of a servant, and the goal remains the same – to do the will of God.”

“I haven’t done the will of God.”

Andrea paused.

“You’ve made mistakes, but you’ve also said things that needed to be said, and found a platform from which they were heard. Now, did you need to steal a billion dollars to do that? Did anybody have to die? I doubt it. I think you could have found another way. This is why I don’t buy the Christians who say you have to fight violently against evil. First off, it’s un-Biblical – *resist not he who is evil*. Second, if there was ever a time when you could have justified a revolution, it was two thousand years ago when slavery was as commonplace as money, paganism was the religion of the masses, and Rome was the terror of the Mediterranean. Yet Christ didn’t condone any revolution; didn’t lead a protest march on the governor’s residence; didn’t stage a sit-in at the slave auction. Didn’t do a thing to oppose his own murderers, and didn’t let his disciples oppose them either. What he *did* do was teach; and in the beginning of John is this beautiful passage about the Word. ‘In the beginning was the Word, and the Word was with God, and the Word was God.’ Why the Word? Because the Word is the weapon of the Christian, and the fire of God erupts from the mouth.”

“But if you don’t believe in Jesus? Who’s going to listen then?”

“Well, people used to believe the Earth is flat. You can believe whatever you want; the fact is that the Earth is round. Now I believe that Jesus returned to life after three days in the grave. It’s like the Earth being flat or round. People can debate it one way or another, but it’s a question of fact, not preference, and ultimately either true or false. I think it’s true. The resurrection was God’s ultimate stamp of approval; it was his way of telling us that we need to take Jesus seriously. That’s why his words are printed in red; they are the most important part of the Bible. The basic rules are pretty simple. Love God - unconditionally, and love your fellow man - unconditionally. And maybe everyone says something different because even though that sounds easy, it can be really tough to figure it out in practice. Just like our Gospel reading today - easier said than done.”

T + 210 days                    some system must run all our lives

The weeks dragged on into months. Nothing happened. The ship kept on its slow coast back to Earth. Mission Control kept on purring. Andrea kept on preaching.

“They’re historical documents, Marc. Just because we believe in Julius Caesar doesn’t necessarily mean he said ‘Now the die is cast’ as he crossed the Rubicon.”

“So how can you say all this stuff with such certainty?”

“I hardly say anything with certainty. A lot of churches say all kind of things with certainty. All I’m sure of is that Jesus rose from the dead.”

“Why?”

“Well, I could point to all those first century source texts you’ve got there that claim it. I could site plausible physical evidence like the Shroud of Turin, or inexplicable miracles like Fatima. I could give you my own testimony. Yet the bottom line is that it’s just what I believe. It’s like asking why some people believe in science. They’ve got all kinds of reasons, but ultimately it’s just how they’ve chosen to live.”

“Do you believe in science?”

“Sure, I’m an astronaut! I just don’t believe in it as a religion, that’s all! It’s very useful, but it’s got limits! We can look at those stars through telescopes, but we’ll probably never know about life out there unless we invent a warp drive. We can dig through fossils for centuries; we’ll never know how life was formed until we invent a time machine.”

“I always thought religion was a sham to keep rich people in power and tell everybody else to be peaceful and non-violent.”

“Jesus does what he says; it’s an integrated whole. He doesn’t just tell people

'give to all those who beg of you'; there are these miraculous scenes like where he tells Peter to take a coin from a fish's mouth to pay a temple tax. Why would he have done that if he had any money himself? The man must have been penniless."

Mercuriou thought for a moment, then began sobbing.

"I just can't do it, Andrea! I can't go on! I just can't live with this! I've blow the biggest thing in my life!"

Tears sprayed off Mercuriou's eyes; in zero-gee they couldn't roll down his face.

"I'll live in prison... I won't do it! I can't go on! I'd rather be dead! Oh God, just let me die!"

"What does God want you to do?"

"He didn't want this! He didn't want me to do this!"

"What does he want you to do *now*?"

Mercuriou stopped crying. He shook his head, then paused and thought for a while.

"I can't do it. I can't deal with this, Andrea. I just can't."

Andrea shrugged.

"...then ask him to let you die."

Mercuriou stared at her.

"Ask him!"

"He'll tell me no, right?"

"I don't know! Maybe he'll tell you yes! You can ask him for whatever you want. If you're a disciple, you'll get a lot more of those prayers answered."

“How can *I* be a disciple?”

“You become a disciple when you start doing things his way.”

With cork puller still attached, the cork went flying unheeded across the cabin as the Captain grabbed for the plastic cover and slapped it over the top of the wine bottle. Even so, several gobs of the red alcohol went floating into the air, the liquid's surface tension forming them into perfectly round spheres. Andrea laughed, but Mercuriou remained morose and somber. The picnic had not been his idea.

"You'd think that after half a year in space, you'd have learned how to open a wine bottle without spilling it everywhere!"

"What I've learned," Mercuriou answered, as he spun across the compartment and swallowed one of the larger floating drops, "is that air's a lot easier to clean than carpet!"

"Alister, the picnic's starting!"

"I'll be there in a minute," came the reply from the next module.

Mercuriou spilt only a few more drops as he 'poured' the wine into two wine glasses, each one quickly covered with a flat plastic square. Drinking from straws was much easier, but an hour earlier, after Andrea suggested a picnic lunch, Marc had dug into the ship's stores and produced the glasses alongside the bottle, and they had stood on tradition, at least for the moment.

