

HUMANITY AND SPACE

An Interactive Qualifying Project Report

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by

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## ABSTRACT

This IQP examines technology currently under development or underused and its applications in space. Also examined is the impact of technologies that can only be developed in a microgravity environment. To showcase this technology, we have written a novel which attempts to show a compelling view of the future 50 years hence, describing the interplay between futuristic technology and human society. We have highlighted the creative element of the human spirit which always seeks new frontiers to explore.

## Executive Summary

In this IQP, the state of existing technology is examined. We have made specific conclusions drawn from how these technologies are being developed in the context of how these technologies will be affected by developments in space. Technologies included are personal computers, transportation, and food production. We have also looked into technologies that are on the brink of feasibility or require a presence in Space to be fully developed.

Technology does not exist in a vacuum, it is surrounded by people and their sea of emotions. Therefore, culture and other human elements have been explored. The social and emotional impact of these technologies are explored, and specific human reactions have been considered, including laws banning genome modification, philosophies developing around living and working in space, and how people may react to future disastrous events related to Space Exploration.

To provide a venue for this information to be dispensed, to put this data together in a coherent way, we chose to write a novel. The novel we have written exists to describe the things researched and theorized, explore the merits for space exploration and particularly deep space exploration, as well as to expand the audience of the ideas within: A compelling view of the future often ushers in modifications in the society it addresses, to ensure the best and derail the worst of the society it describes.

The novel has five main characters. Mike is Public Enemy Number One. While studying gene therapy, he developed a series of retroviruses that altered him in ways considered unnecessary and cosmetic by the world at large. The improvements he has given himself allow him to constantly evade detection, but as the story progresses, he finds someone is closer than any before...

Julie was an accomplished gymnast and was working in the world's premiere medical facility when it mysteriously exploded. Since then, her robotic replacement arm has driven her away from all but her closest friends, and she fights her sister's drive to follow the dream they shared of living and working in space...

Miranda is a beautiful and intelligent physicist who has not seen the rest of the group for five years. But they all rejoice in the camaraderie and the sheer magnitude of what they are trying to accomplish when she finally returns. As the mother figure of the group, Miranda fears that separating themselves from humanity may not be for the best...

Jimbo is a down-to-Earth product of the Louisiana Bayou. Jimbo has not allowed his electronic eye or his continued career as a pilot to interfere with his love of nature and the seemingly primitive way of life still led at his home. He is torn, wanting to leave with his friends, but fearing that he will miss his home before they even leave...

Tommy is a bright son of the midwestern United States. When in college, he and Miranda dated very seriously, but they parted ways when she went to Cambridge for Graduate School. Her sudden

return brings with it romantic feelings, but she does not seem to return them...

THE VOYAGE OF THE PORT STARBOARD INN

a Science Fiction novel by Ben Ponder

Technical writing assistance by Greg Pettigrew

## PREFACE

This novel is the culmination of almost two semesters' worth of work. A team of six of us students assembled a project and formal paper regarding humanity and space, focusing on the technological advances which can be facilitated there, as well as some of the social and cultural changes that can be expected. The purpose of this portion of the project is to bring these technological, cultural, and social advances to life.

As scientists, we have studied many exciting waves of new technology which are on the verge of breaking upon our society, such as nanotechnology, retroviral gene therapy, and carbon nanotubes, to name a few. These are all technologies that exist in their infancies today, but need research that can best be done in zero gravity. We also put major thought into what secondary technologies would come into existence, such as better means for life support, and continued health and survival in microgravity.

As humans, we have measured what impact these advances would have on our own lives, and from there extrapolated what effect the technologies would have upon the lives of others, outward to estimating the effect these technologies would have on the entire human species. New philosophies, ideas, and mindsets would be born from the womb which is outer space, the second womb in which humanity has the opportunity to be reborn. We examined historical parallels, such as the colonization of America and the industrial revolution, and applied it to the future with the technologies mentioned before and some creative projection on our parts.

Finally, as artists, we took all this information and used it to create a world. If we, as a species, take action on getting into space as outlined in the formal paper right now, then in fifty years this will be the future. We have projected history as faithfully as we can into the future, to provide an image of what we can get from space within our lifetimes.

While there are a few devices and technologies added in purely for plot advancement (the faster than light drive, for example), everything else here is real and under development as you read this. With time, effort and the reincarnation of great entrepreneurial and pioneer spirits, we can all live in this science fiction dream world. This dream world will be the real world to our children.

The target audience for this story are the scientists. By scientists I don't just mean those of you with graduate degrees, I mean college students, high school students, any and all of you with dreams and aspirations of one day living among the stars. Together, we can all realize this science fiction into a past history.

With that, we wish you are wonderful and enthralling read. We invite you to put yourselves into the character's shoes, live in the universe we have concocted, try it on for size. If you like it, you can build one for yourself out of an education.

Ben ponder

3/31/2003

## INTRODUCTION

### A Brief History of the Future by Greg Pettigrew

It all began with a simple idea. Jonas Kincaid wanted to make money. He built up his small electronics company and managed to grab some of the US Department of Defense building contracts, but he wanted more. For his next profits, Mr. Kincaid looked to the stars.

All around the world, companies here and there were gearing up toward private ventures into space, so he attached himself to them, ensuring that his company and his parts would be the ones to bring mankind into orbit.

Simultaneously, new developments in that technology sped up the process. Vectored Ion Thrust became the standard for travel in orbit. Cheap, tiny ions were launched from satellites and probes, with great speed, causing the vehicle to move in the desired direction with equal and opposite force.

New advances in solar cells powered these craft like never before. Huge, massive wings of solar arrays were replaced by small parabolic dishes focusing light on sterling engines. The heat caused by this light forced a piston to move, which powered a turbine. Electricity was generated from light, but not from the expensive and inefficient photovoltaic technology.

Jonas Kincaid capitalized on these technologies in ways no one had predicted, with factories to build them springing up almost overnight. It was with the advances in these and other areas that corporate conglomerates finally found it profitable to venture humans into space.

Doctor David Adams was head of research at Chemlab 1, one of these first civilian operations. He was a chemist, and a mechanical engineer by training, but he would need many other skills in order for the venture to succeed.

The early space stations were designed to be as nearly self-sufficient as possible. Fruits and vegetables were grown in carefully designed hydroponic gardens. Particular bacteria, even specific decomposers such as snails were introduced to build a fragile ecosystem. Air was not filtered, but manufactured. Green, thirsty plants would soak up carbon dioxide and release breathable oxygen, just as they have on Earth for billions of years.

The plants did not grow on their own. A horticultural expert was hired to manage their growth, but the staff of the entire station lent a hand. Their very lives depended on the success of the garden, and everyone spent their free time tending to the vegetables.

Chemlab 1 was in the production of ultra high grade steel ball bearings as well as research into previously disregarded alloys that were difficult to produce on Earth due to mixing problems. They made spheres more perfect than could be produced in gravity, and also conducted research into related fields. It is remembered more, however, for some of the leisure activities that went on there. Chemlab 1 was blessed with an empty cargo container



on one end. It was used for all manner of entertainments, including the invention of Ricochet, a game whose best Earth translation would be soccer, but played in a cylindrical court with a goal on each end.

Research in Chemlab 1 and other stations continued until the advent of a new powerful technology - silicon germanium. Impossible to produce on Earth, silicon germanium was a medium for computer processors orders of magnitude above the silicon oxide chips of the past. A single silicon germanium microprocessor was more powerful than an entire built computer around the turn of the century. Processors hit the THz mark ( $10^{12}$  calculations per second) barely a month after the material was mastered in March 2011.

The following year, in an ad campaign launched during the Superbowl broadcast in America and the rest of the world the next day, a previously unknown biopharmaceutical engineering company introduced Bio-bev - a sports drink to end all sports drinks. Bio-bev was a delicious mix of all the precious nutrients lost in physical activity, along with a healthy dose of adrenaline and other natural body-enhancing chemicals.

Bio-bev was a smash hit and its creator, Matt Cook, was propelled instantly into the ranks of the richest men on Earth. His success was almost overshadowed, however, by the return of men like Doctor Adams from their posts in the space stations, bringing with them theories and technologies that the people on Earth had yet to experience firsthand and philosophical ideas that would change the world forever.

Doctor David Adams had a unique position among the returning men and women to Earth. He and his wife headed Chemlab 1 and built it into such a strong community that some people wondered if they weren't trying to form a cult. The philosophy they held, however, had nothing to do with gods. They had found in their little community, a kind of contentment that was no longer believed to be possible by the people on the Earth. Living as they had, manufacturing all of their daily needs by hand - food, air, entertainment, and source of income, had torn away all of mankind's frivolous consumerism from their thoughts.

Substantialism, as their philosophy came to be known, had an interesting effect on how these people handled their return to Earth. Together, they purchased a large field on the outskirts of Dallas, Texas, and began to build. Every building, built by hand, would be open to every member of the community. Their horticulturist examined the quality of the land around them and found desirable plants to occupy it. Food was grown hydroponically, power was generated by solar energy, water was gathered, heated, and cleansed and stored all from wells.

Chemlab 1 was not the only station where Substantialism grew. The space stations were in constant communication, working on solving problems they all shared, coordinating the job of tracking space debris that may threaten them, and keeping track of pods coming from Earth. Substantialist communities developed everywhere, in some of the harshest regions of the Earth. One crew

even settled in the Kalahari Desert, communicating with and learning from the Bush Peoples who had survived there for millennia and learning how to survive in one of the world's harshest environments.

All this had a profound effect on the Governments of Earth. Land had always been the true motivator of conflicts between Nations- quality of land, amount of land, and proximity of land to other areas of interest. Were the Middle East the breadbasket it once was, there would have been little reason to war endlessly over every scrap of dirt.

With advances in quality of life generated by the research in space, and increases in quality of life of those in space being developed on the Earth, all that became unimportant. Everywhere on Earth was just a rocket launch away from space. You could take a sub-orbital flight from New York to Tokyo, and it was take just as long as a puddle-jump flight from New York to Boston.

In 2015, the Nation of Israel, ever the hotbed of controversy and conflict, celebrated 10 years since it last engaged in Military Action, and 5 years since the last major terrorist incident. There were still the unscrupulous and the insane, people who used bombs and guns to pursue agendas that could not be taken seriously by anyone else, but the perpetrators of these crimes were hunted down ruthlessly and efficiently - the Intelligence Agencies of the world working together to actually incarcerate terrorists, instead of redirecting terrorism at their enemies.

2015 also marked the year that the majority of companies engaged in activities in space turned a profit. While powerful magnates such as Matt Cook and the venerable Jonas Kincaid amassed huge fortunes early in their involvement off-planet, it was the successes in 2015 that showed that space travel could be profitable for everyone, as development of second-generation space stations entered final stages and the launch centers grew crowded with rockets blasting parts and people into space.

Bio-bev was not the only product to come out of the biological research sector in the early days of Space Exploration. Animus Pharmaceutical was perfecting the process of creating Organic Light Emitting Diodes, taking advantage of the purity of crystal growth in microgravity. Organic LEDs are organic crystals which emit light when a voltage is applied to them. Because of the structure of the crystals, electricity flows through it with very little resistance. Because of this, the organic diodes could be built at sizes around .1 micrometers across. This led to extremely high resolution visual displays, and small transparent LED screens that were crisp and clear even when only a few inches from ones face, such as a glasses lens.

because of the nanoscopic sizes of the organic conductors, they could be used for all sorts of interesting things, particularly prosthetics. Organic conductors could be attached to nerve endings, relaying electrical signals through the same way a normal nerve would. With chemical sensors made possible through further organic technologies, prosthetic devices that were

completely electrochemically reactive were built.

Indeed, almost all organic chemicals are essentially crystalline in form. Because crystals can be manufactured in space with much fewer imperfections through sedimentation or thermal updraft, research on the organic chemicals was much easier.

Alongside these developments were massive sweeping changes in structural engineering as carbon's third elemental state was explored - fullerenes. Carbon has 3 elemental physical structures - graphite, diamond, and fullerene. A diamond is a repeating crystal of incredible hardness and strength, still the hardest substance known to man. Graphite, on the other hand is a flat lattice of carbon atoms which breaks away easily, thus its use as pencil "lead."

Fullerenes, however, resemble the works of the genius they are named after- R. Buckminster Fuller. C<sub>60</sub>, the fundamental fullerene building block, is a spherical purple molecule, shaped like Fuller's geodesic spheres, or for the less scientifically minded, the pattern of intersections on a soccer ball. While the diamond is hard and graphite is brittle, Fullerenes are resilient. Where other molecules will shatter or combust, fullerenes will bounce or bend.

From this basic pattern, all manner of things were created. Nanotubes could be built by inserting rings of carbon into the structure, changing its shape from a sphere to a football, and even longer things. Atoms, simple molecules, and even antimatter could be stored safely inside, due to the complete vacuum caused by the electromagnetic forces inside the molecule. materials, such as hydrogen, could be moved along like pipes of a size so tiny it is difficult to imagine. Nanotubes came to immediate use in storing hydrogen for use in fuel cells, drugs for very small, slow release prescriptions, and many other things.

In 2028, the first of the second-generation space stations appeared in the night sky, and it was a very different sort of space station than those before it. It was much larger, with more room for everyone on board. The plants that served as food and oxygen producers were tended by gardeners - the rest of the station staff all had their time off truly free. The station existed for one purpose at its inception; the manufacture of space vehicles.

Not long after, however, the space vehicles were in operation, ferrying people and goods to and from stations throughout space, and serving as mankind's first spaceport. Jonas Kincaid, the man who allowed humanity's increased presence in space, was also the man responsible for connecting all those space stations and bringing a far greater amount of human life and effort outside the atmosphere of the Earth.

Thus was ushered in a time that, with little fanfare or creativity, became known as the Space Boom. The public had its eyes set on space, and eager corporations shuttled them up en masse, treating them to hotels, restaurants, factory tours, and of course, panoramic vistas of Earth and the black depths of space.

The original design for the space ships that made this all possible was the Comet, a deceptive name for what was such a slow, lumbering hulk compared to those that would follow it. Many more designs would try to change the way space transport worked, but even those that were safe and reliable had too many drawbacks to be of interest to most consumers.

Space stations were linked by networks of space lanes like the trains of the turn-of-the-century world before. Small areas of space were connected by smaller networks, but one ultimately was forced to travel from hub to hub. There was no real way to travel from any given station to any other due to unreliability, expense, and cumbersome size of existing runabout technology.

In 2040, Catkins Engineering came out with a groundbreaking new design scheme for their runabout line. They were made smaller and more maneuverable but still easier to control due to a clever reorganization of the steering interface. This new line of runabouts was also modular; one bought the basic shell, the necessary parts to operate the runabout, and any number of additional cargo, passenger, or more esoteric attachments.

This new like of runabouts was known as MIR - machine integrated runabout. Catkins capitalized on the connection of this name to the early days of space, likening their designs to tough Russian Space Station that survived continued use 11 years after it was supposed to be obsolete. "MIR" is Russian for "village," but also for "world," and Catkins Engineering made the isolated space stations more accessible, bringing the Extraterrestrial community together.

The Space Boom continued, consuming asteroids whole in conversion to hotel and food growing space, and more and more the people of the Earth found space commonplace.

In 2044, without warning, Medlab, the most prominent medical science research lab on- or off-planet, mysteriously tore itself apart in a massive explosion. What video footage of the incident was available gave no clue as to what the cause was. There were no signs of a collision. The station was merely there one instant, and flying off in every direction the next. Whole squads of space rescue crew were sent to investigate and look for survivors, but only three were found. No plausible link has ever been made between the research projects onboard and the explosion.

## CHAPTER 1

Summertime, plus the ocean, plus the exhaust of a couple thousand hydrogen powered cars made the downtown air unpleasantly muggy. Hot air from zealot politicians and closed minded mobs don't make things any better. The state senator stood upon a pulpit with a microphone, addressing the crowd. The mob in training stood like a Roman phalanx, signs instead of spears, listening to orders from their general.

"There needs to be more control! We have people walking the streets whose minds can be used as weapons. We have tattooed freaks who look like Christmas trees in the dark! Some of these people with prosthetics can lift cars, and if we don't institute more control, people will be sawing their own arms off so that they can have those kinds of prosthetics. I tell you, it's a defilement of nature itself! If I am reelected this next term, I will lobby for more amendments to the Limitations on Human Genetic Modifications law, so that we don't have dangerous superhumans walking the street. My goal is to keep peace and comfort in the community... family values... protect the children..."

Tommy stopped listening because it was just too much to take. The senator had just demonized and criminalized all of his closest friends. He didn't come all the way back to Earth just to hear this noise. Tommy felt the need to get away from the heat and the intolerance, so he found his way out to the harbor. The cool ocean breeze blew the sweat from his body and the indignance from his mind, revitalizing him. He stretched like a cat and took a long look around; it was good to be home. Tommy sat on a bench by the harbor, as waves of nostalgia lapped against his soul like water against the piers.

He sat remembering all of his friends, wondering where they might be. He knew that most of them would be back in town, but he was still readjusting to Earth's gravity and the emotions brought back by being home. Memories floated around inside his head like the gulls; images of his friends, sitting around coffee and tea, laughter, Mike's amusing news feeds... The old cybercafe! He looked further down the harbor, to an old white building with yellow awnings and a big red sign. There were a few more satellite dishes on top of it than Tommy remembered, but it was definitely the same place. It was the cybercafe where Tommy and his friends used to go hang out. Tommy smiled a gentle nostalgic smile and started walking.

The building stood on a corner overlooking the water. Inside the door there were a few tables near old, large LCD screens, as well as a few of the relatively new, sleek organic LED displays that had been put in a little less than a decade ago. Aside from the few tables, there were a few counter tops with people hunched over computer terminals and cups of coffee, a not quite bustling waitstaff, and the occasional lively conversation about technology and ethics.

Tommy walked into the cafe and looked around for anyone he knew. His old waiters were gone, even some of the ancient

computers were gone, but it was still certainly the same old cafe. He politely nodded to a pair of attractive girls in the booth in the corner as he sat down and removed his over shirt.

Tommy gave a resigned smirk as the girls across the cafe giggled. A couple years ago, while the technology was still new, he'd gotten a bioluminescent tattoo that reacted with pheromones. Anytime he got turned on, the tattoo would glow bright red. The red had faded, but the cherub with the bow in one hand and a strip of condoms in the other was still clearly visible. "Just one more year", he thought to himself, as the ink was supposed to last only three years of moderate use.

His sheepish bemusement was interrupted by a buzzing in his ear. He tapped the piercing in his ear twice.

"Oy?"

"Oy Tommy, it's Mikey. We're going to hit the old cybercafe, wanna join us?"

Tommy chuckled.

"Already there bro. See you in a few?"

"Yeah, definitely. By the way, Miranda said she wants to talk to you sometime soon, but she doesn't have your new phone number. Shall I give it to her?"

The cupid flared like a cigarette ash. The girls in the corner started giggling again.

"Heh, yer tat still giving you troubles, Tommy?"

"Eh, shut up. well yeah, definitely give her my new number, I'd like to talk to her again, too."

"I bet you do. Alright, peace out."

"Peace out. See you in a few."

Tommy tapped his piercing twice to turn it off. He put on his sunglasses and started talking to them. Computers had grown so compact that they could be fit inside the legs of a pair of sunglasses. He could still see through them and know what was going on, but as a simple matter of focusing his eyes he could see the binocular organic LED display in front of him.