"Cheers!"

They clinked glasses and both laughed as Mercuriou spilled wine all over his face trying to drink it. Andrea grabbed a towel.

"You guys should come in here!" Alister yelled before propelling himself through the hatchway.

"Well, m-maybe you want to come in here," he stammered as he watched Andrea



trying to clean Mercuriou's face.

"What's up?" the grinning Captain asked.

"An airplane just crashed into the World Trade Center!"

"Well, hopefully, nobody was hurt."

"I'm sure the pilot didn't make it!"

They gathered around the picnic basket to pray. Andrea was about to bless the pilot, but at the last minute reconsidered and blessed the *people* in the plane. Soon Alister was back at the console.

"Another one! Another one!"

Mercuriou once told Burns that there are no great men, only great ideas, and that genius is the ability to retrieve those rare gems, that energy and mass are the same thing, related by the square of the speed of light. Why the speed of light? Why it's *square*? That was the fine-cut diamond Albert Einstein pulled from the rough. Tom Clancy was such a genius. Khalid Shaikh Mohammad was another. Both men had discovered the same fiery sapphire, that unbenonst to the masses of mortal men, a passenger jet can be used as a *guided missile*. One genius buried his discovery in the pages of a novel. The other held its blazing red light up for the world to see one terrible September morning.

"Another Timothy McVeigh or something... The country is so hated... Hell, you can say a lot about me, Andrea, but I never did anything like this."

The picnic was forgotten. At 1431 GMT, September 11, 2001, after first the event on Earth and then a radio lag of 3 minutes 17 seconds, the silent *Xplorer One* crew watched the second tower collapse. In the days ahead, it would be revealed that Islamic terrorists had hijacked four American airlines. Two had slammed, full throttle, into the twin towers of World Trade Center, at one time the tallest buildings in the world, and headquarters to dozens of major companies; a third hit the Pentagon; the fourth crashed in Pennsylvania. Burns would have suggested imagining the pictures you've seen of jet crash scenes, then trying to project it 100 stories above you onto a skyscraper in lower Manhattan.

Later, Burns would have made a quick calculation based on the published mass and height of the skyscrapers to estimate the energy released by their collapse – ten kilotons of TNT – the size of a small atomic bomb. Bankers, mail men, fire fighters, brokers, CEOs, bus boys – all lost their lives on 9/11. A pair of glasses, a morning cold, an early meeting – these became the difference between stumbling away covered in a white dust of pulverized concrete or having your picture appear on a wall of sorrows over the caption – “97th floor, One World Trade, any information please call...”

Within hours, the nation mobilized. Medical teams sprung into action, fire fighters dove into the wreckage alongside men who walked up on the street and volunteered, desperate to find anything or anyone still alive in the tons of rubble. Yet the medics remained largely idle, and the anticipated stream of casualties into trauma wards only materialized near the Pentagon.

Within days, the world reacted. NATO invoked its mutual-defense clause for the first time in its history; a French newspaper declared “Today, we are all Americans”; the British prime minister flew to America and quoted Thornton Wilder.

Within weeks, the President fingered Al-Qaeda as the culprit, declared “either you are with us, or you are with the terrorists”, then bombed and soon invaded Afghanistan.

“Maybe you shouldn’t go on TV right now.”

“Why? Because the country’s been hurt too bad to hear the truth?”

“What truth? That the jihadists took advantage of our freedom...”

“Took advantage of freedom!? You make it sound like anybody can just walk up to one of these training companies, ‘hey, I’d like to fly a 767’... ‘sure, no problem’. You’ve got to have *money* to fly! How many people would love to fly but it’s too *expensive*?... They took advantage of *capitalism*! They had the one thing that will make people say ‘yes’ in a society that says ‘no’, ‘No’, ‘NO’! They took advantage of the fact that Osama bin Laden is a *multimillionaire*!”

“...and attacked a civilian target!”

“Well, who you gonna attack? The political leaders, the President? They’ll just elect a new one and keep going, all hot to avenge him! Who really is responsible? Isn’t it The People, themselves? Isn’t that what they keep screaming, that it’s The People that run the government? The majority that elects these guys? Since it’s *The People* who run democracy, shouldn’t we hold *The People* responsible? And who was in the World Trade Center? Those people were the true believers! They were the *capitalists*! The jihadists attacked the World Trade Center because it was a *symbol* of capitalism, just like the Pentagon is a symbol of *militarism*!”

“It doesn’t matter.”

“And on God’s earth, why, woman, why?”

“Because you *forgive your enemies*, as we’re told in about a hundred parables! You don’t steal ‘more money than Bernie Madoff ever saw’ because they won’t let you fly to Mars, you don’t smash airplanes into their skyscrapers because they imposed some global capitalist system on you and you don’t invade foreign countries because they won’t obey your dictats!”

“Andrea, it’s like klaxons going off in a cockpit! Brrrmpf! Brrrmpf! Brrrmpf! Whoop, whoop, pull up! And if the co-pilot just stays meek and silent, then the plane’s going to crash! You said it yourself, Andrea. The Word! The Word! It has to be heard!”

“You act like people have never heard this criticism. Don’t you think it’s been heard over and over, and rejected, time and again? They’re all off on the warpath now; they’re not going to listen to anything you have to say; you may as well just save it until we get home.”

In America, a dissident’s dream had prophesied disaster for the United States and war in the Middle East. In Afghanistan, an Islamic militant dreamed that his nation defeated the United States in a soccer match and that all of their players were dressed as pilots. In Afghanistan, in Pakistan, or perhaps in Khartoum, Osama bin Laden was smiling.

T + 276 days

some anti-government plot must be hatched

“Two thousand years ago we were told *Give to all those who beg of you*, but half of us still don’t believe that it was God speaking and the other half still don’t believe that he meant it. Amen.”

By the end of the sermon, Alistair had concluded that humanity was too primitive to be flying to Mars, too primitive to have nuclear power, too primitive to have global data networks, too primitive to have hypodermic needles, or air travel, or oil wells or cars, and was genuinely wondering about the printing press. Mercuriou’s thoughts went in a more predictable direction, which he shared with Andrea in private.

“I cooked up some delusional scheme to achieve an impossible goal. I ruthlessly stole billions from strangers, got my two best friends killed, and am going to be sitting in a jail cell for the rest of my life. I’m a total failure.”

“Worry about your relationship with God; get that straight first, and the rest will follow.”

“Relationship with God? Did you hear what I just said? You’re still taking about my relationship with God? I don’t think there’s much hope left in this life for Marc Mercuriou.”

“You’re regretting the past and worrying about the future, and you’re doing it all from a mortal perspective. Start with the present.”

Mercuriou waved his hands, gesturing around him.

“We’re floating in an air-conditioned tube with nothing to do and no way out. That’s my *present*.”

“An excellent opportunity for prayer and meditation.”

“I don’t know what to pray about.”

“You just gave me a nice little list! Forgiveness for the past; guidance for the future – two of the most important things for anybody to pray for.”

“Forgiveness?”

“Marc, one of the central tenets of my religion is the *total forgiveness of all your sins*.”

For a moment, Mercuriou stared at her silently.

“To obtain that forgiveness, we are to commit our lives to God.”

“So a murderer, a rapist...”

“If the commitment to God is sincere and persistent, yes, but we’re stubborn and opinionated. You need to set aside your own goals and put God first in your life. You’ll still be stubborn and opinionated, but we can work on that. First get your course set straight, then we can trim the sails.”

The two astronauts floated in silence for several minutes. Finally, slowly, Mercuriou nodded his head in assent. “*What have I got to lose, right?*” Awkwardly, he clasped his arms around a hand strap, kneeled against the bulkhead, and was silent.

“Do you want me to leave?” Andrea whispered.

“No.”

He sighed, bowed his head, paused again. Finally, in a low voice, he spoke.

“Dear Lord, please forgive me for what I’ve done...”

...and he started crying again. Then, for the first time in his life, Marc Mercuriou relied on God.

T + 383 days

the media must expose themselves

“Five.”

“Four.”

“Three.”

“Two.”

“One.”

Alister’s voice clipped off the final seconds before the computer began the insertion burn. The slight force from the engine pushed the crew gently backwards into their seats. The computer screens showed their current trajectory, in blue, an open hyperbola that skittered out off the screen, and their target trajectory, a neat red circle centered on a green Earth. As the engine fired, the blue line began curving more strongly back towards the direction they were coming from, as another clock ticked down more seconds.

“Orbital interface in five, four, three, two, one, Earth orbit.”

The blue line flicked neatly into a broad ellipse, as Alister breathed a sigh of relief. Almost nothing, short of something absurdly catastrophic, like crashing into the atmosphere, could stop them from getting back to Earth now. Even if the engine failed now, they would be in some crazy orbit that they could get them down from almost no matter what. Now he just relaxed and watched the rest of the countdown.

“ECO in five; four; three; two; one; Engine Cutoff.”

The engine kept running. The crew furled their brows and starting clattering on their computer keyboards. After typing a manual shutoff command that did nothing, Andrea keyed her microphone.

“Kyle, we’ve got a problem. Our engine won’t cut off.”

On Earth, media outlets had carried the spaceship’s return as a minor story. A few were even carrying the *Xplorer One* video feed live. Now they began cutting to “Breaking News”.

“We have Breaking News. The *Xplorer One* spacecraft is experiencing an engine malfunction...”

One enterprising journalist had enlarged a video frame from the crew camera and extracted an image from the computer screen to Alister’s left. It seemed to show a black line intersecting Earth, but this was in reality only a shadow cast by Alister’s tablet computer.

“*Xplorer One* is now on a collision course with Earth!” one anchor exclaimed. “Experts believe that Europe and Africa may be affected.”

The ‘experts’ in this case were three more journalists, all of whom agreed that there was definitely a black line across Earth on the video frame, and who could make out the continents as well. Soon TV screens were full of realistic graphic images of the planet with a black line starting in Keyna, crossing the Mediterranean between Libya and France, and passing directly over Marseilles before ending in the Atlantic Ocean.

“This is the trajectory shown on the *Xplorer One* computer screen...”

“Residents along the affected path are being warned of the possibility...”

“If you can get to a bomb shelter...”

Meanwhile, *Xplorer One* had lost Earth orbit. The blue line on Alister’s screen had changed to a nearly straight path off of the screen, and continued to move further off the screen as the engine continued to burn. The crew had by now eliminated any obvious computer malfunction, and had concluded that the values must have become stuck open during the prolonged burn.

“Did you conduct any cryogenic tests with the values? Can they freeze open?”