"find images"

An entire file list appeared in front of his eyes.

"open picture Miranda 1"

A large picture opened up on the screen of his glasses. He blinked twice to turn on the scroll tool, and used his eyes to move around the picture. He looked at her face, her soft red hair, her big green eyes that he felt like he could fall into. He smiled a soft smile and blinked twice again to return the glasses to normal function mode

"email Miranda"

A small picture of a microphone appeared atop a blank window, flashing. Tommy took his cue. The cupid glowed again.

"Hey Miranda, comma line line indent, I hadn't heard you were back in town, exclamation. Mike is going to give you my phone number, comma, but I may as well give you my contact info now. I'm at 36-508-555-2409, email is the same as it was, and I'm usually down here at the old cybercafe, when I'm not at home or at work. I can't wait to talk to you again. Line line line love

comma Tommy end".

He reviewed, making sure the computer caught everything he had said. He smiled and said "Command: subject. hey exclamation. Command: Send".

The window blinked shut as a green hand with it's thumb extended towards Tommy's eyebrow appeared in the middle of the lens. He took off the glasses and folded them back into his pocket, as a hydrogen bus stopped outside.

Hydrogen vehicles appeared shortly after the middle east oil reserves went dry. Gasoline was still available, at prices around \$32 per gallon, but blocks of carbon nanotube were much cheaper and easier to deal with. The only drawback was the high pitched noise of the motors, as opposed to the low rumbling of the gasoline motors from before the turn of the century. Tommy watched as Mike, Julie and Jimbo stepped off the bus and into the cafe. Mike threw open the doors with a flourish, and the whole group entered the cafe as everyone turned to look.

Tommy knew his friends were strange. Even for that day and age, they couldn't help but draw attention to themselves. Mike was just a little bit shy of two meters tall and had an assortment of facial piercings, all functional. He held an air of suave sophistication and seemed very connected, because he was. Of all of his piercings, he had one for each band of police scanner, three tuned into different television news networks, five tuned into radio news networks, his phone, a web connection, three speaker pieces in each ear, and one piece in his ear he used for any hacking he did. He had several gold teeth, electrically connected to his labret piercing, which transmitted to his glasses. He would click his metal tongue ring against the backs of his conductive teeth to control all his media displays.

Mike wasn't always such a suave and impressive specimen. As a child he was scrawny, had difficulty paying attention, and was always ill with something. The common cold, generic low grade fever, or whatever other bug was floating around at any given time. The only thing he had goign for him was his child prodigy status with biology and comptuers. He studied biology very hard looking for ways to cure himself of his weak immune system, fragile structure, and attention problem. After graduating college, he got a job at Genesmith incorporated, where he quickly became one of the chief scientists working on retroviruses and assigned to a unit working in space. In his spare time, Mike had been doodling genetic code and designed a retrovirus to rebuild himself to his own specifications, a retrovirus which he built on company machinery when nobody else was looking. He is the sole reason that the Restrictions of Human Modification bill was passed.

The retrovirus Mike created cured his attention problem. Whereas he used to have difficulty paying attention to one thing for any length of time, he could now fully focus on thirteen things at once, nearly indefinitely if he wanted to. On IQ tests, he averaged around 250 plus. He built himself a thicker skeletal frame, more prone to taking on muscle and strengthened his immune

system so that he hasn't gotten ill in seven years. Mike had made himself into a superhuman through genetic modification.

After this "incident", Mike got fired from Genesmith for using company equipment for personal use. The U.N. put limitations on the amounts of gene manipulation allowed in a single human being by putting limitations on what amount of genetic code was allowed to be altered for medical purposes. Mike was supposed to have been kept in confinement, but oddly enough nobody could ever track him down. For some reason, all the pictures of him within government databases disappeared, all his information couldn't be found, and whenever anybody saw and recognized him, he would leave town before any authorities could get there. Mike's ability as a hacker was far superior to anyone in known history. It was a matter of necessity.

Jimbo had been an early space plane pilot. One day, a piece of space debris hit his plane during reentry, causing Jimbo to crash. Fortunately the plane didn't explode, but he broke every bone in his body and lost an eye. He had no depth perception up until four years ago, when advances in organic diodes finally made it possible for blind people to see with decent resolution. They opened up his head, put a small field of pointed translucent rods against his visual cortex, and ran a thin wire to his eye socket. Into that, he could plug a web cam, or anything else that would allow for 1200 X 1600 resolution. He had a camera that could see visual as well as infrared light. However, he never bothered to try to make it look like an eye. He had a large green tinted lens sticking out of his face, attached to the old tendons so that it moved like a regular eye. It may not have been the prettiest thing in the world but it was quite functional and that's all Jimbo really cared about.

Then there was Julie. She had been the only survivor of the Medlab explosion of '44. There was still hot debate as to what caused the explosion, but the only thing that is certain is that it was visible throughout the whole northern hemisphere. Julie was a couple rooms away from the explosion, which ripped out the wall to her left side and threw her towards a doorway. Before the pressure of the atmosphere blew her out into space, she grabbed the door frame with one hand, and swung through the doorway before it sealed. Had it not been for her gymnastics training as a kid, she probably wouldn't have survived. Fortunately for her, she worked in a medical station with all the supplies she needed to patch herself up, as well as the two others who were in the other side of the station. She had third degree burns across the left side of her body, and was missing her left arm from the shoulder down. After several days of drifting out of orbit from the momentum change of the explosion, she was rescued and returned to Earth.

With the injury benefits paid to her by Medlab and the media obeisances for putting her old pictures all over everything, she had amassed a small fortune. With that, she artfully covered all of her scars with tattoos. Her entire left side was covered with carefully placed tattoo work, almost in a paisley pattern, that



went from earthy greens and blues interspersed with deep crimsons, gradually shifting to a silvers and brasses over by her arm. The thing which tended to freak most people out was her prosthetic, which resembled something from a science-fiction story.

Tommy smiled with delight as his friends walked towards him. He was one of the mechanical engineers who designed the inter-station runabouts still used to get between stations. They were also hydrogen powered, storing fuel in nanotubes. He worked in the manufacturing plant in space and was currently on his one year vacation. Everything was then done by machine, but the first runabouts were actually built by hand. Tommy had well muscled shoulders, despite a small build. All four of them had a very confident air, all grizzled and old beyond their years. They were among the unsung pioneers of space.

"How you doin'?" asked Jimbo with his intentionally thinned cajun accent. He tried to speak the most proper English possible, because people had difficulty understanding him when he got excited and started "hootin' and hollerin'."

Tommy looked at Jimbo's reflection in his coffee mug for a moment before looking back up at him. He looked up with his characteristically warm smile.

"I'm doing pretty well, you?"

"Pretty good all told, you?"

"It's nice to be home, all I have to say."

"Yeah, the fun wears off for everyone after the first two weeks, but then when you get back to Earth you wonder when you get to go back."

They both chuckled understandingly. Julie ordered her usual cup of Earl Grey and joined them. She had a semi-permanent scowl ever since her accident, but occasionally it would soften into a smile. Her smile was pleasantly warm, unless you knew her. Then it was the brightest most beautiful thing on Earth.

"It's definitely nice to have you back, Tommy. Things just haven't been as fun here without you."

Tommy casually covered his tattooed arm with his hand. Julie was a very attractive woman, even with the mechanical arm.

"Oh, it's good to be back. We don't even design anything anymore, it's just construction work now. So dull."

"It's only dull if you let it be, Tommy. You can find interesting things anywhere," replied Mike as he leaned back in his chair and stared towards the ceiling into his sunglasses. The light from the nanoscopic LEDs in the lenses flickered against his eyes.

"Oh, and what arcane information is the newsman gathering now?"

"Hmm?" said Mike, sarcastically playing dumb, "well, the substantialists are having another protest in front of the white house, biotech stocks are up three points from yesterday, yet another European car company is announcing their new line of MIR knockoff, Starbucks is putting their 16th coffee shop in space, McDonalds has hit the trillions served mark, There's more debate at the U.N. about genetic engineering and what sorts of

limitations need to be imposed, and Kincaid is ahead of Chemlab by three points in the ricochet finals."

"The finals are today?!" exclaimed Jimbo, as he got his sunglasses out. Most of the ricochet teams were different space station employees in their spare time. Kincaid was the company Jimbo had worked for before he lost his eye.

Tommy chuckled as Jimbo and Mike sat, staring at the ceiling watching the game. Because of the nature of sunglasses computers, it was common etiquette to stare at the ceiling to avoid unintentionally staring at any strangers

"So, Julie, what've you been up to?" Asked Tommy.

"More of the same. You know I don't really have much of a life."

Tommy put his arm around her shoulder and gave her a hug. He knew that Julie was lonely. In fact, everyone knew that Julie was lonely except Julie. She hadn't yet accepted the fact.

"So, Tommy, how did things go between you and what's her face?"

"Christine? Oh don't ask. We broke up less than a month after we started dating. Same old thing, the woman gets interested in a long term relationship, then I freak out and completely drop the ball. It's like, it starts out as this really intense thing, like I'm getting on with my life, then it fades out and we split."

"Tommy, your track record with dating since college is alarmingly miserable."

They were interrupted as Jimbo cheered and Mike laughed.

"Wow, that was a beautiful shot."

"Eeyah, dey got de bes' o' de bes' wuhkin' deyah..."

"Jimbo, what?"

Jimbo regained his composure.

"Sorry 'bout that. I was simply voicing team spirit."

"Ah, okay."

Tommy and Julie chuckled. Jimbo was a very mellow, down to Earth guy till you got him excited. One of the wait staff at the cafe caught the hints from Jimbo and Mike's excitement and turned on one of the wall monitors to the game. Tommy and Julie watched the replay, as one of the Chemlab players took a Kincaid player by the ankles. In a seemingly uncontrolled spin, he managed to kick the ball on the volley, which gave him just enough momentum to get over to the nearest wall. The ball bounced off the back wall as he flew back across the field so that he was oriented sideways relative to the goalie. He caught the ball on the volley and sent it in.

"Wow, that's impressive," said Julie, "I don't think I could've done that back when I did gymnastics." A vague subtle hint of sadness entered her voice, too subtle for any of them to really notice.

"Yeah, that was... interesting." Tommy was never really much of a fan of ricochet, but even he had to compliment great prowess when he saw it.

"Speaking of interesting," he continued, "I mailed Miranda.

I'm sure you have by now too."

"guilty as charged," grinned Tommy.

"What say we go visit her?" asked Jimbo.

"She's in town?"

"Didn't say that she wasn't."

"Well hey, let's go!"

Tommy was up and out of the door, a blur of red luminescence. The rest of the group quietly grinned and slowly stood up to walk out of the door. Mike turned around and left a ten on the counter, and surveyed the room one last time before closing the door behind him.

## CHAPTER 2

They waited for the hydrogen bus outside, underneath the darkening sky. The air had cleaned up quite a bit since the introduction of hydrogen vehicles following the mass production of carbon nanotubes. There was a definite deficiency in the color grey, compared to cities around the turn of the century. Things seemed a bit muggy in the hearts of big cities, seeing as the exhaust from the hydrogen vehicles was essentially steam, but it was definitely more pleasant than the carbon monoxide of half a century before. Tommy looked around at the squat three story buildings with brown brick and bay windows. It reminded him of being in college again, where he met a girl named Miranda between classes. There was an old tradition at his school of sledding down the big hill on campus with the aid of a bungee cord for acceleration. One day he launched himself down once and landed at the feet of this pretty woman, a physics major...

Tommy's reminiscence was cut short by the high pitched whine of the hydrogen bus approaching. All four of them shuffled themselves to the edge of the pavement, filing onto the bus as it stopped. While most of the industrial research stations were still being put up in space, politicians tried to reduce pollution by making public transportation free. After the pollution problems started to resolve themselves, they tried several times to re-institute bus fares, but everyone who ever tried it never got reelected. It had been a very popular program.

On the bus, Tommy just sat and looked around at the advertisements he usually did. So many people selling so many things. There was never an end to the number of products one could buy, especially after the space boom. This bus had a few more electronics ads than usual, but they were all products that he'd heard of before. There was an advertisement for a new line of micro radios, one of which Mike already had. The radios were all little tiny spheres that could be put on bracelets, piercings, necklaces, or wherever else you could think to put them. The ones advertised here were attached to body piercings. The bar was a length appropriate for an antenna, and you tuned it either by voice or by tapping ends of the barbell, tapping in the middle to toggle the volume control. There was an ad for a "new" organic LED television. The edges of the poster were yellowed and tattered; this must've been a relic. Nobody really watched TV anymore. Most everything was done by internet.

Tommy continued to scan the inside of the bus, and only saw one thing which wasn't developed in space. There was an advertisement for a plumber on the small wall behind the driver's seat and that was it. Everything else involved organic crystal devices, rare metal alloids, and rare carbon derivatives. Tommy smiled as he fully realized what Mike had said. There's always something interesting if you look for it. It was always amazing to think that half a century ago, these commonplace devices were only dreams.

Tommy always found the newer neighborhoods amusing. The

older neighborhoods were full of decaying antique brick buildings. The houses in this part of town looked like old Tudor houses drawn by kindergartners. The aerogel walls were normally a tannish color. What would've been heavy wooden support beams in one of the old houses were thin rods of plastic reinforced with buckminsterfullerene cable. Buckminsterfullerene had of course been discovered long before the space boom, but only in zero gravity was the manufacturing procedure more or less trivial. C60 atoms linked together formed one of the strongest wires known to man, especially considering the stuff could be literally one molecule thick.

So, this neighborhood was full of stick figure Tudor houses. Satellite dishes all over the place, the occasional antenna jutting from the ground, but other than that beautiful clear skies. All the power lines were now underground in insulated pipes.

They finally got to the bus stop nearest Miranda's house. They stepped off, took a deep breath and looked around. Things were uncomfortably quiet. They looked about in awkward silence, when Mike addressed the rest of them.

"Well, most people are still at work..."

Everybody nodded, agreed, and proceeded to walk towards Miranda's house. There were small red brick fences around most of the houses, remnants of the brick buildings that used to reside there. Finally, after a few blocks, they came to Miranda's house.

It looked a bit warmer than the rest of the houses around. Most likely because the aerogel that her house was built from had a darker tint than the rest of the houses in the area. Also perhaps because with a drill and several capillary tubes, she'd managed to make ivy grow up the side of the house. It was a warm inviting place. A proud mailbox built into the wall by the entranceway, part of a half meter tall fence which surrounded a patch of pleasant soft green grass. Tommy felt his heart start beating faster. He'd not seen Miranda in years. Back when they'd went their separate ways to different graduate schools, they started talking less and less. He figured she'd just lost interest. But her message to Mike told him that she still did think about him. It made him so hopeful it was almost painful.

All four of them started walking towards the front door, but Mike held out his arms and stopped Julie and Jimbo with a warm smile on his face. Tommy walked alone towards the front door, approaching it like an ape approaching an obelisk. He hesitated for a moment and rang the doorbell, his heart jumping out of his chest. The waiting was excruciating. Should he ring again? Maybe she didn't hear it the first time? Or could she be sleeping, and he'd wake her up and annoy her? or...

Tommy regained his composure and put on his sunglasses.

"check mail"

Sure enough, there was a note from Miranda. Tommy smiled and read:

Hey Tommy,

it's so good to hear from you again. I'm not going to be in town till tomorrow morning, but I just wanted to touch base and tell you I'll be there. My number is 43-508-555-9826. I have some very important things to talk with you about, I can't wait to see you.

Love,  
Miranda.

Tommy sat there grinning, relieved and yet disappointed. He calmly took his glasses off and addressed his eagerly awaiting audience at the front gate.

"She's not going to be here till tomorrow morning. Guess we'll just have to amuse ourselves."

They all looked at each other expectantly. Now that they were all together in one place, they had no idea what they wanted to do.

"Well, ummm... should we go back to the cafe?" humbly suggested Jimbo, more just to break the silence than anything else.

Julie looked at him with a start, "I don't think we remembered to pay!"

"I got it," replied Mike.

"Well, I'd like to go out and do something," said Julie, sarcastically sassy, "because you can amuse yourself with news and spectator sports all you like, but I'm an old fashioned girl who needs real entertainment."

"There's always the movie theater, y'know," said Jimbo, "I hear they've got a new action movie out"

"Ladies and gentlemen, check your brains at the door," said Mike, sarcasm audibly dripping from his words.

"Yeah, he's right. I've watched some of the classics from almost a century ago, and there's not really been much to compare to them since," said Tommy

"Tommy, yer an old fogey."

"Ooh, look!" added Julie.

Even though the air had cleaned up considerably, sunsets were still an awesome spectacle to behold. The sky was turning a brilliant orange behind Miranda's house, as the whole gang walked to the end of the block to catch a better view. They looked at the deepening purple tinge to the orange, and the brilliant white flashing off of the bottoms of the space stations. They stood in the air like man-made stars. The sun dropped below the horizon and twilight set in; the bottoms of the space stations taking on the oranges and purples of the sunset. Only then could anyone notice how many space stations there actually were. hundreds of orange and purple specks dotted the heavens, light diffracting even further through the atmosphere, contrasting with that deep shade of blue that the New England sky turns at twilight. It faded into night time, the space stations were once again invisible (save for the obnoxious ones with flashing lights on the bottom to advertise).

"The colors are always so beautiful," sighed Julie, "I wish those colors could be physical sensations or something. Flavors, sounds, anything to let me experience them in some all encompassing..." Julie was still lost in the stars. Mike had an idea.

"Hmm... anyone up for a trip to Swoden's?"

Tommy, Jimbo and Julie looked at Mike, befuddled.

"You've never been? Oh wow, we have to go. It's a night club out by my place. Real state of the art, Julie, you will absolutely love it!"

Julie gave a smile warmer than usual, as Tommy and Jimbo shrugged. They all followed Mike as he started walking. The group took a bus back to downtown and caught a train out to Mike's end of town. These were more traditional buildings, six story apartment buildings made of brown stone, streets brightly lit with harsh orange/pink high pressure sodium lamps. Mike stopped at one of the buildings.

"Wait here, I'm going to go upstairs and get some stuff. Haven't been clubbing in a while."

The other three stood at the doorway of the apartment building, listening to the high whine of the cars going up and down the street. An AAA worker walked past them with a black block towards a relieved motorist with her trunk open. Emergency refueling was made much easier with carbon nanotubes. a teenager in a souped up hydrogen car raced by, causing everyone in the vicinity to grimace.

"Why do they have to sound like that?" Julie asked Tommy.

"Well, they've got many more cylinders than gasoline powered cars, and the cylinders are a lot smaller. so like, say, in that guys car, there might be 48 cylinders firing per revolution instead of 4. figuring he was trying to destroy his engine with it cranked up to 6000 RPM or so, you're talking a 4800 Hertz tone."

Julie shook her head as Mike came back downstairs.

"Alright, sunglasses on everyone. Put these rings on and fill out the questionnaires."

Julie put the ring on, and it lit up green. In her sunglasses appeared a list of questions, ranging from inane to incredibly personal. She answered the ones she was comfortable with, and put the sunglasses away. After a while, everyone else did the same.

"What was that all about?" she asked Mike.

He looked at the smokey rounded crystal in the ring.

"Well, looks like you and Jimbo there have quite a bit in common!" The crystal was glowing a light blue. Mike walked over to Julie, and as he did the crystal on her finger turned more and more red.