“I don’t think so... I don’t know!”

On Earth, Kyle Lankier held a press conference, during which he was questioned repeated about the collision course with Earth.

“At no time was the spacecraft on a collision course with Earth.”

“I don’t know what colored lines appear on their displays.”

“There was never any danger to anybody on the ground.”

“Right now, the spacecraft is no longer in Earth orbit. It’s in a solar orbit that is slowly decaying towards Venus...”

*Xplorer One* was falling towards the Sun! Media pundits estimated that while life support would surely fail first, roasting the crew in a sauna-like environment, the spaceship itself could survive at least until within 10 million miles of the Sun, where that fiery orb would loom ten times larger in the sky and deliver a staggering 13 kilowatts of energy to every square meter of exposed surface area.

Meanwhile, Mission Control had suggested using cutoff values to isolate the affected fuel tank, and in this manner stopped the engine after again repositioning *Xplorer One* into Earth orbit.

As the thrust stopped, the blue and red lines merged into a single yellow circle. They were siting in a circular, six-hour parking orbit above the heart of the African continent, clearly visible through the portholes.

“Sometimes you make it back alive, Alister! I’ve done it twice already!”

“There’s South Africa! There’s South Africa!”



“My fellow Americans, good evening. Most of you first met me floating in orbit two years ago, and have never known me in any other way. Since I shall soon disappear into prison, it seems apropos that I bid you farewell in this manner.”

“An age has passed and other has come in the brief hours that we have been apart. I left a nation confident and at peace and have returned to one scarred and at war. Half of my own companions have perished and it seems a miracle that the survivors can only limp on back home. Yet here, in the fleet-footed orbital day, I find myself looking more to the sunrise than the sunset, and feel myself thrilled again with the joy of youth!”

“For I see a new nation, rising up out of the ocean as if in answer to a prayer, a nation conceived in peace and dedicated to God. I see a young nation, hewn from the sea by fire and storm, settled by outcasts from remote lands who sought its yet farther shores. I see a nation determined to lead mankind away from its pitiful servitude to Mammon and into the broad light of freedom.”

“Alas, that nation is not America. She is committed to the chain, and only a revolution can break it. Yet how can we overthrow the American government? It possesses the most powerful military in the world, an able police force, and, most importantly, a majority of 100 million people committed to working for money and choosing their leaders on a TV game show.”

“We will overthrow their government with democracy.”

“Impossible, you say? Let’s do the math. In the last election, Neil Abercrombie was elected governor of Hawaii with 222 thousand votes; James Aiona lost with 157 thousand. If all of them voted together, they’d have had 379 thousand. If the whole majority came streaming out to the polls for the election, maybe they could barely muster 500 thousand.”

“How much is 500 thousand? Well, in a nation of 300 million, it’s one sixth of one percent! Furthermore, under our laws, American citizens are free to travel

anywhere in the United States and establish residency there for one month only before they are allowed to vote.”

“So, are one-sixth of one percent of us so fed with up our leadership, so sick of our own lives, so disgruntled with America, that are willing to set sail for a foreign land and claim it for our own?”

“If so, then take Hawaii and get the hell out of this country!”

“This will not be an easy path, and many will oppose you. I will only be able to encourage you from prison. It will take years of toil and struggle, and the first years, especially, will be fraught with hardships.”

“My great mistake was to reject capitalism without knowing what to replace it with. Some look to communism; some look to Islam; I looked to freedom. Now that I’ve met Andrea Yeats, I’ve learned to look to *her* religion, and it is Christianity.”

“My first officer embodies everything that I am not. When I took the easy way out and stole billions, she stood cold and lonely by a highway on-ramp with her thumb out. When I set out recklessly for Mars, she told me that our problems were here on Earth. And when I was ready to end my life, she taught me to live for Christ.”

“Maybe people claim to be Christians, and even genuine Christians are also fallible humans who stumble and fall. Yet true religion is not found in mouthing words, but in living lives. Fanaticism in the single-minded pursuit of righteousness is the greatest virtue. Don’t worry about what you’ll wear, or how you’ll eat. Genuine faith empowers us through God, whose resources are unlimited.”

“Remember that government is a coercive institution; you can’t force people to love each other. Yet words are more powerful than laws. Seek through *leadership* to achieve Christian ideals. Remind the waiters and cooks to feed the hungry. Ask the carpenters to build them homes, and ask the farmers to supply them produce. Ask God for these things first, remembering that he works miracles for those who worship and obey him.”

“Do not work for capitalists! Insist on Christianity. Support leaders who base

their lives on Christ, instead of supporting those who pursue money. Tell your boss that you'll give the customers any product or service for free. Does he still want you for an employee? Then work for the man! If not, then part with him and his wicked lifestyle!"

"Value freedom not for its own sake, but rather because it empowers us to live peaceable and holy lives. Freedom in the absence of morality is the most destructive force known to man."

"The majority of the American people are dumbfounded at what they hear. That the police are not their pet tool of social control; that goods and services should be free; that books should be on-line; that capitalists must be driven out from every post of leadership; and that they, they, the majority of the American People, are not entitled to rule over everyone else just because there's more of them!"

"Those of us who reject America face stark choices. We can continue to live in a society where we have no voice, no opportunity, and no future. We can trickle out in twos and threes, trying to find someplace in this world that doesn't exist. Or, we can unite, we can suffer, and we can overcome. We can find our place in this world by creating it anew. We can win an election in one state, make that state a nation, make that nation a legend, and be known forever as Hawaiians!"

T + 390 days            it must be against democracy

Mercuriou and all three of his opponents were back, their four heads dominating the TV screen in four boxes, Mercuriou on the upper left, and each opposing corner more determined than the other two to heap opprobrium on the space captain. Wye babbled nonsense, unclear to decide if Mercuriou was defending criminals and capitalists or terrorists and democrats, but absolutely *certain* that *these people will not get away with this*. Zee, stony and impassive, understood immediately that democracy itself was under attack, and right here in the United States of America, no less! Yet it was Ecks, red-faced with rage, and with his hand on the mute button, who was again the first to speak.

“A Christian! So the thief has converted to God!”

“Look, what I did was wrong, but there’s nothing to do now but move on. If you don’t have any questions about my speech, I’ll just save some radio power and be quiet now.”

This time, he really was reaching for the switch, and there was a pause longer than the satellite delay.

“You seem to have quite an electronic library built up, Captain. I’d like to suggest a book called *The Wealth of Nations*. It lays out our basic philosophy; that a free market economy is the best method to regulate production in a free society.”

“There’s a copy on Gutenberg.”

He produced a tablet computer and began reading from Chapter 2.

In almost every other race of animals, each individual, when it is grown up to maturity, is entirely independent, and in its natural state has occasion for the assistance of no other living creature. But man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour,

and shew them that it is for their own advantage to do for him what he requires of them. Whoever offers to another a bargain of any kind, proposes to do this. Give me that which I want, and you shall have this which you want, is the meaning of every such offer; and it is in this manner that we obtain from one another the far greater part of those good offices which we stand in need of. It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities, but of their advantages. Nobody but a beggar chooses to depend chiefly upon the benevolence of his fellow-citizens.

“Now, is this what we’re taught by Christ? Is this moral?”

“What’s wrong with asking people to pay what something cost to produce?”

“Because you’re supposed to ‘give to everyone who asks’, even a thief, not turn them away. That’s Luke 6:30.”

“I’m no theologian; you can direct your religious questions to the Reverend! I want to know what’s wrong with asking people to pay what something costs!”

“Well you can’t get away from the religious questions! That’s the whole point! It’s a *moral* issue! We are taught by Christ to make generosity a lifestyle, not an option!”

Ecks shuffled some papers. “So we’re supposed to just give away everything we’ve got, eh?”

“Yes, actually! That’s the point of Matthew 19, Mark 10, Luke 12, Luke 18, and especially Luke 14:33, which tells us that the cost of discipleship is everything we have!”

“Most people have different ideas, Captain. Most people think that they can be good, generous hard-working citizens and allocate their own finances without giving everything away and becoming homeless beggars.”

“...and they of course expect that everyone else lives that way, too! What if someone actually does what Luke 12:33 says and gives away all of their worldly possessions? How are they treated then? If someone really does what Christ said, she is clearly at a ‘competitive disadvantage’, so your whole theory of Adam Smith goes out of wack!”

“Well, if they don’t want money, if they don’t want the advantages of capitalism...”

“Capitalism is *unfair*! It discriminates against Christians! You’ve built a society that rejects Christian principles, discriminates against Christians, and then claims to offer religious freedom!”

“We don’t discriminate against Christians! We don’t arrest or execute them, either; some countries do! If some deluded ‘Christian’ wants to sleep under a bridge, let him! I wonder if that’s true Christianity, though. I don’t know. I want to talk about your screwball secession plan! First came your idiotic Martian Republic, and now this! How will Hawaii survive without the mainland? Where will your computers come from, or is everyone going back to eating poi?”

“Hawaii will struggle, but she needs to be independent. Not just politically, but economically, too. What she really needs, what we all need, is to turn to God! Hawaii needs to do that first herself, and then lead the rest of world!”

“Sounds to me like you want to steal Hawaii and turn it into an offshore piracy haven, where criminals can steal our technology with impunity! How can we compete with a bunch of thieves?!?”

“You won’t be able to compete because your product is inferior. What ‘globalization’ offers the world is a simple deal – find something to sell, and in exchange you’ll get our closed, secret, proprietary technology that we control. I’ll offer them something better – all the software, the chip masks, the factory blueprints – everything they need to build their own computers, their own cell phones, their own data networks. Now, which of these two ‘products’ do you think our ‘customers’ will prefer?”

“You do that with your technology, not ours! We’ll stop you! We’ll stop you!”

“Go ahead! Stop us! Get tough! Go to war!”

“I just can’t... I can’t believe that an American citizen would push his own country to the brink of civil war. I can’t believe that any *patriotic* American would do that. Why someplace nice like Hawaii? Why not Alaska?”

“Alaska can secede, too!”

Ecks started screaming.

“Get out! Don’t go to Hawaii! Get out!! Just get the hell out!! Get out! Get out! Get the hell out!”

Ecks raged on while his producer signaled furiously from the booth. Finally, he waved his assent, sank back into his chair and let the camera switch to Wye without bothering to introduce her.

“We have a long-standing principle, Captain, that states are not allowed to secede from the Union!”

“Oh, that won’t be a problem! We’ll just wave a bunch of orange flags around in the air! You’ll let us go!”