"You and I, apparently, do not."

He explained what it was. The ring consisted of a small antenna that wrapped around her finger, attached to a small one megabyte storage semiconductor that formed the inside of the ring. On top was a silicon germanium integrated circuit, and above that

there were three very thin organic LEDs. On top of those was the smoky crystal that diffracted the light from the diodes. These miniature computers would transmit to each other on varying frequencies, and compare the answers to various questions. The more that matched, the higher the frequency of light emitted. Deep violet would mean all the questions were answered the same, dark red would mean none were.

"It's a handy little toy out at the clubs. Takes all the strain out of breaking the ice. You walk up near someone, see what color your ring turns, say excuse me, show the other person your ring, and you two know how much you've got in common with each other. This technology was actually invented slightly before the turn of the century, but wasn't perfected till after they first started mass manufacturing silicon germanium chips."

They all chuckled about the brilliance of the idea for a second or so, then proceeded to walk down the street to the club. The club was a synesthetic's dream. There was a huge organic LED screen on the back wall of the club display beautiful patterns moving in time with the music. Mike grinned and explained as Julie stared in awe.

"This place was an experiment with synesthesia. Input that affects one sense is translated into output to affect another sense. See those kids in the corner?"

Mike pointed to a group of people covered in wires and sensors, all plugged into a small hemisphere. They danced convulsively, awkward yet grinning from ear to ear.

"They're hooked up to an EKG, an EEG, blood pressure monitor, sweat content analyzers, and electrodes on various muscle groups. This information gets cross referenced against databases of chord progressions and scales, their heartbeats are turned into waveforms, and they generate music. From the music and some of the same data, that constantly moving fractal on the wall is generated."

"...Whoa..."

"Yeah," Mike grinned, "Then there's other light sensors, smell sensors, motion sensors, pressure sensors on the floor, all sorts of stuff that influences the music and the imagery."

"How many computers does that take?" asked Julie, noting the number of sensors all around the club.

"See that silver dome the kids are plugged into?" Mike pointed.

"yeah..."

"That's it. There's only one. Silicon germanium is cool." Julie laughed as Mike took her hand.

"There's a couple more plugs on it, if you'd like to go try it out..."

Julie approached the front of the club with the awe that a small child approaches a mall Santa with. Mike helped her plug herself into the machine, where she started dancing, serpentine and controlled. The LED screen on the back wall turned all sorts of bright oranges and reds, accentuated with neon blues that would brighten every time she smiled. Mike bobbed his head to the



throbbing bassline that he assumed was coming from Julie's heart with a huge grin on his face. He hadn't seen Julie this happy in a long time.

Meanwhile, Tommy and Jimbo worked their way back towards the bar. Jimbo slowed his approach as he scanned the contents of the bar for anything he might recognize

"Tommy... I don't see no whisky, or even any beer..."

"You still drink alcohol? Oh man, you've got to try this."

Tommy ordered two 'serotonin smoothies'. Jimbo looked suspiciously at the mug of frosty blue stuff in front of him, as Tommy raised a toast.

"To old friends and new adventures!"

Jimbo raised his glass, shrugged, and took a big swig. Suddenly, a mild warm tingling spread through his body as every worry and all sadness left his body.

"Whoooo... Ah din know we be messin des back ome! De boys out in de bayou needta trah..."

"Jimbo, what?"

Jimbo regained his composure. It was like being drunk without the associated dizziness or low self esteem. He had gotten excited.

"Sorry. I was saying I need to take this home and let some of my friends try it. Wow, this is really nice... This is one of those bionic beverages?"

"Yeah, can't believe you haven't tried them yet."

"You know me Tommy, just an ol' fashioned country boy... I knew about these because I shipped supplies for some of the other bionic beverage companies back in the day, didn't really know how they worked"

"Well Julie could tell you better than I could. Basically, most organic chemicals are essentially crystalline in structure. crystals grow better in zero gravity, so the bio-bev company got the opportunity to produce pure endorphins and neurotransmitters and put them into beverages for consumption by people like us."

Tommy paused and took a deep breath.

"It's good to be home, you know?"

"Yeep..."

Tommy and Jimbo sat for about an hour, listening to music and just feeling good. The bio-bevs were designed to have an effective life of half an hour, so as to insure that nobody got too much at a time, and that they'd keep coming back to buy more. After a couple drinks each, they stood up and walked over to the dance floor, where Julie was still in her rapturous dance of ecstasy. She tried not to let people in on it, but she was an intensely emotional human being. You could directly hear and see the effects of her feelings and moods on the screen and in the music, above all the other dancers. It was most obvious when some guy made a rude comment about Julie's arm, and the entire screen turned a sickly greenish violet color. Mike then said some rude things to the rude club-goer which were a bit too intellectual for him to understand, cheering Julie back into a bright golden yellow tinged with lime green.

Tommy and Jimbo sat perched against the bar, when a woman walked past and Jimbo noticed his ring turn dark bluish violet.

"excuse me a minute," he said as he walked after her. Tommy just stood there, watching the screen and listening to the music. Was it just the residual effects of the serotonin smoothie, or was he really on the verge of crying for joy at the beauty of the scene and the knowledge that the few human beings he felt genuinely connected to were all here in one place, and happy? All but one, and he'd see her tomorrow. His heart jumped again thinking about her; He didn't know what he would say to Miranda when he saw her again. How do you break a five year silence? "Hey, how's it going?" He'd think of something on the spot. Right now, he was just going to sit back and enjoy the rest of the night.

Mike saw Tommy and walked over to him.

"Hey Tommy, you have the time?"

Tommy looked down at his watch.

"Wow, 3:00 already?"

"We probably ought to get going soon, especially if you're going to go see Miranda in the morning."

"Yeah, definitely. good luck prying Julie out of the machine!"

"yeah, and good luck trying to pull that machine away from her," Mike remarked pointing towards Jimbo, who was still with the girl with the exposed metal skull plate and pigtails, talking amiably.

Finally, after much prodding on the part of all parties, Jimbo, Tommy, Julie, and Mike walked out of the front door of the club.

"Hey Tommy, she's from Mississippi! 'bout an hour from de place I live at!" exclaimed Jimbo.

"Well, you two certainly make a cute couple," remarked Julie.

Jimbo chuckled. They walked back towards Mike's place, through a patch where the street lights weren't working. Mike heard a sound behind them that seemed out of place. All the segments of his consciousness that were previously devoted to nothing in particular kicked into paranoia overdrive. He put on his sunglasses, suspicious. The whole crew noticed Mike's sudden change of demeanor from teh corners of their eyes. Something was definitely wrong, but they weren't sure what. Suddenly, there was a scuffling noise behind them which caused Mike to whirl around to see a man with a knife.

Everyone else turned around to see the same and reacted accordingly. Tommy stood started scanning the immedeate area for an improvisable weapon of some sort. Julie and Jimbo clenched their fists to get ready for a fight. Jimbo switched his electronic eye to infrared mode, to get as much of an advantage in a fight as possible. Mike stood looking through his sunglasses, rapidly clicking his tongue ring around.

"What's the matter, nervous big man?"

Mike didn't answer. He had opened a paint program on his glasses, and was tracing the man's face with a line tool.

"Alright, good enough" he thought and compared the line drawing with the police database he'd just hacked into. scanning, scanning, got it. Wayne Johnston.

"There's no need to do this, Wayne Johnston..." the mugger looked startled.

"how... how do you know who I am?"

"Oh I know a lot of things. You've got an ex wife named Rhonda, and a restraining order against her."

The mugger took a step back. Jimbo smiled menacingly as he watched the mugger heat up in infrared.

"She didn't hire you did she??"

Mike smiled. "Perhaps."

He kept clicking his tongue piercing against the backs of his gold teeth. He continued to dig through the social security archives in one window and the criminal database in another.

Mike's self discipline never allowed him to let his guard down. He always had one data stream in the bottom left corner of his glasses giving him the information on what communications satellites or towers he was using at any time, as well as who else was using them. Had he been less perceptive, he wouldn't have recognized that there was one person on all three of the towers he was bouncing off of. In suspicion, he bounced his signal down to another tower in the area and went back to messing with Wayne's mind. Mike was startled again to see that the same IP address had followed him to the same tower he was on now. This confused Mike; how could anyone track him? He bounced a couple more times, laying a trail with no apparent pattern to it, and each time the IP address followed him. Mike didn't have time for this. He diverted a little more attention now, and managed to shutdown the computer at the other end, all the while relating to Wayne his social security number, his criminal record, and his list of magazine subscriptions. The mugger panicked and ran away.

Everyone was laughing and relieved, except for Mike.

"What's wrong bro?" asked Tommy, concerned.

"I'm in the process of changing the IP address of my glasses."

"Wha..."

"Someone tried to hack me to find out where I am. I wouldn't normally be worried, except whoever this was... they were more crafty than usual. I'll have to figure out what branch is taking a shot at me this time, but I think I'll lay low for a while. Whoever it was... I'm impressed."

The whole crew silenced themselves with a look of concern. If something impressed Mike, it had to be absolutely incredible.

### CHAPTER 3

The stress had completely drained the whole group. Whereas the whole gang was dancing and fully conscious fifteen minutes ago when they left the club, they were all half comatose as they dragged themselves up the stairs to Mike's apartment. The only one who seemed fully awake was Mike, but his mental abilities were trailing too. They were all absolutely exhausted.

They dragged themselves up the stairs as Mike took one last look behind them and locked the door. The hallway was brightly lit, but it was a pleasant, warm glow. The LED arrays had been colored to look like old incandescent lamps, without the heat loss and power consumption. All the lighting in the building could be run by a car battery. The LEDs all pointed towards the ceiling from inverted lampshades on the walls. The effect was warm and cozy, which only augmented the sleepiness and exhaustion of the whole group.

They finally made it up the stairs to Mike's fifth floor apartment. It was the ideal hiding spot for anyone trying not to be found. Small, out of the way, very low key. It had the same style of indirect lighting as the hallway, but with a brightness control. Mike turned down the lights and poured a glass of water for himself. Tommy followed suit.

"Well, the way you handled that mugger was pretty smooth," said Tommy with a soft smile on his face, trying to cheer Mike up. Mike grinned the grin of someone who is trying not to.

"Yeah, it was the best thing I could think of. Unfortunately, that mugger seems to be the least of my concerns right now."

"How bad can it be, Mikey? You are significantly smarter and quicker witted than the rest of the planet, and you can pay full attention to... hell, most I've seen you do is eight... things simultaneously. I don't think there's anyone around who can track you down."

"Never get cocky, Tommy. There is always someone who can do it, and the moment you stop being careful is the moment they'll strike. I didn't honestly think there was anyone who could get me either. And nobody's caught me yet. But this hack was different, this hacker was hacking like... well, like me! In just trying to locate me, whoever it was pulled moves I didn't even anticipate. Of course I was paying very little attention, diverting most of my energy to scaring away the immediate threat. By the way, most I've been able to keep track of at once is thirteen different things."

Tommy shook his head in amazement and put his hand on Mike's shoulder.

"Well, I know it's silly for me to say this, but if you need my help, just let me know," and with that, Tommy went to bed on the couch.

Mike stood up and walked around the apartment with his glass of water. He stared out the window at all the lights of the city, and up at the advertising stations in space. It had gotten to the

point where you could navigate the city at night by looking up at the "constellations" of space stations over head. Mike turned around and looked at his friends. Jimbo was curled up on the coffee table, a big grin on his face and occasional incomprehensible mumblings in thick cajun. Julie had grabbed a few pillows and a blanket from Mike's room and laid on the floor, still buzzing from the musical experience in the club. Mike smiled at Julie. She was so incredibly emotional. She had an unquenchable fire burning in her soul which she nd the whole world got to visually see for the first time that night.

He looked back at the couch, to see Tommy laying there looking at something. Tommy kept an actual paper photograph of Miranda in his wallet. Even though he had all the pictures he'd ever taken loaded onto his sunglasses, he kept this one for quiet moments like this. He looked at the picture, grinned, put it away and went to sleep. Mike smiled as Tommy put the picture away and nuzzled into the couch. It was such a wonderful thing that Tommy and Miranda had. Mike was slightly jealous, but not to the point of harming his frinedship with either of them. Mike often felt truly alone; technically, he was no longer even human, after he modified his own genetics so drastically. He could never find anyone to whom he could completely open up and share his feelings, because they were simply too complex for most people. Also, he wouldn't dream of inflicting his lifestyle on anyone else. Constantly on the run is no way for anyone to live unless they absolutely have to.

Mike sighed, and looked over by the fireplace. The one hint that this wasn't just an ordinary apartment was the 11X17 portrait of Kevin Mitnick above the fireplace. Mike raised his eyebrows to the picture.

"Well, I've managed to evade authorities for a year longer than you did... wonder how long I'll be able to keep that up."

Mike took one last look around his apartment, one last sip of water, put his and Tommy's glasses into the dishwasher, and turned off the lights. He found his way to his bed and crawled in to one of the few comforts of his life.

The next morning, Tommy awoke to the sun rising through the window on the east side of the apartment. He sat up and rubbed his eyes, and took a deep breath, and started to go through his usual routine of planning his day. He stopped, as he realized the single most important huge thing he had to do today. Miranda would be getting up right about now.

Quietly, Tommy got up and shut the blinds so nobody else would wake up like he did. He wanted to go to Miranda's place alone, at least at first. He wanted to be able to just stand and look at her, to just hear her voice. He wanted to have her complete attention for at least five minutes. He wanted to hear what she had to say, and find out if she felt the flame he felt for her after all these years.

The noises of the city had been going all night, which would give Tommy just enough audio cover to get ready. He grabbed a quick shower, and put on some of his clothes that he usually kept

at Mike's place for whenever he was in the city staying with Mike. Now was the problem of breakfast.

Tommy considered cooking some bacon, but decided against it. Just the smell from opening the package in the refrigerator would be enough to wake Jimbo up for breakfast. Cereal might be a bit too loud, seeing as the crunching noises don't match the city noises all too well. He silently rummaged through Mike's cupboard, and found what he was looking for. The same company that owned bio-bev also made a line of nutrition bars. Using the same processes as they did for their drinks, they manufactured all the chemicals that a person would get out of a full balanced meal and condensed them into what looked almost like a candy bar. They hadn't yet figured out how to make it palatable, but one of those would easily keep Tommy going through lunch time. He quietly unwrapped the bio-bar and ate it. Tommy took a last look around at his slumbering friends and walked out the door. Tommy stopped, turned around, and walked back in the door. Tommy went back to Mike's room and put on a long sleeved shirt. Tommy walked out of the door and shut it quietly behind him.

The geosynchronous space stations had a similar effect at sunrise that they did at sunset, only in reverse. They'd turn orange and pink and purple just before dawn, and as the sun rose they'd turn a brilliant white, and blend into the sky as the sun came overhead. No matter how regular it was, Tommy always stopped to watch this spectacle whenever he was up that early. He knew he'd been in space too long, because he could actually pick out which of the stations he used to hang out in on his off hours. There were two Starbucks near the Catkins engineering station. He used to frequent the one that hovered over the atlantic ocean, where he could look down through the transparent aerogel windows and try to pick out his favorite hangouts on earth. He smiled as he again came to the realization that the grass is always greener on the other side of the stratosphere.

As the sun came all the way up, Tommy came back from his recollections to the sound of a high pitched motor. He boarded the bus and went back out to Miranda's. Tommy gnawed on his lower lip as the bus accelerated. He didn't look at advertisements this time. He didn't even look out the window for most of the trip. He blankly stared at his photograph of Miranda, psyching himself up for their first meeting in several years. Last time he'd really seen her was shortly after graduation. She was going to Cambridge in England to do graduate work in physics. He was going to M.I.T. to do graduate work in engineering. Their last meal together, they lamented that they'd be separated by the entire Atlantic ocean. Miranda wanted to make a promise with Tommy that they'd only be for each other, and never love anyone else till they were together again. Tommy told her that they didn't need that promise, he wanted for her to just go and have a good time. "Be yourself," he said, "and don't let nagging thoughts of me back over here in the states bring you down." She had looked kind of sad about it, but didn't say anything. They ate in silence, holding each other's hands.

She went to England, and they both kept in touch at first. Communications tapered off after a while, as she was being kept extremely busy over there. Tommy assumed the worst. He had genuinely meant for her to do what she wanted and be happy, but he was emotionally unprepared for it. He withdrew from her a little bit, especially as he got into his last few years of grad school and was kept quite busy himself.

Since then, they'd had strained conversations over the phone, interspersed with many very long, awkward silences. But this would be the first time he'd actually seen her since they left college. He had tried very hard to get on with his life, but all his relationships failed miserably because he still had a death grip on what he had with Miranda. This would either be a knell of closure, or a rekindling of something wonderful.

Tommy concluded his thoughts just in time, as the bus stopped a couple blocks away. As was a habit from thinking like an engineer, Tommy assumed to always expect the worse; that two block walk was like a convict's last walk down death row. He tried very hard to hold his head up high, and to cheer himself up. Above all else, they genuinely liked each other. They were great friends. At least they were last time they spoke.

He stood by her gate and looked at the door. There were lights on, so she must be home. He steeled his nerves, held his head and chest high, and watched as the path seemed to grow longer in front of him. He heard the call of a crow, as a plastic bag rolled across his path like a tumbleweed. "Don't panic," he thought to himself. Tommy felt weak in the knees, but he took a step towards the door anyway. The indignant brick mailbox caught him as his knee wobbled and gave out, but only because it refused to budge. Tommy let out a brief yelp of pain, then stood up as resolutely as he possibly could.

"Alright, this is silly. We're friends, and that's what matters!" He said to himself. He steeled his nerves, walked towards the door and rang the doorbell. Sweat poured from him like a shower, but he tried to stay cool. His friend the frog who lived in his stomach started climbing up his throat. He hadn't done that in years. Tommy swallowed hard a few times to get rid of the frog and the anxiety. Maybe she had left for a little while, and left the lights on? No, listen... footsteps! Tommy started to tremble. Each approaching footstep made him tremble a bit more. Why was he so nervous? How bad could it be? Maybe some suave British guy would be answering the door? Maybe she'd walk to the door with a baby in her arms? He didn't know what to expect. He didn't know what to feel. He heard the footsteps come closer and closer to the door. The knob turned, as did his stomach. The door slowly swung open. Tommy fainted.

## CHAPTER 4

The next thing Tommy knew, he was on Miranda's couch. She was sitting by him with a glass of water, looking at him with that warm motherly look. He turned bright red. She grinned.

"I sincerely didn't know what to expect when you showed up, but I certainly didn't expect that," Miranda said.

Tommy was silent for a little while, managing to keep his mouth closed while staring in awe. She was more beautiful than last he'd seen her. That touch of British sophistication had done her wonders. There was soft jazz playing in the background, which made Tommy smile. She hadn't been a jazz fan till she met him... but was she just playing the jazz because he was there? It was irrelevant. He looked at her soft green eyes and flowing red hair, and silently cursed and lamented as she bound and restricted it into a ponytail. She stood up, which did make Tommy's jaw drop. She had a voluptuous figure in college, but she'd toned up in all the right places, and packed all that British food in the right places as well. It then occurred to Tommy how stupid he looked.