“This isn’t a communist dictatorship, Captain. The people will see through any gang of criminals, no matter what color flags they wave!”

“What if every pot smoker in this country packs up and moves to Hawaii? And then voted in the next election? What would you do then?”

“We live in a nation of laws. You are not going to just make up rules to interpret the election results however you see fit.”

“But these are the laws! We have free movement between states, and only one month residency before the election!”

“Our laws were created to implement democracy, and if there are loopholes, they will be fixed!”

“In other words, you’ll change the law to make sure you get the election results that you want!”

“We will enforce our laws, Captain, we will enforce our laws! You’re not the only criminal in this country that can hack some computer program and find some legal loophole. Also, I’d like to know what’s going to happen once you overthrow our hated government?”

“We’ll show that minorities can choose their own leaders and live under a government of their own choice.”

“Minorities do have freedom... we have freedoms... minorities don’t need to secede because they have freedom already!”

“I don’t.”

“Because you don’t believe in democracy! We have many laws to ensure freedom, but not for criminals who don’t respect them! You don’t believe in democracy! You don’t respect the will of the people!”

“It’s freedom for the *majority*! Nobody else should even *aspire* to freedom!”

“You reject the most fundamental human right, that people can *choose their own leaders*! Now, Captain, let me state this clearly. The majority rules. That’s it. You are not going to twist our laws around to make them mean anything different.”

“I won’t accept it! I’ll decide for myself what government I live under!”

“I don’t... you don’t!... You don’t believe in democracy!...”

“Senator, your hair is falling off!”

“What are you trying to imply?!...”

“Actually, Patricia, your hair *is* falling off...”

“Wh-What!!”



In fact, a large section of her hair had apparently detached from the top of her head and slid approximately to her left ear! As she turned her head confusedly and started to grab at what was apparently a wig, it detached completely and came off in her hands.

“I can’t... I can’t believe...”

The camera switched off, leaving only Ecks and Mercuriou flabbergasted on the screen. Ecks recovered first and smoothly segued into a prepared segment profiling the Space Shuttle *Columbus*’s fairly typical astronaut crew, seven spectacular overachievers remarkable only for including the first Palestinian astronaut, on whom half of the piece focused. *Columbus*’s final mission objective would be to rendezvous with *Xplorer One*, retrieve her crew, and return them to Earth. A commercial break followed and when it ended, the Reverend Caiaphas Zee strode confidently into the video Colosseum.

“Reverend, do you take Captain Mercuriou’s ’conversion’ seriously?”

“No, I do not. He has switched from theft to insurrection, not from Satan to Christ. We are taught that government authority is constituted by God, and Christians are to be obedient to that authority.”

“Where is that taught by Christ?”

“Romans 13, it’s taught in Romans 13, Captain: ’there is no authority except that which God has established’.”

“That’s a letter of Paul. I asked for Christ.”

“It’s in the Bible! If you don’t believe in the Bible, you’re no Christian!”

“I’m a Christian, not a Biblian.”

“The Bible is the inspired word of God. You’re no Christian!”

“I take the Bible seriously, not literally. Paul was not Christ. He knew God, but he didn’t come back from the dead. His teachings don’t have the same weight, that’s why we don’t print them in red. I don’t buy Romans 13.”

“Paul didn’t distinguish between governments, he said they were all established by God. Jews in Nazi Germany had a moral obligation to wear yellow stars? Because it was the law? Because their leaders were established by God? Do Cubans have a moral obligation not to meet and criticize their government?”

“So, government is evil, people do whatever they please...”

“No, but our *moral* obligation is not to obey the laws of government, but to obey the laws of God!”

“Our laws *are* moral! You’re just twisting the Bible around to rationalize your own rebellion! Part of the law of God is obedience to legitimate, constituted authority!”

“So now we’re going to ‘interpret’ Romans 13, to mean ‘legitimate, constituted authority’? I prefer 1 Samuel 12, where the prophet says ‘If you will fear the LORD, and serve him, and obey his voice, and not rebel against the commandment of the LORD, then shall both you and also the king that reigns over you continue following the LORD your God... But if you shall still do wickedly, you shall be consumed, both you and your king.’”

“I say you shall be consumed, both you and your democracy! This country is wicked, wicked, wicked I say! It’s defiant of God! You stand behind a counter and refuse to feed people when they come to you hungry!”

“Capitalism is *commanded* by God! We’re not socialists! You have no right to tell that man who he has to serve food to! We’ve seen what you want in Russia!”

“The Bolsheviks were atheists, and I’m not talking about the government! The government does not have the right to tell a man who he must serve. But Christ did! He was the Son of God!”

“Christ didn’t tell me to hand a crackhead \$20 to blow on drugs!”

“Yes, he did! That’s what happened to Andrew van der Bijl in 1954:”

The last round in the game was the most subtle of all. It was December 30. I had to have my application in the mail that day if it

was to get to London on the thirty-first.

At ten o'clock in the morning, one of the students shouted up the stairwell that I had a visitor. I ran down the stairs thinking that this must be my delivering angel. But when I saw who it was, my heart dropped. This visitor wasn't coming to bring me money, he was coming to ask for it. For it was Richard, a friend I had made months ago in the Patrick slums, a young man who came to the school occasionally when he just had to have cash.

With dragging feet I went outside. Richard stood on the white-pebble walkway, hands in pocket, eyes lowered. "Andrew," he said, "would you be having a little extra cash? I'm hungry."

I laughed and told him why. I told him about the soap and the razor blades, and as I spoke I saw the coin.

It lay among the pebbles, the sun glinting off it in just such a way that I could see it but not Richard. I could tell from its color that it was a shilling. Instinctively I stuck out my foot and covered the coin with my toe. Then as Richard and I talked, I reached down and picked up the coin along with a handful of pebbles. I tossed the pebbles down one by one, aimlessly, until at last I had just the shilling in my hand. But even as I dropped the coin into my pocket, the battle begun. That coin meant I could stay in school. I wouldn't be doing Richard a favor by giving it to him: he'd spend it on drink and be thirsty as ever in an hour.

While I was still thinking up excellent arguments, I knew it was no good. How could I judge Richard when Christ told me so clearly that I must not. Furthermore, this was not the Royal Way! What right had an ambassador to hold on to money when another of the King's children stood in front of him saying he was hungry? I shoved my hand back into my pocket and drew out the silver coin.

"Look, Richard," I said, "I do have this. Would it help any?"

Richard's eyes lit up. "It would, mate." He tossed the coin into the air and ran off down the hill. With a light heart that told me I had done the right thing, I turned to go back inside.

And before I reached the door the postman turned down our walk.

In the mail of course was a letter for me. I knew when I saw Greetje's handwriting that it would be from the prayer group at

Ringers' and that there would be cash inside. And there was. A lot of money: A pound and a half – thirty shillings. Far more than enough to send my letter, buy a large box of soap, treat myself to my favorite toothpaste – and buy Gillette Supers instead of Blues. The game was over. The King had done it His way.

“1954! 1954! Not 72 A.D.! 'Another of the King's children stood in front of him saying he was hungry!' That should posted on the counter of every restaurant in America, not a VISA symbol!”

Zee started thundering from his pulpit.

“This isn't the Will of God! You're just a bunch of druggies! This isn't the Will of God! You're just a bunch of druggies! This isn't the Will of God! You're just a bunch of druggies!”

Zee seemed stuck on repeat, so Ecks switched him to the standby track.

“Well, Captain, you'll be in a prison cell by this time tomorrow evening. I'm sure that your plans for Hawaiian secession will go the way of the Republic of Mars.”

T + 394 days                      it must be anti-Semitic

NASA had arranged for the *Xplorer One* crew to transfer to the space shuttle *Columbus* at the end of a two week scientific mission notable for including the first Palestinian astronaut, Major Hasan Nass, of Hamas. The shuttle commander, Jeff Janders, had know Andrea for years.

“Salāmu ‘Alaykum”, Nass greeted Mercuriou fervently, kissing both his cheeks after shaking his hand during introductions, then helping the *Xplorer One* crew stow their personal belongings in the attached Spacehab.

“You’ll be fine in here. The Spacehab’s got the same life support as the cabin.”

Another old friend of Andrea’s was payload specialist David Smith, but he had not greeted her as warmly, and seemed rather aloof. When they were alone for a minute, she found out why.

“We’re not making it back from this mission, Andrea.”

“What are you talking about?”

“I’ve had dreams... nightmares... burning up in space.”

After both crews enjoyed a dinner of rehydrated lobster bisque, Major Nass sailed over to the galley, opened his personal compartment, and pulled out a bottle of arak. Somehow, he turned so that the green, red and black striped flag on his right shoulder seemed more noticeable than before.

“Captain, you may live the rest of your life as a dog in an American kennel, but tonight we celebrate like men.”

Andrea raised an eyebrow as Nass distributed the milky white liquor.

“Just out of curiosity, major, what would be the Muslim solution to the *Xplorer One* theft?”

“Cut off your hands?”

“Most Americans would consider that cruel and unusual punishment.”

“So what if it is? Is the loss of a hand too great a price to pay for freedom? We have our checks and balances, too.”

“I think I like our checks and balances better.”

“Really, Jeff?! Let’s ask the criminal, then - Captain Mercuriou, would you prefer to lose your hand or spend your life in prison?”

“I think I’d give the hand very serious consideration.”

“You see! And we don’t waste our money on so many jails!”

Several of the Americans began to object simultaneously, but Nass ignored them, appropriated the remaining arak for himself and produced a bottle of vintage port.

“More to your taste, Captain?”

“I take it you’re a fan?”

The Palestinian major sneered.

“I listened to your speech. You’re still talking about reforming your government!”

“Look in your own Bible: A beast comes out of the sea, and rules with the power of the dragon! Men worship the beast! ‘Who can make war against the beast?’ The sea is humanity; the dragon is the power of the masses; *the beast is democracy!* That’s it! That’s your great system of government! Money, sex, guns! You’re not fixing it! The most crushing weapons ever made, for sale to all of your friends! Ask the people of Gaza what democracy has done for them!”

Jeff Janders had trained with Hasan Nass for a year, had endured two weeks on orbit with the cocky and flamboyant major, had just witnessed him producing

and consuming alcohol in flight, and was not about to back down in an argument now.

“The people of Israel can vote...”

“The people of Israel can not vote! With their racist Aliyah, Israel is as much a democracy as South Carolina was in 1860! Let every Jew come back and vote, and let every Arab come back and vote, too. Then let’s have an election! Then let’s see who wins! Mercuriou’s right. You define your majority how you want.”

“We do not define the majority how we want. It’s defined by law.”