"Well, so much for trying to be smooth," he said with a slight crack in his voice. She smiled at him again, and extended a hand to help him up. He stood up, and he almost thought he saw a glimmer and her eyes and a twitch of her jaw muscles, like as though her jaw was about to drop as well. Tommy passed it off as his own wishful thinking. He decided he would wait till she said anything definitive to draw any conclusions.

Tommy looked into Miranda's eyes as he finished stretching. The irony struck him that the song she had on the stereo system was "Blue in Green" by Miles Davis, as he stood there with his blue eyes looking into her green eyes. Tommy didn't want the moment to ever end, and he hoped Miranda felt the same way. They stood there, transfixed and awkward for several moments, until the song was finished. Miranda finally broke eye contact.

"Tommy, I feel really confused about a lot of things right now. Have for a long time. But we don't really have time to deal with that now. You are a very dear and trusted friend to me, and I'm talking to you now on that context."

Tommy tried to keep the sound of his heart shattering from being audible. He steeled his jaw into the smile he'd just had on before hand. "Just friends". He'd heard that line so many times that he had almost a stock reaction to it. He tried to put it to the back of his mind and listen. She was right, before anything else they always have been great friends. He hoped they always would be, and this time he was going to do his damndest not to screw it up. He held back the tears and replied.

"Yeah, I'm confused to, but let's put that behind us for the time being. What's up?"

Miranda looked at him with those soft green eyes. He wanted to scream.

"I've been doing some work and research overseas, and I came up with a theoretical concept that would allow faster than light



travel." Tommy raised an eyebrow as Miranda walked to the kitchen and started a pot of water for tea. "Then, in the lab, I proved it."

Tommy's eyes opened wide. All thoughts about Miranda blowing him off were now far in the back of his mind. Since he was a young boy, he'd dreamed about going out to the stars, to planets outside of the solar system. He used to run with a toy rocket ship around the fields where he grew up, bails of hay being different planets. He'd be amused for hours with his little game, and now the idea that there was even a possibility that it wouldn't be just a dream anymore made his mind race.

Miranda looked at him, absolutely giddy.

"And I was wondering if you'd help me build a faster than light drive with a spaceship attached."

Tommy now stood both bug-eyed and slack-jawed. But he'd gotten his cool back. He picked himself up again, then went to go sit down at Miranda's table. He started doing math in his head, and when he got to energy calculations, he stopped and looked up at Miranda.

"Well, I'd love to help, you know this has been a dream of mine since I was a kid. However, exactly how are we going to do this? How does the engine work?"

Miranda took the boiling water off the stove and poured a cup of Orange Pekoe tea for the two of them. She looked like she was about to speak, thought better of it, and went to go get some scratch paper. Tommy knew he was going to be here for a while.

"Alright," said Miranda, "the basic idea is a mass converter. It changes mass from a real number to an imaginary number."

Tommy looked at her like she must be joking. Miranda looked at him like she'd never been more serious in her life. Tommy's eyes beckoned her to continue.

"That's what I started with anyway. It morphed into something a bit more feasible."

Tommy still looked at her blankly, "Maybe I'm just in shock, but I'm not understanding..."

Miranda went over to the sink, where she filled up a pot with water and a fair amount of soap. She left the room and came back with a wire hanger, which she quickly bent into a hoop. She dipped it in the pot and held up the film to Tommy.

"Space-time is a three dimensional sheet in four dimensional space, right? Just like this is a two dimensional sheet in three dimensional space. Now, if something on the surface were to travel anywhere else, it would need to move along the surface to the other point, right?"

Tommy nodded, in shock because he was starting to understand where she's going.

"Now, let's say we were here on the sheet, and the sheet extended throughout the room. Well..."

Miranda shook the makeshift hoop up and down till a bubble broke off, floating towards the window. Miranda then walked towards the window and caught the bubble on the sheet in the hanger, where it quickly reintegrated with the rest of the soap

film.

"You're taling about warp travel, aren't you!"

"Yes I am, Tommy.

"But how are you going to do it?"

Miranda cleared her throat, The mass converter works by altering the gravitational constant. Doing that on a large enough scale would make gravity waves, which we can basically surf."

Tommy scratched his chin and nodded. Miranda was a genius.

"Using Waring field generators, we can actually generate a gravitational field in four dimentional space, which can pull us towards any gravitational object in three dimensional space. We can get Mike to write us a computer program that maps four dimensional space to three dimensional space, so we can navigate hyperspace.

"Now, of course I can't be sure that it will work, because I've never done it before. There is a risk that we'll never be able to reintegrate with our universe. It would be a lonely eternity in a bubble of space-time a kilometer or so wide, but its a risk I'm willing to take. I'm not going to ask anyone to come with me unless they want to, but I will need help building the ship."

Tommy took a deep breath. He had the same intense wish to go into space that Miranda did, but to risk spending an eternity in a space-time bubble like that? He looked at Miranda's delicate hand stirring her cup of tea. What would be so bad about spending an eternity with Miranda? He made his fateful decision.

"Well, if I'm going to build the thing, I'll probably have to be at the helm. I'd like to come with you. She smiled and put her hand on his. He felt that frog climbing up his throat again. The doorbell rang.

Tommy caught a ray of hope as Miranda looked exasperated. Like she wished that the two of them could just be alone. this made the frog retreat back to its den in Tommy's stomach, as Miranda sighed and got the door. Mike burst in with a Shakespearian flourish.

"Signior Romeo, bon jour! There's a French salutation to your French slop. Thou didst give us the counterfeit fairly last night," Mike quoted as he burst in. This wrenched a smile from Tommy, as he replied,

"Good morrow Mercutio, what counterfeit did I give you?"

"The slip, bro!"

Everyone laughed. A tremendous feeling of goodwill flowed through the room; the five of them were finally reunited at last.

"So, what YOU two been doin'?" Inquired Jimbo.

Tommy stepped aside and bowed with a flourish towards Miranda. She took her cue and curtsied.

"I was just talking with Tommy about how to build the faster than light drive I've designed." Everybody but Tommy's brows perked. Miranda continued, "The thing works around a mass converter, switches mass to imaginary mass..."

Mike laughed and smiled like the Cheshire cat, "That's brilliant! When the mass turns imaginary, you can't go any slower

than light, right?"

"Well, that's how the sub light drive works. In a nutshell, I've figured out how to alter the value of the gravitational constant."

The room was dead silent.

"Miranda, you never cease to amaze me," said Mike with an extremely thoughtful look on his face

Miranda smirked at Tommy. He gave his bashful look, then promptly straightened himself out again.

"Basically, she's come up with warp travel. This actually turns out to be faster than straight FTL travel, because you don't have to worry about G forces from acceleration."

Everyone looked at Tommy. Mike was smiling, because he got it.

"The trough of the gravity wave applies a G-force in the forward direction. Our acceleration from the engines causes a G-force in the opposite direction. I'll have to do more math, but I think they cancel out. It's going to be painful while we're catching up to a gravity wave, but after we are on it, we should be in zero gravity."

Miranda looked thoughtful.

"Hmm, didn't think of that..."

Tommy bowed graciously with a flourish as Miranda continued.

"We'll need to come up with a lot of money to make this happen. This is a dream of mine and a dream of Tommy's, since both of us were kids, and I'd need a lot of help to make it a reality. I don't expect anyone to go with me into deep space, but would any of you be willing to help me at least build the thing?"

The room was a study of expressions. Despite the fact that he was being cautious, this sounded like a challenge too great for Mike to pass up. They would have to scrounge massive amounts of money, acquire some rare, hard to find equipment, get it all up into space, assemble it and send it on its merry way into the elsewhere, without anybody knowing who is building it, or even that it is being built. The challenge was Mike's tragic weakness; he spent his youth as the unempowered geeky kid, and now that he had the ability to show off, he took it every chance he could get. His look suddenly turned thoughtful; "If this works, then I won't have to run anymore..." Mike's face lit up with the realization. He spoke softly, in awe and joy.

"Yes, I'll help. I'd like to come with you, too..."

Julie sat thoughtfully for a while. She looked out the window back towards the city and felt disgusted. While there were things of beauty in this world, most of them had been removed long ago. Giant trees were cut down to make ugly brown buildings. Native cultures and their art and dancing were wiped out and replaced by an increasingly homogenous culture. Her vision got blurry as she came to the realization that the only people who really mattered to her anymore were her little sister and the four other people in the room. That was her choice, her friends or her sister. Julie loved nature, but what nature was left? Her eyes lit up as she thought about the prospect of visiting an

uninhabited planet where mother nature was not confined to her nursing home by her uncaring children. She was still torn with regards to her sister, but she was never one to sit on a fence. She had to make a decision, and so went with the moment.

"Yes, count me in."

Jimbo's face contorted. He'd been in space many times before, but always liked the idea of coming back down to Earth and going down to the bayou. Of the group, he was the one most connected to the Earth. He got his pleasure from sitting in the dirt with a bottle of whisky and a few unsavory songs and unsavory characters. He thought about Mardi Gras, and about blackened catfish. It was too much for him to leave. While all four of his friends were going into deep space, he could not. A tear came to his eye.

"You are all wonderful friends to me, but I... I..."

He broke down into tears.

"Ah wan' go widya, but de Earth be too close ta me..."

"Jimbo, it's alright. We understand if you don't want to go with us. Though we can't be sure, in all likelihood this will work, and with the theoretical space-time invariant flip above light speed, our travel will be instantaneous, and we'll be back and see you," assured Mike. Jimbo always trusted what Mike had to say. He regained his composure.

"I'd like to go with you, but I just feel too connected to the Earth. If you go, I hope you come back to see me, and then maybe I'll go up with you. But I like my life down here a bit too much to go so far away. But as far as helping out, I'll do everything I can to help you build this thing."

Everybody nodded. Julie and Mike were still embroiled in their escape fantasies, Tommy was trying to look happy, and Miranda had the look of a mother who had just gotten pregnant. She had conceived this idea. Now it was time to give birth to it.

"So, you plethora of geniuses you, how are we going to put all this together?"

The notion of challenge snapped Mike out of his ecstatic trance. The gears in Mike's head started turning again, as he decided to take off his glasses because he thought someone was doing something really subtle to his sunglasses computer system.

"Well, first thing we'd have to do is come up with some money. The stock market's been bloody obvious lately, but as poorly as everyone else has been investing, they'd allege insider trading. I'd have no problem explaining the logic to them, but then again the last thing I want to do is be under direct scrutiny of the law. Hmm... Tommy, are you up for an amusing little stunt?"

Tommy was busy staring at Miranda's hair. He was startled.

"Huh?"

"We can get some money together and invest it. I'll tell you what to do with it, and when it becomes obvious someone is going to nail us, I'll tell you my logic behind all my trading before they show up, and you explain it away the way I tell you. Sound workable to you?"

Tommy thought about it for a little while.

"Well, sounds risky, but... sure, I'm game."

"Nice. On more shady routes, I'll start traveling the casino circuit. Card counting is a wonderful thing. I might get some people after me, but what else is new?"

Tommy, on a related note put on his sunglasses and opened up a calculator program and a drawing program. After a little bit of verbal sketching, he took off the glasses and whistled.

"Mike, understand that we're going to need a very substantial amount of money. Traveling with the gravity wave shouldn't be so much of a problem, but acceleration is going to be harsh. Add to that miscellaneous gravity waves floating around like waves on the ocean, and you have some real major structural issues. For a structure to stand up to the kind of stresses we're talking about, we'll need to get some pretty hardcore materials."

Mike put on his sunglasses.

"Like what kind of stuff are you talking about?"

"well, for internal structural components, I'm thinking braided buckyball wire."

"Ouch! And it's going to be hard to find that inconspicuously, too. Hmm, this is going to be a bit more tricky than I thought. Several spools of buckyball wire, a Waring field generator, aerogels for insulation... How big is the ship you're designing?"

"Probably a little too small, Mikey. Miranda, how big is this FTL drive unit going to need to be?"

"The gravity wave generator? Only a few meters in diameter. The tachyon sails are going to need to be about 100 meters long and 30 meters wide, if we use four of them."

"Yeah, so this ship I'm designing is definitely too small. Hmm..."

"Alright, well you and Miranda keep designing that. Jimbo, I assume you've got your space plane out at the airport. Can you bring Julie and me up to Jupiter's? We can do some shopping around for prices on medical equipment and raw materials there."

Tommy took off his sunglasses and looked at Miranda. He was too excited to feel forlorn. She still had that smile of an expectant mother, giddy as a child.

"Miranda, do you have a desktop computer I could use? I'm running out of space in my lenses."

"Yeah, of course," she said as they walked towards the den. Tommy turned on Miranda's desktop and uploaded what he was working on. Tommy opened the file he'd been working on, stepped back and crossed his arms with pride. Tommy and Miranda stood like mother and father looking over a bright baby ship on the computer screen.

## CHAPTER 5

Mike and Julie watched the taxi ship float away towards another cluster of stations. They had just come back from the office that Mike had rented for Tommy. All that mess taken care of, they'd decided to make a run to the abyss of discount shopping; Jupiter's.

Since the beginnings of large scale commerce, there had always been discount shopping stores which would get all the surplus merchandise, damaged merchandise, out of style merchandise... Anything they could get their hands on for cheap, turn around and sell it at a modest profit elsewhere. Most of these stores were limited in their acquisition to nearby merchants with goods inadequate for the quality of their boutique. Jupiter's had access to the entire planet.

Jupiter's looked like a gigantic red yo-yo. A plate on one side of it was pockmarked with docking ports for people to park space runabouts, and below that was the store itself. The disk was thick enough to fit five aisles, and wide enough to fit ten concentric cylinders for people to walk around in. The place was organized into twenty sectors, with freight elevators at every sector boundary in aisles one, three and five to get from floor to floor. The place was huge, and filled with everything imaginable. Since space was international, there was nothing that could be bought in Jupiter's that was 'illegal', but there was an international customs desk right before the checkout in the center of the station. That way, if you were purchasing something that was illegal in your home country, they'd tell you to go put it back before you got to the checkout.

Mike toyed with some of the piercings on his face, then smiled. Jupiter's had a continuous broadcast within their station of sale items, but that was easy to come by. Mike had tuned into the civilian band frequency used by the people who work in the store. There he could hear what got spilled where, what was getting thrown away, and could take advantage of sales before they were even official.

The entrance and exit for the shopping area were both in the rotational center of the station. Mike and Julie climbed a ladder towards the center, until they were rotating so slowly as to be weightless. They took another deep breath and floated into the doorway.

the inside of Jupiter's on a busy day could best be categorized as a zoo. Bargain shoppers from various corners of the planet would chitter like monkeys, unable to understand each other, impatiently waiting for some of the translators who worked there to come by. Jupiter's had large, shopping cart-like contraptions with straps and a tarp on the top for when customers were near the center of the station and gravity was significantly weaker than on the outer wall. Almost as soon as they entered, they were accosted by an overly energetic salesman.

"Welcome to Jupiter's!! if it exists and is for sale, we've got it! Today we've got a sale on empty nanotube bricks, slightly

damaged but still completely useable! we are selling non organic LEDs by the thousand for cheap cheap che..."

"Where are the medical supplies?" Asked Mike brusquely. The salesman looked really disappointed that he didn't get to finish his sales spiel.

"Sector 18, all floors."

"Thanks."

Julie floated towards the sector 18 elevator right in the middle, ignoring the salesman's grimace as he stared at her arm. Mike floated off towards the shopping carts, and imparted his momentum just right against the wall to join Julie in the elevator as she pushed the button. The elevator started descending.

"So where we going first, Mike?"

"well, let's start here on the tenth floor, see what kind of large devices we might need."

The tenth floor, the one closest to the central hub, had about 1/10th gravity. Consequently, all the heavy equipment was kept there. Here the station wasn't yet divided into aisles; instead all the large equipment that could fit there was there. In Sector 18, the main attraction was a beat up MIR outfitted to be an ambulance. Mike chuckled.

"No matter how many times I come here, I never cease to be impressed."

Mike took a look inside to see what kind of smaller portable medical equipment he could find in there. unfortunately, it had already been looted by other bargain shoppers. All that was really left was the ship and the holes into which one could mount all the portable equipment. Mike looked elsewhere in the sector and found a pair of low gravity hospital beds. He noted their prices and went back to the elevator.

Second floor down also had very heavy equipment, but not quite so heavy as a spaceship. The prize pieces here were an X-ray machine and a high temperature superconductor MRI machine. My rubbed his chin and thought for a while before addressing Julie.

"I suppose it's a question of strategy. If this works, I presume we'll make several trips back and forth, right?"

Julie looked at him curiously.

"You mean we'd want to come back and bring the rest of humanity with us?"

"Just the deserving few. If we're going to colonize other worlds, we'll need a broad enough genetic base to build from."

"Hmm, you're right..." conceded Julie

"So, as I was saying, it's a question of strategy. We can directly incorporate the equipment into the ship we're building as we build it, so that we'll have it later, or we can just pick it up later on when we need it."

"Well Mike, what would be the point of buying an MRI machine and incorporating it into the ship if we're not sure that the ship is going to work yet?"

"Good call Julie. I've got no idea what I'd do without you. On that logic, we shouldn't really worry about any of the major equipment just yet. Let's go down to the first floor"

The first floor was the outermost ring of the station. There was full gravity there. They kept all the little things down there, things like first aid kits and bulk supplies like syringes. Mike figured he'd probably want to run retroviral treatments on people before they went to remove any weak recessive genes, to insure survival of any colony. He went to get the package of syringes, then stopped with a thoughtful look on his face. He paused, turned around, and addressed Julie.

"Why are we looking at medical equipment before we have the ship assembled?"

"Because we're medical people, and medical equipment is what we do?"

"Hmm. Perhaps we'd better go look for parts with which we could make a Waring field generator."

Julie followed Mike around the store as he checked prices on some of the most bizarre and random things. He found some of the same kinds of super conducting magnets that the MRI device used, a shovel, some high intensity organic LEDs much larger than you'd normally expect to see them, Jellybabies candy... just about everything imaginable. After listing all the prices, he took a deep breath and shook his head.

"Just one Waring field generator is going to cost us \$750,000, and we'll need several of them."

Julie looked at him, shocked.

"From the way Miranda explained them to me, it didn't sound like Waring field generators were too expensive to assemble..."

"Reasonable sized ones, no. We are talking about Waring fields extending for a few kilometers which are strong enough to cause gravitational fields."

Julie whistled and shook her head. Mike continued.

"I'm going to wait till Tommy gets up here, since he's got design specs. In the meantime, while we're waiting, you up for coffee?"

Julie smiled and agreed as they walked back towards the elevator. They floated unnoticed past all but the salesman who greeted them on the way in. He yelled something inane, but neither Mike nor Julie heard what he said. As soon as they were in the docking area, they looked around for a taxi.

As per tradition, the MIRs run by taxi companies were yellow with checkered stripes down the sides. The drivers made themselves apparent in docking areas by company hats, since most of the time people could not see the MIR from inside the station. They promptly found a cabbie and got a ride.

"Where too?" asked the cabbie.

"Hmm, don't know yet. Someplace fairly quiet for coffee."  
The cabbie chuckled.

"I know just the place"

They unlocked from the spaceport and lifted up towards the gap between the next two clusters of stations.

"You guys heard about the Chemlab gig, about them movin' back down to Earth?"

Mike raised an eyebrow,



"When did this happen?"

"Oh, a bit earlier today. Just heard it from my boss on the radio a couple hours ago. Some people ain't gonna be happy, I'll tell you that."

"It would seem that I'm losing my touch," muttered Mike to himself as he put on his sunglasses and started clicking away.

"You alright?" asked the cab driver.

"Yes, quite alright, thank you. Nervous habit," he nonchalantly replied.

Julie watched with interested curiosity as Mike's facial expressions shone much more vibrantly than normal. Every now and then he'd emit a deep "hmm..." as the cabbie continued to chatter. Before too long, she started holding up the conversation with the cabdriver, as Mike seemed really absorbed. Mike took off his glasses and put them away as Julie tapped him on the shoulder. They arrived by the old Animus plant, where some retired employees had pooled money together and built a small ring shaped diner. Mike smiled.

"Ah, looks pleasant..."

The cabbie matched speeds with the ring and let Mike and Julie out. Mike tipped him generously, and the friendly cabbie headed back to Jupiter's. Julie took a look around and smiled. The place was almost quaint, designed to look like the old train car diners of Earth on the inside. There was a row of narrow tables against one wall, a bar with a cooking area on the other. This was built well after the space boom, so there were earth foods like ham, bacon, and eggs which had been imported. The air smelled of breakfast and well aged, very potent coffee.

Mike took a deep breath and sat down, shaking his head. Julie looked at him inquisitively. Mike softly answered, with a rare hint of fear in his voice,

"I don't know how much longer the planet has to survive..."

Julie looked at him in silence for a few moments. She saw in his eyes that he was dead serious.

"What makes you say that?" she asked.

"Here," Mike handed Julie his pair of glasses with all the windows still open. Julie looked at the plethora of seemingly unrelated news and wrinkled her nose at Mike. He smiled and gently removed them from her face.

"See the story about Chemlab? They're moving the bulk of their manufacturing back towards Earth, which means a lot of people will be pulling their buying back towards Earth. From the chat windows, you see those people talking about a substantialist revolution? Those are the screen names for some of the top substantialist activists. They're not kidding. So, take just those two factors alone into consideration. Humanity is slowly removing itself from near Earth space because there's not much new that they think they can find up here. The substantialists supported business only because the businesses in space were not polluting. They've come to enjoy a really clean planet enough that if the old industrialism comes back, they'll be very unhappy. And there's enough of them, I'll bet we can expect some kinds of

minor terrorism.

"Now, remember from old international politics, that whole mess with the U.S., North Korea and China? well, I took a look at some news from 2040 that I thought I'd remembered, about revocation of a few treaties. Turns out my memory was correct. There are no peace treaties between those three nations anymore. Did you see in the bottom left window on the glasses, about the substantialist protests in North Korea? It's bubbling just under the surface just now..."

Julie's listened intently as she started to figure out what Mike was getting at.

"Substantialism was created in the united states. Many of the big name substantialists are Americans. If there's terrorist activity in North Korea, who gets blamed? They've got nuclear weaponry, America as nuclear weaponry, China is allied to North Korea..."

Mike paused dramatically as Julie bit her lip. She looked down into her tea with sadness. She saw all the news with her own eyes, and Mike's interpretation of the information was the most plausible she could think of. Mike switched off his glasses and picked up his mug of coffee to take a sip.

"I really hate to rush things, but we've got to get this thing built quickly, because if world politics continue to unfold the way they are, We might end up being the only humans left."

Mike stopped abruptly at a buzzing in his ear.

"Hey, Jimbo. We're at a small cafe, too small for you to dock with. We'll take a taxi back to Jupiter's. Peace out."

Mike tapped the piercing in his ear to turn it off. Julie looked at Mike like she was about to cry. She loved the Earth dearly, and always had nightmares about one day waking up to find it's not there. Mike called a cab and they flew back to Jupiter's, where they saw Jimbo and Tommy waiting in the docking area.

"Hi everyone!" Mike said feigning cheerfulness. Tommy smiled at Mike. Jimbo tried to smile, but there was something just not quite there. Mike gave Jimbo a quick look of concern, to which Jimbo simply nodded that he's okay. Mike blinked a couple of times at Jimbo and decided get on with work instead of probing deeper into matters; they were now officially in a rush.

"Alright, I've got to take Tommy to go look at stuff. Jimbo, I'll give you a call later on? what'll you be up to?"

"Well, I guess I'm going to drop Julie off at Miranda's or wherever she wants to go..."

"Miranda's is good, yes thank you." Julie interrupted, obviously upset.

"And then I'm going to go visit my folks back in de bayou."

"Sounds like a plan Jimbo. I'll see you in a few weeks, then?"

"Sure thing Mike."

Julie and Jimbo morosely got into the space plane and closed the hatch. Tommy and Mike stood looking up through the small porthole as Jimbo's space plane ascended. Mike decided it may

have been a bad idea to discuss the global politics with Julie. She seemed really depressed now. Mike figured that Julie and Jimbo could commiserate in the plane, and so decided to leave it at that. As soon as Jimbo and Julie left, Mike turned around and smiled at Tommy.

"So, you seem pretty happy... Have a good time with Miranda?"

"Eh, kinda. I feel like my heart is still attached to the bottom of her shoe, and I'm not even sure if she knows it. I'll be okay, though."

"Tommy, you really need to just come out and tell her what you think!"

"I know, I know..."

Tommy looked down towards his feet as Mike smiled. Mike knew how Tommy and Miranda felt about each other, but it was up to them to let each other know. He decided not to push it.

"So, you have design specs?"

Tommy pulled out his sunglasses and smiled. They both put on their glasses in unison, and Mike clicked his tongue a few times and downloaded the design specs from Tommy. Mike smirked.

"Well, it's certainly not the prettiest thing in the world, but..."

"But it's functional, and that's what matters," barked Tommy's engineering pride.

"And therein lies the beauty, my friend. Looks like I didn't miss anything in my price shopping earlier, so we'd best start making some money. We'll need to come up with around 22 billion dollars to build the ship itself, I haven't calculated the interior stuff like seats and paint or anything. I'm figuring to be safe we ought to figure on acquiring around 30 billion, not too bad.

"...not too bad..." Tommy said, more than a little shocked at Mike's nonchalance at the gargantuan number.

"Like I said back at Miranda's, the stock market's been really obvious lately to anyone who is actually paying attention. I've started working on how to acquire the money, but I'll just need you to be a cover for me. I've got to stay out of direct scrutiny of the law, remember?"

"Oh," Tommy pondered this situation. "Well, let's go!"

## CHAPTER 6

Mike briskly chatted with Tommy before they went to find a taxi.

"Well Tommy, most important thing to remember is that it's a game. It's like gambling, except there is no luck involved. All that you need to do to win the stock market game is learn how to predict the behavior of a large group, and to see the stimuli before the group does so that you can get in position for the rest of them to make your fortune. Make sense?"

Tommy's head was already spinning. Mike caught on and explained.

"Mass behavior is easy. It's like a liquid; the people flow to where the money is. The trick is to flow to where the money will be, before everyone else gets there. When the money is where you are, then you sell your stocks and you have made a profit, right?"

Tommy nodded.

"The hard part is seeing where the money will be before it is there. I'll let you in on all my news sources, show you how to use them. In the meantime, I've already rented you an office over by the Worldbank station. I'll explain things to you when we get there."

"What name did you rent the office under?"

Mike grinned at his own wit.

"Your alias is John Anderson."

Tommy scoffed at Mike for the archaic movie reference.

"You just want to see a couple of world bank agents in sunglasses referring to me as 'Mr. Anderson', don't you."

Mike nodded with a deep chuckle. Tommy shook his head and hitched a cab with Mike

On the way to the office, Mike was already lost in thought. He always found Investment Banking a wonderful challenge, since there were so many things that needed to be researched, correlated, analyzed, and eventually capitalized. It was very time consuming to guarantee maximized profit. Then, of course, he had to consider long-term vs. short-term gain. Long term investing was for the unobservant, as far as Mike was concerned.

There was a term for the type of investor that Mike was. They used to call it "day-trading," where you bought stocks that were low with the guess (or knowledge, as the case may be) that they will raise in value. Mike had perfected day-trading to an art. Other day-traders were reliant on waiting to see the stock value actually increase. Mike knew enough of how the system worked to buy everything just prior to the moment it increased - and sell the moment it stopped. On a particularly underestimated stock, he could make a fortune in a fraction of a second.

Mike had already consolidated money from Tommy, Miranda, Julie, and Jimbo. Between the bunch of them, they had saved up nearly a million dollars. A thirty-fold increase in profit would look suspicious, but it was all completely justifiable. Mike came by his money more honestly than most; he was just extremely good

at it.

Mike called up the latest stock reports to see how the market had been doing lately. He always started with Kincaid's electronics branch. Kincaid was indirectly responsible for all technological advancement this century, and Mike liked paying them back for the favor. Kincaid wasn't a consumer products corporation, though, so it was usually difficult to inflate their stock fast enough to be worthwhile.

Mike donned his sunglasses and enabled all the security he could. He started by selecting all the links for stock advice, chuckling quietly and heartily. The analysts were always wrong. Their error was that they tried to 'guess' and 'predict' how stock trends would behave, rather than manipulating the market and using basic knowledge of mob mentality. Still, when playing the stock market, it was important to look at all the information, and stock analysts gave people information. Even if it was wrong, the information had weird effects on the market which could be exploited.

He accessed corporate web information, listings of available jobs, presentations at expositions in the field, construction orders, and commercials. Hidden deep within all this information was an intricate business scheme, often full of holes. It was exactly these holes that Mike was looking for. If he could prop up the corporate agenda at just the right times, their stock would look that much more valuable to people. He simply had to figure out how to help them along, and then wait for the majority of people to see the pattern for themselves.

Mike grinned as he found the news brief he was looking for.

"Bingo..."

Kincaid was building a new plant in Indonesia for the manufacture of their circuit boards for integrated DVD3 players. At the same time, they were firing people in circuit design in Europe and hiring ergonomists in America. Then Mike saw a report in a Chinese newspaper about the company buying an old Sony plant.

"Hmm... the plot thickens..."

"Interesting things, Mike?" inquired Tommy.

"This might be a bit easier than we thought!"

The picture started to get a little clearer. Kincaid obviously had designs on getting back into directly selling their electronics to consumers instead of just manufacturers, so the plant in Indonesia would likely be a lot more than just for making circuit boards. These circuit boards would be sent to the old Sony plant in china, where they could be assembled into cases designed by the ergonomists. This is the really big news before the news agencies had found it. All Mike needed now was a time.

Looking back to the Electronics Expo boards, he found several tantalizing dates but nothing concrete. There were a variety of events in the coming weeks that had the potential for an announcement of this sort, but none of them sounded right until he happened upon a Japanese affair coming on Tuesday that was being co-hosted by Sony and Kincaid. It wasn't a big fancy event like news of this magnitude would generally be formally announced at.

It was a little semiprivate gathering of corporations in the area designed for networking. Someone would leak the news to stock brokers and the information would be all over the place.

Mike called up several reports of meetings of this type, especially in Japan, and looked for a trend of when announcements of this sort were given. He could see a trend of announcing these sorts of things early in the morning, an attempt at impressing everyone else in the meeting and gaining an advantage in any bargaining. But Kincaid seemed to prefer announcing things just before dinner. That way, everyone would be buzzed about Kincaid all through their meal - and have plenty of opportunity to leak this information to the press over food and drink.

There was only one thing left for Mike to do, and this was the most fun part. He now had to find a way to push Kincaid stock as low as possible. An announcement of this magnitude would propel their stock very high, regardless of what it was initially. Mike could turn much more profit if the stocks were pushed down as low as possible. Mike signed into several of his favorite chat rooms. Places where money- and computer-savvy people hung out in relative obscurity, talking about Stock market trends. If only the analysts had all this contact information; these were the people who actually affected where stocks were going.

Mike found it very tiresome to put up with everyone else. so many people with an obsession that they had to be right. you could argue the color of the sky with some of these people for hours. But Mike knew how to deal with people. He'd stroke the right people the right way, rub the wrong people the wrong way, and effectively impart all the information/propaganda he needed to for his desired effect.

Mike played back and forth with their chatter, casually inserting insecurity in Kincaid's position, quoting pundits questioning the motivations of the corporate CEO. He failed to mention the news that was about to break in China and Indonesia, as well as about the hiring of the ergonomists. He did mention the downsizing of circuit designers in Europe, claiming the downsizing to be a floundering attempt to cut costs and still turn a profit for a possibly disastrous fiscal year. Seeds of doubt grew to weeds of fear in no time. The last thing Mike had to do was explain all this to Tommy.

"Okay, here's the game... Kincaid is setting itself up for a return to the Consumer Manufacturing business. They're building a plant in Indonesia for manufacture of chip boards like it has been for years, but they're buying a stereo plant in China that it hasn't bothered explaining away yet. Can you see where this is going?"

Tommy grinned and nodded. Mike was dangerously clever.

"The place will be retrofitted and the two together will probably be putting out consumer electronics built to Kincaid specs. In short, this is going to be some of the nicest consumer hardware ever made. The whole thing will be announced at the "Consumer & Home Related Organizational Meeting for Engineers" next week. You're an engineer, I'm sure you're familiar with that

forum. It's easy to predict at what time of day the announcement is likely to occur. I've sent all the relevant information to your email. Be sure to memorize it, you'll probably be seeing an investigation next week after what I have planned for some other companies."

"Other companies?" inquired Tommy, "Just how much are you planning on playing the Stock market?"

"We need to come up with 30 mil, Tommy. With the amount we've invested, I bet we can pull 8 mil off of Kincaid. That leaves us with 22 million more dollars we need to procure."

Tommy shook his head in bewilderment.

Mike leaned back in his chair, continually clicking his conductive teeth.

"Oh, here we go. Heh heh heh... We can pull a really fat lump of cash out of these guys..."

Tommy's brow furrowed. "and how do we know this?"

"Turn on yer glasses."

Tommy turned on his glasses as Mike started transmitting. Mike called up some web pages with figures to show him.

"'Elementary, my dear Watson.' This owner of this company is scheduled to be on TV tomorrow night. An interview with that new 'Success Stories' internet stream. If we can give him some spectacular sales figures for today, then his stock will go up that much higher tomorrow night."

Mike handed Tommy the list of what he had compiled so far.

"I scrawled this on a napkin back when I first started planning this. Seven Days, seven companies. Nothing interesting happening on Sunday, so there's nothing to do then. So we'll have fun with 'Success Stories' again next week. Maybe we should even invest a few bucks in them, considering how much their reputation will go up off of this." Mike and Tommy smiled. It would take just over a week for them to amass all the money they needed. Mike's eyebrows looked thoughtful behind his sunglasses.

"I guess you'd have to say that investment banking is the bastard child of psychology and math."

Tommy laughed.

"Yeah Mike, this is the first time I've ever done math that's made me feel dirty."

Mike half chuckled as he stared into his sunglasses, rhythmically clicking his tongue. Tommy didn't notice at first.

"But it's not really all that difficult apparently. I'll just have to be sure that... hey Mikey, you just turned several shades of white paler, you okay?"

Mike sat in the chair mumbling between clicks of his tongue piercing. Presently, he jumped from the chair.

"Ah hah!! I've got you now!"

Tommy was startled;

"Damn Mike, what's going on?"

Mike spoke slowly, as though distracted.

You know, I'm not even sure this is one person after me. It's like there's a team of them, all working in perfect unison. I'm following them while they're trying to find me, maybe I can

take a look at what they're looking fo... I don't believe it..."

Mike looked like the captain of a sinking ship, a sense of inescapable panic washed his complexion even paler. He started shouting,

"Shut down!! Shut down!!"

The glasses were still lit up. Mike pulled off one of the glasses legs and removed a battery, at which point the whole thing died. Mike stood pale like a ghost, then started laughing.

"Mike, you old fool. Sorry 'bout that Tommy, I started getting cocky again."

Tommy just looked at him, confused.

"The same hacker from the other night, or group of them, I'm not sure. They were trying to follow me around, and I evaded, then followed them around. I was tracking them based on patterns alone, there shouldn't have been any way that they could start to locate me. But, I think it was an incredibly clever trap, because they instantly turned on me and locked my sunglasses' power into the on position. That's the lesson, Tommy. Avoid any confrontation at all costs."

Mike sighed and crumpled up the piece of paper with their plans on it.

"That's not safe anymore. We need to be more subtle than that. I think we can still rely on Kincaid. We don't have to do any work to boost their stock value."

Mike had removed a small screwdriver set from his pocket and was manually discharging capacitors and moving very small switches.

"Whoever this was though... I am extremely impressed. I'll have to start fighting back before long."

The offices all had little bed chambers, places where those working at them could live. The station Tommy and Mike were staying at used to be the main offices for world bank, but now that they had their new facility in place, they had started renting out the old office space to entrepreneurs, Eclectic Earth businessmen... anybody with the money. Mike slept on a bedroll, which Tommy was to claim was his for camping excursions back on Earth in case the office got raided. Tommy slept on the bed, trying to act like a business man, wearing red silk pajamas with his adopted initials embroidered on them. Mike had procured those earlier also, as a just-in-case measure.

Over the weeks that followed Mike set up the office for Tommy, taking time to carefully decorate it so as to impress anyone who went inside. It had to be clear to those investigating him that Tommy was a bright guy, fully capable of pulling off what they were up to, and easily able to talk circles around any visitors. Mike coached him all Tuesday evening, as he watched their stock holdings go up and up and up as rumors that a much-beloved manufacturing giant would once again be making the highest quality consumer goods ever.

"Alright Tommy, here's the game plan. Play dumb, but don't act dumb. Never volunteer any information. Wait for them to ask you things. You remember the specifics of what we did, right?"



You've got to be polite, but at the same time act like you really ought to be busy right now and that you really wish they'd leave. They need to feel accepted, but not welcome, got it?"

"Aye, cap'n!"

"And none of that! I'm serious, if you get found out, I'm history, and you may be in just as much trouble or hiding me."

Mike once again explained to Tommy everything he had deduced as he bought up every share of Kincaid he could get his hands on. The stock value was artificially low. Mike had been undermining their position for days, knowing that the company wouldn't bother bolstering its value due to the news that was going to be leaked. Every fraction of a cent that it lowered meant more shares for the team.

Finally, the news broke, and the stock soared. Tommy couldn't help but let loose a stream of maniacal laughter as he watched his calculator on automated mode multiplying the value of the stock with the number of stocks he had. He could see how people would really get into this.

Mike and Tommy kept this going for several weeks, until one afternoon two men in dark suits waited outside his office. Tommy tried his hardest to look like he belonged in the suit he was wearing as the two men at the door walked into his office and sat down. One of them addressed Tommy.

"Good afternoon, Mr. Anderson."

Tommy tried not to giggle as he got ready to pull off his act. Mike was hiding in the back room, listening in. He'd removed all his facial piercings, covered the holes with make-up and dressed in a Janitor's costume just in case he'd have to come out and save Tommy.

Tommy straightened his back and looked at the two men in dark suits.

"Can I help you two gentlemen?"

He steepled his fingers on his desk, acting like a bored executive, waiting for a response in managerial cat-and-mouse.

The Agent on the left rose and showed an identification badge, displaying that he was indeed an investigator sent by the Stock Commission to investigate possible insider trading activities.

"I am Inspector Simmons, this is my Colleague, Mr. Devereaux. We have some questions regarding your sources of information during some of your recent trading."

Tommy was not the least bit surprised and acted like it.

"My source is something I like to refer to as 'international news'. May I ask why?"