“Who wrote the law? Obviously non-citizens can not vote. Clearly the State of Israel can establish its own citizenship requirements. You think it’s all so cut and dry.”

“...and what happens if Hamas takes over? War until Israel is destroyed? Then what happens to the Jews?”

“Well, we’re defined more by our limitations than by our abilities.”

“Great answer! So were the slave owners in South Carolina!”

“All these people sing your hymns, talk about Jesus, loving and forgiving their enemies, and then they go to work in a war factory. Why? Because they are *defined by their limitations*. Andrea believes that men can walk on water!”

“We can’t walk on water because our faith in God isn’t strong enough. I think that’s the answer most consistent with the Gospel.”

“A limitation of faith! Or perhaps a limitation of reality, or to accept reality? But they’re finished! *Finished!* The Jews are *finished!* The third temple must be destroyed! Islam will rule again in Jerusalem!”

Andrea leaned close to Janders and whispered in his ear.

“Where did you find this guy?”

The shuttle commander shrugged.

“Beats me. They told us he was a moderate.”

“A moderate! I am a moderate! If I were a radical, I’d have C-4 instead of caviar in my flight kit!”



T + 395 days            some sick ‘‘freedom’’ must win in the end

“I’ve got a question for you, Andrea.”

“Before launch, I let everyone suggest a name for the ship, except you! What would you have called it?”

*Columbus* was now well into re-entry, cruising over California at a speed of Mach 20 as Andrea pondered her answer.

“*The Royal Way.*”

Andrea had told her crew mates about David’s premonitions. Now, strapped into their seats in *Columbus*’s Spacehab, they continued to ride on in silence.

“I’d rather be dead. Otherwise, I’ll just sit in prison for the rest of my life. Who cares if I die now?”

“Every step you take could be your last. I want God to keep me alive until I’ve done his work here.”

“I want to live!”

Alister looked back and forth between them. “What?”

In the cockpit, the flight crew was studying a tire pressure warning while Nass took imaginary pistol shots at the American cities 50 miles beneath them.

“There’s an infidel! Boom! ... There’s an infidel! Boom!”

He continuing carrying on until David Smith quieted him down.

“There’s a problem...” “What!?” “There’s a problem with the *shuttle!*”

“Does it look like instrumentation?”

“No, it’s solid. Our left rear tires are blown.”

“Now the left gear is showing a barber pole... We’re getting a lot of aileron trim, too.”

Heavy with interference, the radio crackled to life.

“*Columbus*, Houston, we see your tire pressure messages and we did not copy your last.”

Janders ignored the radio, instead pointing to the small yellow lights that indicated RCS thruster activity. The right yaw light was lit solid.

“How long’s that been on?” “What?” “That!”

Back in the Spacehab, Mercuriou was calmly explaining how to overthrow the government.

“Any decent sized group can secede from the Union. You need to concentrate yourself geographically in one state. Just *demand* to win the election! It doesn’t matter if I’m in jail. Or dead. Change; don’t change. They don’t need me. They really don’t.”

“I think they do need you, Marc. They need a leader.”

Suddenly, the orbiter gave a sickening lurch and a warbling two-tone alarm pierced the air.

“That’s a Master Alarm! We’ve lost hydraulics!”

The g-forces vanished while the shuttle rolled and swayed as it careened through the air, uncontrolled now by man or machine.

“Tight up!”

Mercuriou and Andrea needed only to snap their visors shut to get “tight”, but Alister’s gloves were off. As he started to don his left glove, he looked up and caught Burns’ eye. The engineer was floating leisurely in the middle of the

Spacehab, dressed in slacks and a T-shirt that read “DON’T BOTHER”. Vic was there, too.

“Vic?! W-what? You’re...”

“So are you, Marc.”

The orbiter was now swaying up and down wildly, exposing the top of the fuselage to the direct heat of re-entry once every few seconds. They heard a loud crash and felt something break loose from the tail.

“There was a piece of frozen foam insulation that broke off the ET during launch... smashed a pretty good hole in the leading edge of the wing, right through all that protective heat shielding.”

Burns’ words were punctuated by a ear-splitting crack, like half a pound of linguine snapped in half in front of a microphone. The cabin pitched to the side as the entire cargo bay ripped away from the forebody and the access tunnel torn loose from the crew module, leaving only a strip of aluminum skin connecting *Columbus* together on the left. Then that, too, tore free, and the orbiter had split in two. The lights went out, but they were not long in darkness. The forward bulkhead began to glow a deep, ominous red.

“This is a good way to go, Marc. Quick and pretty painless. Say goodbye to Burns.”

“Why?”

“I wasn’t saved.”

The bulkhead blazed white, then morphed into a sheet of flame that spilled over them, a crushing, foaming ten foot wall of raging red surf that buried them under an ocean of fire and threw them onto a bed of coals. They were burning, Burning, BURNING!! and then their suits vaporized to ashes which blew away with the flames and left them hanging in an azure haze.

*Columbus* was gone, replaced with a thousand blazing brushes painting fire on sky. Then Burns was gone, too, and they were clothed in white robes. Of the

shuttle crew, only David remained, and he too was clothed in white. Below them lay America, above them space, and above space blazed a stupendous light.

“Wh-what!?”

Mercuriou turned to him as the earth, the sun, the galaxy fell away beneath them.

“There is no beginning; there is no end. This is the Great Conversation.”