"What were the sources?"

Tommy had invested in a desktop computer with some of the money he'd acquired for exactly this purpose. He opened up his web browser and his history list for all the sites pertaining to the Kincaid trading, and turned the screen towards the two men. Devereaux got up to look at the screen, when Tommy slid the keyboard across the table to him.

"They're all legit, Simmons."

A bead of sweat appeared on Simmons' brow.

"Still doesn't explain how you managed to put all that together."

"It's quite simple really. All that you need to do to win the stock market game is learn how to predict the behavior of a large group, and to see the stimuli before the group does so that you can get in position for the rest of them to make your fortune. Make sense?"

The investigators nodded, awaiting explanation.

"Mass behavior is easy. It's like a liquid; the people flow to where the money is. The trick is to flow to where the money will be, before everyone else gets there. When the money is where you are, then you sell your stocks and you have made a profit, right?"

The investigators nodded again, a little more slowly this time, waiting for Tommy to make his point.

"The hard part is recognizing the stimuli before anyone else does. That's where a wide network of international news comes in. For example, most of this currently on the screen is from my trading with Kincaid stocks a month or so ago. This Chinese underground news site posted this news about Kincaid buying the Sony factory a full week before the American press knew about it. Couple that with the manufacture of the circuitry plant in Indonesia, and the large number of unemployed former Kincaid employees looking for work in the western European classifieds, and compare that with the lesser number of ergonomists available for hire in the areas around Kincaid's plants, it was rather obvious that they were about to make the jump back into consumer electronics, is it not?"

Simmons cocked an eyebrow and nodded, "well done, Mr. Anderson..."

"As you can see, it's merely a function of paying attention. Now, is there anything else I can do for you gentlemen?"

Agent Simmons cleared his throat. He felt that his intelligence had been insulted, but he didn't quite know how. Tommy gave the warmest smile he could, something that almost made Mike fall out of the bedroom door snickering. Fortunately the mini fridge was on, and Simmons was so unnerved by Tommy's demeanor that he didn't notice much else anyway.

Well, Mr. Anderson, your timing on the purchase and sale of the Fostern Consumer Products stocks was exquisite. Would you care to explain that to us?"

"I had been observing the activities of the company for weeks, convinced that something was up. New CEOs don't usually ignore their investors like Brassard had been doing. He was traveling nearly every day between the Corporate Office, the Main Programming Branch, and one of their disc-stamping associates. That's when I remembered the hot new game that Fostern had canned. It was one of Brassard's pet projects. Clearly he already had a timetable for its release.

"I was researching the precise timing of the Press Conference when I got a news feed from this small financial news agency in

Washington, the Franklin Post. Fostern was holding a Press Conference that very minute. I immediately bought up every last share of stock that I could, and watched as it skyrocketed in value as soon as he unveiled the Gold Disc that signified the imminent release of their game.

"Once again, gentlemen, it is simply a function of paying attention to the news and knowing how to interpret it, which I probably ought to be doing now. If you gentlemen would excuse me, I've got work to do."

"One more question Mr. Anderson," said Devereaux. Tommy glared at him impatiently.

"Yes, Mr. Devereaux?"

"Do you do consulting?"

## CHAPTER 7

Julie's eyes sparkled like a diamond tipped drill whenever she was angry. She peered into the screen of Miranda's videophone at the slender dark-haired teenage girl on the other end of the phone. They glared at each other, Julie's eyes cold yet on fire, and the other girl doing the same except with a quivering chin.

"Sara, I told you, You're going to get yourself messed up like I am. Don't study astrophysics. Study the performing arts. I don't want you to be where I am right now."

"But Julie, remember how we used to talk about..."

"That was then! Girl, you have no idea what you're talking about getting into. Yeah, it looks beautiful from the ground, but once you're there, here is painful. I don't want you to feel that. Study the performing arts and stay here on Earth."

Sara was Julie's little sister. She was a late child, born when Julie was twelve. They grew up together, looking to the stars, dreaming about one day when they'd be in space together, owning a farm where they would take care of the animals all day. Julie got out of college and went directly into training for Medlab's space station as soon as she got the chance. She still remembered the tears of joy from her sister's eyes as she was about to board the ship that would take her to her home for the next year. They used to talk and joke for hours on end about life in space, in cafes over milkshakes. Sara had always dreamed about what it would be like, how much fun it would be to live in space, how much good she could do for the rest of humanity. As Julie saw it, she got there first and made the mistake so her sister wouldn't have to.

She had been barely conscious when she got back to Earth. Fortunately, there were enough supplies on board, as well as appropriate medical equipment to patch up her and the other two surviving crew mates. Wesley died fairly soon after the explosion. Half of his vital organs were missing, blown off by the corner of a table. He was fortunate enough to be thrown through the far door by the impact, into the supply closet were he, Julie, and James ended up.

James was also in quite a mess. They would've all been dead were it not for a plastic bottle that ripped through James's back. Even after passing through his body, it still left a fairly impressive dent on the outside of the supply closet. James died slowly, Julie having patched him up the best that she could. James was an older man, a research scientist and engineer who had been working in space since before the space boom. He was the one who saved her life. Out of spare pieces of equipment in the supply closet and a hairpin from Julie he built a small radio. They transmitted distress signals around the clock until the day when James finally died.

He was a very amiable old man; his slogan till shortly before his death was "as long as there is life, there is hope". Julie cried when he died. He lost the strength to push the transmit button on the radio, and dangled limply. Julie called out to him.

"James? James, speak to me, please!"

James spoke in a hoarse whisper.

"Julie, while there is life there's hope... I'm starting to run out of both."

Julie sobbed.

"This is going to be the most important thing I ever say Julie. If you make it back to Earth and live... please find my wife and tell her that I love her..."

He then handed her an old picture of a smiling, slender woman with laugh lines whitish blond hair.

He died as soon as he gave her the picture, and in his spirit Julie kept frantically sending distress signals for the rest of the time she was in there.

After two days, the cold and the smell were almost unbearable. She started with fear when something jolted the closet and rejoiced as she figured out it was a rescue team. Julie remembered the whole event in absolute horror and pain. She would die before she let her sister go through the same.

"Sara, I will go onto whatever spaceship you are on, grab you by your hair, and forcefully remove you. You know I'll do it too. I'm not going to let you make the same mistakes I did."

A tear came to her eye. This made Sara break down into hysterics.

"Look, Sara, we're going to stop this right now. You go to performing arts school and just be thankful that you've still got both arms. Be thankful that people don't look at you like a freak whenever you walk into a room. You're young, beautiful, and complete. I'm going to go now, because I can't handle this anymore. I'll talk to you later."

Julie abruptly pressed the hang-up button on the console, then laid her head on the table. She sobbed loudly, as Miranda walked into the room carrying a soft blanket.

"I don't know what to do Miranda! I love her so much, but all she wants is to go walk in my footsteps. I don't even want to walk in my footsteps, dammit!"

Miranda gently laid the blanket over Julie's shoulders.

"Hon, Sara will be alright, whatever she does."

"Oh stop with the comforting already." Julie stared at the blank screen with even blanker eyes. "I know space travel is safe, but I'm not going to be able to live with myself if she dies trying to be like me."

Julie sat staring into the screen like a cold stone statue. Her mechanical arm rested on the table. She looked down at it. Her chin started to quiver.

"Miranda, did you know that I used to be a gymnast? I competed regularly in the uneven bars. As a matter of fact I probably wouldn't even be here if it weren't for all that training."

"Yeah, you've told me about it a few times," smiled Miranda.

"It's just... I feel like such a hypocrite sometimes. We both dreamt about it, we'd plan day in and day out how we'd open up a farm in outer space, where kids like us could fly in and pet

the animals, and we could put them in space suits and take them out for walks in space." Julie grinned at the recollection. The warm smile hardened like lava into a menacing, pained scowl. "But, I've been in space. I know the things that can happen. I'm really torn between letting her follow her dreams and protecting her from them."

Julie looked down at her arm again and choked back a sob of rage. She looked out the window for her usual escape. She looked for anything, the clear blue sky, a flower growing out of the pavement, or even a pair of birds flying around. The beauty would usually bring her back into her normal self. But today the sky was grey. Even with the air being clean as it was now, the sky would still turn a dismal grey, with muggy rain and cold damp gusts. There were no birds out. There weren't any trees out of that window. Julie's mood sank.

"Dreams are dangerous, Miranda. You follow them like a butterfly, and then you fall into a pit when you're not looking. They lead you to do things that are so drastically against any kind of common sense, put your life on the line, and when you lose, you expect some kind of sympathy, some kind of a helping hand from the Gods or something."

She paused for a long time, watching a plastic bag blow down the street.

"Nothing. Ever. No help, no sympathy except for people pitying you for your 'condition.' Do you know what it's like, Miranda, to sit in a hospital missing an arm, when two of your old friends come in to offer their condolences while holding each other's hands? Do you know how painful that is? Following dreams is dangerous."

She paused again, and resumed as a stray beam of sunlight pierced a cloud.

"And yet, I shudder at the alternative. I couldn't ever just stay here, just accept the lot I'm given and go on with life. I guess... I just look outside and think, there's got to be more than this. But at the same time, I know the consequences..."

Julie trailed off as the sky darkened again. Miranda stared off into the distance out the window. Dreams are powerful things, she thought. She had something knotted up inside her for so long, and she could feel it was about to break out sometime soon. Miranda loved Julie very much, she was her closest friend. She felt guilty for keeping this from her for so long. Julie had agonized for years about why the Medlab station exploded. Miranda had found the answer, and had exploited it to build her warp drive.

The instant she heard about it on the news, before she realized that Julie was up there, the wheels in her head had started turning. What could possibly cause an explosion of such magnitude? It didn't make sense, but she wanted to figure it out. She wanted to learn how to harness that kind of power. She started researching the things that Medlab was working on and found a tachyon emitting device that they were going to build an 'intuition machine' with. She realized that their tachyon

conversion process was very unrefined and began thinking of how to modify it.

Within the next couple of days, she had basic plans for the design and construction of a more efficient mass converter which would be the basis of her warp drive. She had the TV on as a mild distraction while she was finishing up her sketch, and saw the rescue of the only survivor. She saw Julie, burned and mangled, being pulled out of the space plane. She looked down at her device with horror; her best friend in the world had been mutilated so that she could invent this device. She felt that Julie would be extremely angry about this, and was certain that Julie would be extremely angry about the intent of the tachyon project; to enhance advertisers' abilities to get inside someone's mind and make them buy products. But Julie had to find out one of these days. Miranda bit her lip and looked at the ground, then glanced up at Julie. She was staring out the window like a stone statue, watching the horizon. She seemed too sad to cry. Like all the tears had dried up and there was nothing left but dry skin. She looked old in the gray light. Bags under her eyes, skin pasty and pale... Miranda felt a tear and a sob coming on. She had to tell her.

"Dear, there aren't always consequences. Dreams in and of themselves aren't bad. They're the only thing that makes this world worth living in." An unexpected tear came to Julie's eyes. "It's when the dreams become nightmares that they become problematic. Sometimes, dreams should stay dreams, at least until reality is ready to handle them. If a dream isn't ready to be born into the world, it shouldn't be." Miranda's voice suddenly grew cold and distant. She blankly stared at a point on the wall, thinking about all that she'd learned and calculated. Was the universe ready for the faster than light drive? What if she'd made calculus errors? Her dream would become her friends' nightmares. She was digressing, she had something she needed to tell Julie, but was afraid to. Julie slowly turned around in her chair.

"Miranda, what do you mean? Dreams and nightmares?"

Miranda's eyes were cold and dead like her voice. Julie had never seen Miranda this way. She stood up, sensing something very wrong, and Miranda started crying. She pulled herself together and spoke.

"Some people's dreams become other people's nightmares. That's one of the things that always scares me. I remember when I was a kid in school, reading about the old wars. I failed a history class in middle school because I just couldn't do it. I'd read about war, and listen to the teacher talk about it, and it was like I was there. Can you imagine what it would be like? Somebody you don't even know dropping bombs on your house, it was a nightmare. The pilot in the plane, knowing that he's killing innocent people, but not knowing why. It was his nightmare. And it all came from one person, in a bunker far far away, whose dream was to take over your country. It sometimes wasn't even that, people would murder thousands just because they didn't like their

political system. Do you know what it would be like?" A tear came to Miranda's eyes. "That's part of what hurts me when I get close to you. I know that you know what it's like."

Those last two sentences struck Julie as something not quite right. She thought about it, looked into Miranda's eyes and decided there must definitely be something very wrong here. She averted her eyes towards the floor to avoid burning holes in Miranda. Miranda shivered and resumed speaking.

"Julie, did you ever hazard a guess as to why the Medlab station blew up?"

Julie grimaced. They were entering painful territory. If it weren't for the fact that Miranda was one of the few people she truly loved, she would've just got up and left. But she saw in Miranda's eyes that she needed to get this off of her chest. She would go through hell for Miranda. She felt she was about to.

"Medlab was working on a device that would understand human intuition. It was theorized long ago that a parent's intuition with their child was instantaneous, no matter where the child was.

"The theory was that the child's brain was emitting tachyons that were recognizable by the parent. The brain evolved over eons to do this, and we humans thought we could do it with a machine. Medlab built a machine that would alter the gravitational constant in a way extreme enough to generate particles with imaginary mass. Tachyons. After finishing their proof of concept machine that generated the tachyons, they were going to build a more refined machine that could generate patterned beams of tachyons. Then, they could measure them against subjects, to see who felt some kind of intuition or feeling from the particles emitted. They were working on the first phase, just generating the tachyons in the first place, when the explosion happened."

Julie looked at Miranda, trying to avoid some of the conclusions she was thinking of in her mind.

"Miranda, I don't get what you're saying. The machine in lab B wasn't a particularly volatile device..."

"They had built a rudimentary mass converter. I researched the plans for the thing." Miranda paused and looked at the ground. "That's actually where I got the concept that the faster than light drive works around. Their tachyon generator was the basis for the sub-light drive we are talking about building."

Julie's eyes would have torn holes in Miranda's soul if she had been focusing them on Miranda. Instead she gazed into the room, eyes flashing violently. She was confused and in pain, not quite sure what to think.

"The machine consisted of an electron gun and a mass conversion field. The field managed to bend space-time so that the mass was imaginary. The gun would send electrons through the field at very high speeds, they'd be converted into tachyons, and get fired into a detector. Judging from the aftermath of the explosion, my best guess is that somebody didn't check the vacuum pressure inside the device before turning it on. There would've been air in the system, which is much more massive than electrons, and moving very slowly in random directions. When the field was



turned on, the air was converted to tachyons accelerating to light speed almost instantaneously, generating lots of force, all heading in different directions. I'm sure some surrounding atoms were destabilized by the high velocity particles, judging on the radiation from the debris."

Julie had a look of shock on her face. The machine blew up because somebody couldn't think to check a simple valve?

"That's why an object would need to be traveling at near light speed before doing the mass conversion. Think about it, the mass changes to imaginary mass gradually, right? During that conversion the object accelerates to above light speeds. If you are traveling at about a thousandth the speed of light, like you were orbiting a planet, and then transformed a massive object into imaginary matter..."

"It would almost instantaneously be going a thousand times the speed of light!"

"Right. Force is mass times acceleration, with that amount of acceleration and a still real mass, can you calculate the amount of force generated?"

Julie wore a look of befuddled anger. She paused for a few moments before she could think of anything to respond. She spoke quietly.

"We all wanted to know this on the station, maybe you found out in your research..."

Julie hesitated. She didn't really want to know the answer to this question, but she needed to.

"... Who were we working on this machine project for?"

Julie might have flown off the handle at the answer had she not seen Miranda's eyes turn to fiery steel. Miranda grimaced with a rage very unbecoming of her, which Julie had never seen before. Miranda collected herself and spoke.

"It was for an advertising firm. They wanted to affect people on a subconscious level so that people would buy their products without even really thinking about it."

Julie's fists clenched in rage. This was the reaction Miranda was afraid of. Julie stood up and glared out the window. She lost her arm, her dreams, and her life, because some sicko wanted to screw with the human mind to make people buy things they wouldn't otherwise want? She lost her arm, and all her coworkers gave their lives so some guy could make a few more dollars? Fortunately, out of love and respect for Miranda, she restrained her wrath and didn't punch any holes in walls or destroy any furniture. The realization was just incredibly overwhelming. Miranda spoke softly to her.

"This was somebody else's dream, to be able to understand and exploit human intuition. It was somebody else's dream, and it became your nightmare..."

Anything could've been more acceptable to her. It was almost more pleasant to think that it had been some massive meteor that hit the station, or even a missile from Earth. But the knowledge that it was a project within the space station that went horribly wrong was almost too much. That it was a project based on

manipulation and selling products to unwitting customers crossed the line. She was beyond anger.

"So that's what it was..." whispered Julie hoarsely.

"Someone else's dream became your nightmare, and that's why I'm having second thoughts about traveling to deep space like this. I don't want my dream to become all of humanity's nightmare."

Julie reflected over the years since the accident. All the pain, the public ostracism, and for what? She was a freak because of someone else's greed. It was more than she could handle; she collapsed in tears onto Miranda's shoulder. Miranda gazed off into the distance behind Julie, when a tear rolled down her cheek as well.

"I'm worried, Julie. I'm worried that my dream will backfire, that I'm being too ambitious and not careful enough about it. Do you realize what would happen if this knowledge fell into the wrong hands? Do you know what kinds of weapons of mass destruction people could..." Miranda fell down into hysterics on Julie's shoulder. The two sat there, regaining control of themselves and reflecting on the moral questions raised by both issues.

## CHAPTER 8

Julie reflected that almost all of the problems she saw in the world related directly to technology. People can try to keep secrets, but did it ever work? Miranda's technology could leak out into the world, and some terrorist with some relatively basic equipment and poor math skills could inadvertently destroy the entire solar system. That was just assuming the worst abuse. More likely, it would lead to a second space boom, where humanity would defile the rest of the galaxy, finding planets with intelligent life and building fast food restaurants and theme parks on them. Compared to all others, this technology had perhaps the greatest destructive potential, physically and culturally. Maybe it would be better to destroy all of the notes on how to build this thing?

No, because humanity would eventually figure it out anyway. It's bad enough if the wrong people get their hands on it, but if the wrong people are the ones who designed it in the first place, there would be patent laws and price fixes so that the only people who had access to the technology were the corporations and governments. If humanity was going to spread itself throughout the universe, there would be some of the cultural pollution associated with us to spread, that was a given. But if the only people with the technology were the polluters, then humanity wouldn't be able to spread any of the good things associated with it.

Julie also thought about dreams. She wanted to go into deep space more than anything else she had ever wished for. She wanted to get away. She could not vouch for the rest of humanity, but she knew that she would not do damage, nor would her friends.

Miranda stood in the torment of her decisions. She seriously considered erasing her computer and destroying all her notes about the mass converter. It was too dangerous, if it leaked then the world would be destroyed. The destructive potential was far too great. But what of the positive uses? Since Nikola Tesla back in 1889, people have talked about harnessing the "Aether". The cosmic bombardment of tachyons was none other than the aether that all the free energy researchers were talking about. The mass converter, in a proper machine, could generate enough electricity to power the entire world, and not need more than a small battery to operate. She could solve the world's energy problems, and it would revolutionize the world like carbon nanotube hydrogen fuel cells did. The balance of power would change, in that there wouldn't be nearly as much of an imbalance of power. Nobody would be dependent on anyone else for energy.

But, the technology still had that enormous destructive potential. Would she be able to bear the weight on her shoulders that she had provided the means for the destruction of humanity? No, she could not. She announced her decision to Julie.

"Julie, we can't do this. It's too dangerous. I'm going to call Mike and Tommy, then I'm going to destroy all my notes. We can't let this get out into the world."

Miranda's cold resolve was quickly melted by Julie's burning diamond tipped eyes. Julie could tell that Miranda didn't want to change her mind, but Julie knew it was the right thing to do. She gently laid her hand on Miranda's shoulder. She was about to speak, when she had some reservations. She bit her lip, but continued. This was more important than staying as hard a person as she was.

"Miranda, do you believe in a higher power?"

Miranda looked at Julie, surprised. Julie? Religious? Julie slowly reached into her shirt and reverently pulled out a thin metal chain with a cross on it.

"I believe that there is. I believe that what we mean is more important than what we do. If your invention leads to the destruction of the planet, it's not your fault; you didn't push the button. Where would we be without the technology we have? I mean, I hate a lot of it, but think about the world. We wouldn't have anything beautiful like Swoden's. I might have lost my arm in a different way, and not been able to replace it with anything. As much as I hate this thing, it's still functional. Miranda, I think what you are doing is right. Your cause is just. If we die, so what? You meant well, and you lived your life with love and kindness. If there's nothing after we die, then you've lost nothing. Your only burden would be a guilty conscience in those brief seconds before you go. If there is something after we die, you have worked for and deserve only the best."

Julie looked down at her cross. She didn't like depending on anyone or anything, much less blind Faith, but it had been the only thing to carry her through much of her life.

"I don't know the universal truth, I just have what I think and I feel. Miranda, you are a beautiful person. I believe that this is something that needs to be done, and I think that you are the person who is supposed to do it."

Miranda started to look hopeful, but she wasn't quite convinced.

"But Julie, whether I mean to pave the way for destruction of humanity or not, if it happens, it still happens. I can put any guilt I feel about it aside. But what if there's no humanity left? Whether I pushed the button or not, humanity is still gone."

Julie thought for a long time. She knew that there was virtue in what Miranda was doing, but Miranda had a point. Shortly before the space boom, almost all international tensions mysteriously resolved themselves. Suddenly, nobody was concerned with making war on other people and taking over their land and resources. Instead, they were more interested in staking their claim in space. Nearly every country diverted all their money to putting outposts and embassies up in space. Buildings that were completely unnecessary, but seemed to be there just for the sake of being there. Miranda's look turned inquisitive as Julie's diamond drill eyes had turned to sparkling gems. Julie spoke slowly and thoughtfully.

"Miranda, why do you think that there was peace in the world

around the space boom?"

"Well, people didn't want to spend their money on war anymore, they were more concerned with getting into space."

"But how many of the stations are meaningless? What good is a foreign embassy in space? No country needs more than one research station orbiting the planet..."

Miranda tried to figure out what Julie was getting at. Her eyes lit up as she started to understand.

"Miranda, since the beginning of recorded history humanity has always had a deep desire to go into space. Why do you think that is?"

Miranda suddenly reached the spiritual epiphany Julie was leading her to. They shared the loving, understanding embrace of eyes that comes with a sudden enlightenment.

"Because it's a new womb, Julie. We are such a violent species because we've got individuality bred into us. We need time to ourselves, time away from other humans, just to stay sane. That's really the summation of the human condition, isn't it! We need to be alone, but we need to be together. We need solitude but we need solidarity. We can't live with each other, but we can't live without each other!"

Julie and Miranda shared the excited expressions of religious pilgrims setting foot in holy land. Julie continued.

"That's why there was peace when space travel became accessible. An ancient hope and dream was being realized, and even the politicians had to wait in awed silence for their chance to go. So many people in all the world wanted to retreat into the second womb of space, just for a few weeks. Just enough time to reclaim their own sanity. Have you ever talked to some of the old workers? The people up in the research facilities? My foster father used to work in a silicon germanium plant. He used to tell me how it was so wonderful going to sleep at night to look out the window at Earth and have a feeling of being above it all, part of humanity yet separate from it. No noise except what was caused by fellow crew members, and they were enjoying the same awed silence and joy of temporary isolation."

Miranda jumped in again.

"And after we filled space with people, that solitude wasn't there anymore. You couldn't look out the window without seeing another space station, or rockets coming up to fill space with even more people. The sanctity of space was broken, the womb turned into an illusion, and the world reverted back to the neighborly tension with which we lived before."

"International politics is starting to get messy again. Mister news source himself told me all about it when we were up at Jupiter's. Miranda, hon, we've got all the technology we need here to destroy the Earth anyway, your invention is just extra water in the bucket."

They looked at each other for a few moments. Miranda was wide eyed, still in the high of epiphany, but Julie had calmed down. Julie went to go put on a pot of tea, Miranda following close behind. They sat down at the table, and Julie smiled at

Miranda.

"Miranda, everything happens for a reason. I think that you are going to be the savior of humanity."

Miranda sat up and spontaneously furrowed her brows at Julie's almost random comment. Julie had a warm smile, almost as motherly and tender as Miranda's. Miranda could see that she was dead serious. Julie picked up on the confusion and continued.

"Think about it. If we are all still on or near the Earth, and somebody blows it up, where is humanity? Destroyed. But, if some of us have traveled out to distant stars and galaxies, and somebody blows up the Earth, humanity still survives... if this faster than light drive works, and I'm sure it will because you and Tommy are brilliant, then you may provide the backup system for humanity. You will insure the survival of our species."

Miranda fought the weight of this responsibility as she stood up to pour the boiling water into cups. She poured another cup of Orange Pekoe tea for herself and a cup of Earl Grey for Julie, then sat back down and looked into her teacup at her own reflection amid the swirls of reddish brown coming from the tea bag. The swirls reminded her of nebulae, and she thought about what it would be like to live that far into space. She thought about what Julie had said, and realized that she was right. The only way to insure the survival of the human species was to spread it out among the cosmos. While they both had complaints and angst about certain aspects of humanity, it was still worth preserving.

"As much as we both complain about it, humanity isn't as much of a blemish on this universe as we make it out to be," said Julie, reading Miranda's thoughts in her expressions, "and we have enough beauty about us that it would be more of a shame to lose all of us than just most of us. Miranda, what happens here on Earth doesn't really matter. We've already destroyed it, for all intensive purposes. Life is what's important. Your spaceship, your idea, guarantees the preservation of the human species. Even if it doesn't work and we never reattach to the universe, so what? Then the technology dies with us, and you have nothing to worry about."

Miranda was still daunted by the realization that she was going to insure the species survival of humanity. She recalled something she'd heard in school, a quote from a Soviet rocket scientist named Konstantin Tsiolkovsky more than a hundred years ago, "Earth is the cradle of mankind, but one cannot stay in the cradle forever." Julie put her hand on top of Miranda's.

"Hon, if I wasn't convinced before, I certainly am now. Interstellar travel will be among the most important things that humanity ever does, right up there with the wheel. You can't delete your notes and you can't call this off. It's destiny."

They shared a warm smile and warm tea.

"I propose a toast. To us, to our project, and to humanity."

They raised their glasses to a toast, and chuckled with the sudden realization that Miranda's teacup set was blue with constellations painted on them. They giggled and Julie raised a hovering finger, then pointed.

"That one. That's the star we'll go to. Right in the middle of Orion's belt."

Miranda spit out her tea in laughter, and they both fell on the floor rolling around giggling. Miranda let out a happy sigh just as the videophone rang. She straightened herself out, did the best she could to wipe the silly grin off of her face, and turned on the phone to see a bug eyed and bouncing Jimbo.

## CHAPTER 9

Jimbo let loose a short burst of expletives as his ion drives let out a short burst of fuel in reverse. A small propeller plane pulled out right in front of him on the taxi-way. Jimbo couldn't understand what it was about his plane that made it invisible to some of these small plane pilots.

Jimbo's father had been a pilot for the Kincaid shipping company. Jimbo's first trip into space was when he was six years old, traveling with his dad. By the time Jimbo was walking in his father's footsteps, Kincaid was no longer the only shipping company in space. They were still the most trusted in the industry, on reputation alone. Many of the new companies tried to attract business with sleek shiny space ships. They looked like giant silver eagles, sweeping lines and small, quiet, efficient engines.

Kincaid's ships followed the soviet design principle; if at first you don't succeed, get a bigger engine. the "space hogs" as they were called resembled gigantic bumblebees. They still had a larger cargo capacity than most of the ships around, and definitely burned much more fuel. Kincaid shipping was more expensive because of this, but their safety record remained unmatched. The ships were extremely reliable, despite the fact that they were noisy, ugly, and tended to smell strange when they landed. Jonas Kincaid had been one of the pioneers of vectored thrust ion drives, and didn't bother trying to upgrade them when more efficient engines were designed. He was one of the people who would find something that works and stick with it.

In the history of Kincaid shipping, there had only been one accident. Jimbo was making a routine reentry, when a stray chunk of satellite grazed the atmosphere and slammed into the right side of his plane, where the wing joined with the body of the plane. Jimbo managed to make it back into the atmosphere, and spent an hour trying to gain control of the plane. Millions of people watched him maneuver on their televisions and internet feeds. He had gotten down to an altitude of ten kilometers when the right wing just snapped off. Right before he hit the ground, Jimbo managed to aim the ion rockets just right to provide an upward thrust to soften the blow. This quick thinking saved not only his life, but his cargo. The ship was destroyed, but the cargo bay was intact. And laying on top of Jimbo.

Rescue workers arrived to see Jimbo under the cargo bay. They were shocked and amazed to hear a moan escape from him. Jimbo had broken literally every bone in his body, had some fairly severe internal bleeding, and was missing his left eye. They lifted the cargo bay off of him and transported him to a nearby hospital, where he spent almost a year in recovery. After physical rehabilitation, he walked out of the hospital to a mass of waiting photographers, reporters and the then CEO of Kincaid industries. The CEO had been hand selected by Kincaid himself, was well acquainted with the history of the company. He therefore knew that Jimbo's grandfather was the first pilot for Kincaid



Shipping, and that Jimbo represented the third generation of his family to be excellent pilots for the company. He heartily shook Jimbo's hand and announced to Jimbo and all the media that he was contributing heavily to the funding of Medlab's development of the high resolution prosthetic eye. He offered Jimbo a retired space plane as a retirement gift, with the sincere hope that one day Jimbo would get to fly again. Jimbo graciously accepted and took the old beater out to an airport, where he got a job as a mechanic.

Jimbo was a first rate mechanic. Since he was a teenager, he related much more closely to machines than to people. He lived in his space plane, and in his spare time he would repair the thing. Then, one day as he had just gotten his plane flyable, Kincaid's secretary called and told Jimbo that Medlab had completed his eye, with some of the latest organic diode technology. Jimbo grinned ear to ear and took a cab to the hospital the secretary had mentioned. A week later, Jimbo came out with the first high-res electronic eye, connected to his visual cortex at 1200 X 1600 resolution. He had his depth perception back and as soon as he could, he started flying again. He still worked as a mechanic at the airport most of the time, but sometimes he would ship freelance for a little extra money. It was on one of his freelance trips where he met Mike at the Genesmith station. He had fallen extremely ill, and Jimbo had to fly him home. On the trip home, Mike frailly explained what was going on. Even during the flight, Jimbo was seeing definite changes in Mike. He seemed larger, somehow. After a week, Mike was up and about, and started exercising. He'd grown more than nine inches and was prone to keeping five or six conversations going simultaneously. Jimbo went back to the hospital to visit Mike, and that's when they became friends for life.

After his life had just passed before his eyes, Jimbo laid back in his seat and took a deep breath. He smiled at a preserved alligator head beside his instrument panel and patted it on the head.

"you save de day agin, Eulabelle! If I din have you around, I don know what I'd do about all dese young pilots who don know how to look where dey goin..."

Jimbo slowly taxied his plane towards the hangars. As the plane lurched to a stop, Jimbo hopped out and chained the front wheel to a metal hoop protruding from the ground. He padlocked the chain, put the key in his pocket, stood up and took a deep breath. He blinked a couple of times, walked upwind of his plane and then took a deep breath. He smiled. The thick heavy air and visible clouds of bugs reassured him that he was home, back on the bayou. He had landed at the small airport where he'd been working since his crash. The familiar faded sign on top of the airport, "*Laissez Les Bon Tomps Rouler!*" welcomed him back to his home culture. Southern Louisiana in the late spring isn't the most pleasant place in the world, but it was home.

Jimbo grabbed the backpack that he'd packed before leaving Tommy and Mike and slung it over his shoulder. He grinned

nostalgically as he walked back towards town. He used to make this walk once a week, to go visit his folks. Every time he passed, things would change a little bit. He saw a familiar house down the road, covered with chipped blue paint on top of chipped grey primer. What was new here? Old man Babineaux sat on his front porch, whittling a piece of wood. Something seemed strange to Jimbo when he saw the old man. Old man Babineaux had a prosthetic leg much like Julie's arm, wearing shorts, feet casually propped up on the railing. He looked up and smiled.

"Jimbo, dat you??"

Jimbo grinned subtly as he fully noted the leg. "In de flesh!"

The old man jumped up and hobbled over. Jimbo's smile grew. Last time he'd seen the old man, he was in a wheel chair. He'd lost his left leg from the hip down in a car accident long ago. No more words were exchanged for quite a while. Only overjoyed laughter, and old man Babineaux dancing a few little jigs from his childhood. While his leg was tireless, the rest of him was not. He sat down on a step panting, but still laughing.

"You don't know how happy I am with my new leg. An' when I think 'bout de fact that you probably brought de equipment to make dis an' brought it back from space, I can't help but to thank you."

"You very welcome. I remember when I got my eye back. De day I walk out de hospital, I drove home. My mouth hurt for three days after I got home cuz of how big I was smiling"

"Well Jimbo, you know dat you de prodigal son of town. You bes' be gettin' on, dere's hunnerds o' people missed you!"

the old man stood up and gave Jimbo an old military style salute. Jimbo gave the same, resulting in meaningful laughter from the two of them as he slung his bag back over his shoulder and kept walking. Old man Babineaux was a historical artifact of sorts; he had actually seen war. He had been involved in the fighting in Iraq around the turn of the century. He really didn't like to talk about it, but sometimes he'd tell old war stories when people would gather around. He'd make a few obvious omissions of detail every so often, things he was trying to forget, but he could still give a description of the battlefield unrivaled by any movie ever filmed.

The air was thick and the sky was blue. Jimbo looked up to watch a pair of hawks flying around, and suddenly drowned under a wave of nostalgia. He remembered when he first wanted to fly. He was standing on that very road, on a summer day like that day, watching the hawks fly. He told his dad how he wanted to be like them. That's when Jimbo's dad decided to take him on a space run. Throughout the rest of his childhood, Jimbo would climb up in a tree near the airport, as close to the sky as he could get. He watched the birds and the airplanes floating into the sky, dreaming about when he'd get to actually pilot a plane.

He snapped out of his trance to a sudden thought. He walked further down the road, by the old mailbox that looked like a tractor, and turned left. Sure enough, there it was. his tree was still there. Jimbo smiled and ran down the side street to his

old tree and started climbing. He hung from a branch near the top and laughed. If he wasn't home before, he certainly was now. He swung up into the tree and perched against the trunk. Small airplanes buzzed around like flies, the birds flew overhead and Jimbo sat blissfully in the same tree he'd practically lived in for much of his childhood. "Town can wait," he thought as he laid down on top of a tree branch. The warm sun caressed his face and the soft breeze blew the scents of the bayou across his nose. He was interrupted by an oddly familiar voice from below.

"Who dat, is dat Jimbo?"

"Roy LeFleur? I ain' seen you since you was little! An' you can walk!"

Roy was the son of a family friend. Last time Jimbo had seen him was shortly before his accident. He had been diagnosed with Lou Gehrig's disease, a genetic ailment that caused degeneration of nerves. He was kept in the hospital while his folks saved up money to get a retrovirus engineered to cure their son. Years passed, and Roy's condition grew worse, till finally they had manufactured a large enough batch of a suitable retrovirus to cure him. This had all been in the past year, while Jimbo was rarely around. Jimbo jumped down from the tree to greet Roy.

"Wow, you got you a new eye!! can you see in de dark wit that?"

"Actually, yeah I can," Jimbo said sheepishly with a smile.

"Merveilleux!"

Jimbo smiled in amazement. Last time he'd seen this kid, he couldn't move anything except his eyes and sometimes could twitch a finger, if he tried really hard. Now he was fully mobile and looked healthy and happy.

"Roy, you gon' come back?"

Jimbo glanced up to see a pretty young girl, about Roy's age, standing by a '32 Chevy of some sort. Jimbo put two and two together, and smirked at Roy.

"Damn, you must be healthy!"

The two laughed as Roy gave his salutations and left for his date. Jimbo felt a soothing gush of happiness drip down his heart. The boy had his freedom, to be up and to walk around and to live a normal, happy, healthy life. He watched the Chevy whine down the road, and was again alone. The sun was drifting to the west, sinking along with Jimbo's spirits. He had reminded himself that his friends, the people who mattered the most to him on the planet were about to take off on a voyage into deep space that they may never return from. What would he do then? And most importantly, why did he not want to go? He reflected on this as he put his body on autopilot towards town. What was it about Earth that was so dear to him that he was so hurt by the idea of leaving? There were characters like Roy and old man Babineaux, but they were almost scenery in Jimbo's life. They had their own lives, completely independent of Jimbo. Jimbo had his own life, completely independent of them. Jimbo's life was his own and the only people he shared it with were his brother Seth, Mike, Tommy, Julie, and Miranda. There was something below Jimbo's

consciousness, something deep that connected him to the Earth.

Jimbo checked his watch, and noted that today was one of the saints' birthdays. Jimbo smiled with the realization that there was most likely a party at his house to celebrate, so he could go home and see his entire family. That would also mean that maybe his brother would be there.

The only person he listened to more than Mike was his brother, Seth. Seth was beyond the friend category, Seth was a brother in the most extreme sense of the word. That would be the hinge point, thought Jimbo. If he got in touch with his brother to talk about this, his brother could convince him to stay. That would help Jimbo feel better about staying on Earth.

He arrived at the house to hear the sounds of an accordion and bass fiddle plunking away inside. The house was whitewashed, as were many of the houses around, with green shutters on the windows. Jimbo's father had done well for himself. The house was a two story plantation style house, with people dancing on both floors. Jimbo chuckled; his father never did anything halfway. If there was to be a party at his house, rest assured it would definitely be a party.

Jimbo walked into the house, looking for some of his relatives. Half the city was crowded into his house, but he soon drew attention. First person to recognize him was his sister Michelle.

"Jimbo!"

she ran over to him and almost tackled him with her embrace. He reeled backwards and caught himself, laughing. His sister was blond and heavily freckled. She was a strong girl, captain of her high school women's powerlifting team. She always got over excited in much the same way Jimbo did. They babbled words to each other that almost defied English translation. They both calmed down and looked at each other. She smiled at him.

"es good to have you home, Jimbo."

"an' es good to be home. How's life been here?"

"Well, Seth got ordained, de Guidrys have deir first child, de townsfolk tryin' to get daddy to run for mayor, but he don' want to, ummm... I don' know, dere's so much been goin' on, but now es just time to dance!"

She grabbed Jimbo by the arm and threw him at the first woman she saw, giggling. Jimbo staggered trying to regain his balance, as he plowed into an unsuspecting brunette with a champagne glass. He regained his composure and knelt down to clean up the spill. with a tissue from his backpack.

"Ma'am, I'm terribly sorry 'bout dat..."

"Jimbo Robichaux! Back home at long last!"

he looked up and realized that it was Suzy, his high school prom date. She had been a wallflower in high school. Most of the other guys didn't pay attention to her at all, but Jimbo wasn't most of the other guys. In everyday life, he had always been very quiet and reserved, and spent much of his time observing people and thinking.

One day he saw Suzy holding something back in the lunchroom.

Jimbo's connection to humanity allowed him to feel that she really wasn't doing too well at all. She was nervous, tense, and extraordinarily depressed. Jimbo felt sad for her, and decided to drop out of observation mode and go speak with her. He sat down next to her at lunch and introduced himself, asking how she was doing. It took a while for her to open up, but before long they were talking amiably about life, places, people, good times... all the wonderful things friends talk about. Jimbo saw a smile that he'd never seen from Suzy before. Through conversation, it occurred to Jimbo that nobody had ever really paid attention to her at all, until that day in the lunchroom.

As was usually the case in that region of the country, she started having big ideas about dating and marriage and all that, but Jimbo declined. He liked her, but felt it would be irresponsible of him to take advantage of her eagerness and joy of finally being the center of attention for at least somebody. Jimbo was going to be a pilot, and he wasn't going to marry and then live in space for years at a stretch. He saw what it did to his mother when dad left for long periods of time. He did not want to inflict that on anyone else.

But they kept a very strong friendship throughout the rest of high school. Over the years, she started to blossom. She got genuine affection from Jimbo, not the adolescent pretense of everyone else. It gave her reason to make something out of herself. The flower burst forth from the bud on prom night, when she let her hair down and took off her glasses. Jimbo took her to the dance, where she finally felt beautiful. The head cheerleader was the prom queen, of course, but Suzy was the most beautiful woman there. They went their separate ways after high school, still friends. She'd gotten married to Frank Guidry shortly before Jimbo's accident, and according to his sister had recently had a baby.

"Suzy! I hear you got a young 'un now!"

"Yep, one month old tomorrow." She said with the same warm grin Miranda was famous for. She dug in her purse and pulled out a picture of a reddish, wrinkled baby boy. Jimbo smiled happily.

"What'd you name 'im?"

Suzy looked bashful.

"His name is Jimbo Wilson Guidry."

Jimbo's smile engulfed his own ears.

"and... Jimbo, I was wonderin'... I would be most honored if you would be little Jimbo's godfather."

Jimbo's enormous smile turned into a laugh of joy.

"of course I will Suzy. I'm most honored, both to be his godfather and his namesake..."

Jimbo faded off as he saw a familiar man approaching from behind Suzy. The man wore a look of startled disbelief and amazement, as if he wasn't sure whether Jimbo was really there or not. He steadily quickened his pace towards Jimbo, his confused look turning into a smile. Suzy saw the same look reflected from Jimbo's face and turned around to see Jimbo's brother approaching him. She smiled back to Jimbo

"I think you an' him have a lot of catchin' up to do. I'll talk to you later."

She kissed him on the cheek and stepped out of the way just in time to not be crushed between Jimbo and Seth. They shared a long embrace intermingled with laughter and tears. Jimbo started his cajun super babbling, as his brother looked at him and calmed him down.

Jimbo was the second born of the family, behind Seth. They both shared a deep connection with humanity and a love of life. They grew up playing down by the bayou with each other, talking about life's mysteries. Their mother would usually get really depressed whenever their father was in space for long stretches of time, which is what formed the split between Jimbo and Seth. Jimbo decided to renounce his close personal contacts, stay distant from people on a personal level, so that he could be a pilot like his dad. Seth decided to renounce any wishes he had of being a pilot like his dad, in favor of staying on the Earth and keeping his connections with family and friends.

They both felt torn, and both envied the other's position at times. Sometimes Jimbo longed for friends and family like he had back when he was a kid. Seth sometimes longed to travel into the stars and be away from everyone and everything, at least for a little while. Most of the time, however, they both felt confident of their decisions. They still shared the same deep bond between them that they had in childhood. Any time they had a chance to get together, they told each other stories of their lives, so that the other might live vicariously in borrowed memories. Jimbo had calmed down and released a long sigh of contentment.

"Well Seth, Michelle tells me you got ordained?"

Jimbo's brother calmly smiled and bowed his head.

"Dat's wonderful! You stayin' here in de Parish?"

Jimbo's brother again nodded, but not with so big of a smile. Jimbo smiled a small warm smile of loving envy.

"It mus' be nice. You got a job doin' what you best at, and get to stay here in de bayou, wit de birds and de trees and de flowers..."

Jimbo drifted off in a happy trance for his brother. Jimbo wanted so badly to be as sure and connected to the Earth as his brother. This was his home, but he knew that no matter how hard he tried, he would always go somewhere else. He tried once or twice, but couldn't possibly keep himself in one place for any period of time. Jimbo's brother looked back at him with serious eyes and a wide smile.

"Don't discount your own blessings, Jimbo. You've gotten to see wonders I've only dreamed of."

Jimbo looked at his brother, who was starting to pick up on what was going on.

"It's a bit noisy in here, you wan' go out for a walk?"

## CHAPTER 10

Jimbo smiled and obliged. His brother could read him like a book. When there was something wrong, he could see it in Jimbo's eyes. They stepped outside to the sound of crickets and muted music. Stars and a McDonalds floated overhead, as well as the south central power station. the collection point was just a few miles beyond the airport, and even though the beam wasn't in the visible light spectrum, you could still see it.

The station was basically a huge collection of solar cells attached to batteries and a meter wide microwave laser. the sunlight was converted to electricity, and shot down to collection points on Earth. It was a spectacular sight at night during the early spring; insects spontaneously burst into brilliant flames when they flew into the beam. A straight vertical column of sparkling orange flashes stood out in the country side, shimmering with a macabre beauty. They both stopped to watch this for a while. Before too long an intoxicated party goer stumbled out of their house, breaking the solitude. The two brothers felt crowded and decided to keep walking, out towards the bayou.

"So, Jimbo, how you been? What sort of interestin' things have been happenin' for you?"

Jimbo looked intently at the reflection of the moon in the water, his attention darting around to the circular waves of insects scurrying across the water.

"Well, nothin' too much. Haven't really been workin', mostly ferryin' my friends around from space station to space station."

Jimbo had tried to keep his voice from carrying a dejected tone, but to no avail. He felt his brother looking at him, and knew that the gig was up.

"I'm guessin' dere's somethin' really profound that your friends are up to? I can't think of any other reason why ferrying people around would be somethin' interesting..."

Jimbo watched a giant catfish swim under the water in front of them, and realized that he must be as transparent as the water.

"Seth, understand dat what I tell you can't be repeated. If de stuff I'm dealin' wit falls into de wrong hands, it could mean de destruction of de Earth."

Jimbo and Seth shared a grave look, a contract of the eyes. Seth nodded.

"You have my word, Jimbo."

Jimbo paused for a few moments, looking at reflections in the water, then looking up at the sources of the reflections in the sky.

"You remember Miranda? De girl wit de red hair? she invented a faster dan light drive, and deir tryin' to make a spaceship out of it so dey can travel to other star systems..."

Jimbo choked back a tear. Seth patted him on the back while looking up to the stars in awe. He realized instantly what this meant. Jimbo would have the opportunity to travel farther out than any human had ever had the opportunity to travel before. He would have the opportunity to stand on planets untouched by human

kind, to release himself from all the shackles which he never even dared struggle against. A jealous yet happy tear came to his eyes.

"An' dey're gon' go into deep space. Dey gots no idea if dey comin' back, and I'm not sure if I can go wit dem."

Seth bit his lip and looked at Jimbo, awaiting further explanation.

"See, dere's a big part o' me dat wants to go wit dem, but we don' know if de FTL drive is gon' even work. I don' know if I'll never be able to come back."

"Jimbo, that ain' never stopped you before..."

"But Seth, that's my problem. I tol' em I can't do it, but I'll help 'em out de best dat I can. Now I'm tore between stayin' here on de planet I love, in my home on de bayou, or to go wit my best friends out into deep space."

Seth looked hurt, and realized his ministerial, as well as brotherly, duties when they presented themselves.

"Well Jimbo, you want my opinion?"

Jimbo looked at him and nodded. Seth grinned.

"Dere's a big part o' me wants to push you in de water right now. I think you're a damn fool for doubting that you ought to go into deep space."

Jimbo looked confused. He'd never seen his brother this worked up before.

"Jimbo, I don' think you realize how jealous I am of you. Lemme tell you 'bout one of my congregation. He come to me de other day all depressed, because he can see de new mall out on Arceneaux road..."

"Dey built a mall out dere?"

"Yeah, but dat's besides de point. He come to me distressed dat de world is closin' in on him. And you know what I had to tell 'im? Dat I been hearin' dat from people for years. An' no, I ain' got a solution. Jimbo, you ain' been on de planet all de time, you don' know how small dis place is gettin'. We all need space, you know? An' here you are, wit de opportunity of a lifetime! An opportunity dat most people I know, me included, would fight tooth an' nail for if dey had to, an' you are decidin' not to go because you want to stay here in dis sardine can wit de rest of us!"

By this time Seth had stood up. Jimbo had never seen him preach before, but he was impressed. Jimbo most definitely felt that he had gotten put in his place.

"Jimbo, since de dawn o' time, humans wanted to get to de heavens. How many religions have deir gods in de sky? How many have to do wit astronomy? De star o' David, de star over Jesus' manger, de heaven dat Satan was cast down from, es all in de sky! Now, we humans been in space for while, an' we ain' yet landed ourselves in front of de pearly gates. But, dere's reason dat we always wanted to get to de stars. De stars ain' a trap like de Earth is. We all live out here on de bayou with de independence and desire to be free dat all our forefathers had. You carry an opportunity to be a livin' example o' dat dream. Now, I can't



tell you what to do. It's your life, you gotta live it. All I can say is you got de opportunity of a lifetime sittin' on your plate, an' I think you'd be a fool to pass it up."

Jimbo sat for a while before regaining his bearings.

"But Seth, dere's more to de Earth than just bein' cramped in. What about you? What 'bout all de people here in town dat ben so happy to see me?"

"Jimbo, I don' think you know this, but you've made more people's lives richer in your thirty years dan most people do in an entire lifetime. If you don' come back, you'll have a funeral dat the whole damn Parish is gon' attend, and I'll write up in de eulogy about how you did de best you could to strike out into space and find a better place for all of us. I'm gon' say how you gave your life to allow us dat freedom of not bein' bothered by anyone else when we don' wanna be. An' if you do come back, you gon' have de heroes welcome, from me an' de whole planet."

Jimbo conceded his brother the point, but wasn't about to give up.

"What about Suzy Guidry? She asked me to be her son's Godfather..."

"An' lil' Jimbo is gon' grow up proud dat his Godfather is de first cajun to leave the solar system. Jimbo, I know you, an' I know how you like to explore things. If I was in your position, I'd still be up in space wit my friends tryin' to make dis whole thing work. I know 'bout Miranda, I know dat she most likely knows what she's doing, I know dat you'll probly come back, an' when you do, you gon' make dis Parish, not to mention de whole planet, proud."

Seth sat thoughtfully for a few moments, in deep meditation. Jimbo shuffled restlessly. Seth had made many valid points. This was the opportunity of a lifetime, and he would be a fool to miss it. A sentimental fool. Jimbo always listened to what his brother had to say, and always trusted him to give the best advice he could. Why, then, could he not just bite the bullet and leave?

"Y'know, Jimbo... and it's hard for me to say this, but I'm talking from my heart of hearts... I think dis borders on being a quest from God. I think you might be de savior for mankind..."

Had Jimbo been standing, he would've fallen into the pond in shock.

"Savior? Seth, I ain' never heard you talk like dis before."

"Jimbo, think about it. What is it dat humanity seeks most? Humanity wants to return to Eden. Dat's where we came from, and dat's where we need to return, back to God's right hand. God said to Adam and Eve to be fruitful and multiply, right? Eden may well be a planet around another sun, it just needs the pure of heart and mind to inhabit it. Jimbo... I know dis sounds crazy, but... I think you might lead de people to the promised land, y'know? God loves us all, and maybe we don't all belong in de same heaven. Jimbo, you are going to decompress humanity, take us outta dis sardine can called Earth and let us expand, let us be fruitful and truly multiply. You'll let us all find space to be ourselves in de cosmos. Jimbo, I can't tell you what to do. But I think

you'll be making a big mistake if you don' go."

Jimbo thought Seth was talking crazy talk until he looked him in the eyes. This was perhaps the most serious that Seth had ever been in his life. Jimbo could see that Seth truly and genuinely believed that this journey had some divine purpose for the rest of humanity. He grew somber and looked up at Seth.

"Brother, I listen wholeheartedly to everything you say, and you know dat. You are de wisest, most understanding human being I know, and I appreciate de help you give me. I'm still not sure what I'm gon' do, but I'm gon' think 'bout it tonight. I'm gon' go back to de ship an' think about it. Don't feel like partyin' much anymore."

"I understand, Jimbo. God bless you, and may he guide you in his infinite wisdom. Whatever decision you make, you will still be my brother, and I will still love you."

With that, Seth stood, helped Jimbo up and gave him a big hug.

"By de way, uh... if es not too much to ask..."

"What's up, Seth?"

"If you go another planet... could you bring me back a rock? Nothing would thrill me more dan to have a rock from another planet sitting on my desk at de church."

Jimbo smiled.

"If I go, of course I'll bring you back a rock. I'll think about all dis long and hard tonight."

"You have a good night Jimbo, and God bless."

Jimbo stood and started walking back towards the space port. He had thought that going to see his brother might make him feel better about staying on Earth, but now he was more confused and torn than ever. He thought that maybe his brother would convince him to stay home, and since his connection to his brother was much stronger than to his friends, he might feel better about the decision. But now his brother was telling him to go into deep space!

Yet he still had doubts. How was it that not even his devotion to his brother could send him into deep space? He had his curiosity and the hearts of his friends pulling him into space, and the heart of his brother pushing him. Despite all that, he still couldn't budge himself. What was possibly holding him back?

It was his humanity. He realized that he was a part of the greater whole of humanity, like it or not, as he entered his old home town to witness some traditional Saturday night fun. He realized that humanity was a big family. As a noun, humanity is singular; it is one entity. We are all a part of it, cells in a macroscopic amoeba. We all share connective threads to each other. Jimbo was feeling the tug of these threads at his heart when he thought of flying away. He smiled amid the festivities and continued walking towards downtown. Jimbo wondered, perhaps some of the heart strings are stronger than others? He felt the same degree of connection with the rest of humanity than he did with his four best friends. Even in his homeland he felt the pull

to go with his friends. The sensation was unpleasant, but inevitable. Jimbo would need to make a choice.

He crawled into his space plane and laid on the cot in the back, staring at the ceiling. Seth's words echoed in his head all night. The look in his eye haunted him. Could there be some sort of divine significance to the trip to deep space? Could he really save humanity, take them back to Eden? Jimbo wasn't nearly as religious as his brother, but he did believe in the supernatural, and that there are no such things as coincidences. Perhaps this was destiny? But then he wouldn't feel this pull to stay on Earth. But then he wouldn't have all this support and reason sending him towards space.

Jimbo kept this circular loop of thought running till sunrise, when he decided to get up and take another walk around town. He looked to his alligator Juju, a good luck charm, and had an idea. He left his ship with the intent of finding a voodoo priest or priestess. Whether or not he was going to go into space, he would do the best he could to help his friends out. He hopped out of bed and put on his boots.

At that hour of morning there were a few people wandering around town. The smell of bakeries, coffee, and the swamp filled the air. The only people out and about were frequenting the bakeries for fresh bread, heading to work, or both. TV screens were being fired up in corner stores and barber shops. Bus boys stood in front of restaurants laying out rugs for the breakfast clientele. The sun climbed steadily into the air as the clouds of insects sank back into the foliage. He walked the main streets, peering down side alleyways looking for a *peristil*, a Voodoo temple. He saw one, small, subtle, and out of the way.

It didn't look distinguishable from any other building along the side street except by a sign and some chalk drawings that had recently been reapplied outside the building. He walked in the front door to see a Voodoo priestess puzzling in front of two full tables of divinatory devices. Cards, egg yolks, bones, chicken blood, strange plants... anything that might have been used to divine the future. The priestess stood facing the side wall drawing lines in the air over the small bones strewn on the table, trying to derive meaning from the pattern. She was a squat woman, with a sharply sloped brow, abnormally large lips, huge moles all over her face, and was obviously wearing a wig. She picked up a chalice and turned towards the front of the building. When she saw Jimbo, she dropped the chalice.

"You... are you de one-eyed pilot?"

Jimbo looked at her, befuddled. He wasn't wearing anything that obviously set him apart as a pilot. He looked back up at her and answered.

"Well, I am a one-eyed pilot, don't know if I am "The" one-eyed pilot..."

"Dere's been omens for weeks on end, about a journey to de stars..."

Jimbo jolted to rigid attention. Something was definitely going on here. The voodoo priestess again consulted a stack of

cards laid out on the table, looked up and asked Jimbo,

"De omens been sayin' a one-eyed pilot, a half painted woman, a woman wit hair like fire, de giant wit a dozen minds, and a young man who builds things. You de one-eyed pilot, you know the others?"

Jimbo's jaw hit the floor. Omens? Every divinatory method he'd ever heard of was spread on the table, apparently all saying the same thing. Saying that the five of them would travel to space. The voodoo lady saw Jimbo's expression and knew what it meant. She smiled in relief.

"Oh good. I was worried dat all my cards weren't workin' right. I normally have full faith in my divinations, but you don't hear 'bout people goin' to other stars every day, y'know?"

Jimbo stuttered, "Pardon me, ma'am, but you'll have to understand I'm also more dan a little shocked."

"yeah, I knew you would be. Listen, lemme tell you somethin'. I can sense you been wonderin' 'bout if you ought to go on dis trip. I tell you, dis is going to be a new birth for humanity."

She giggled a little bit and started cleaning up the mess from the Chalice. She stood up with a smile.

"I'm so excited for you! If'n I wasn't so old, I'd beg to go wit ya, just to see it up dere. I can't tell you all de things I seen in visions, but it's gon' be excitin'. Dis is very important, and I'm honored to help you wit your travels."

She started bustling around the building, grabbing miscellaneous animal parts, herbs, pieces of cloth and sundry other items. She said a few brief incantations over the things she'd assembled and brought them to Jimbo.

"First thing, I seen dis in my visions, dis gon' be important to you..."

She handed Jimbo a small wooden charm. It was a truncated pyramid, four trapezoids joined at the edges, with a large square on bottom and a small square on top. It looked like a weight from cartoon shows of a hundred years prior. he looked at it intently, having never seen a charm like this before.

"Dat shape is gon' be very important to you, an' when you see them you gon' give it to them."

"Who?" inquired Jimbo.

The priestess winked at him and said, "Time will tell."

She then presented Jimbo with another charm. It was an alligator head, much like the one Jimbo had in his ship except larger. It smelled strongly of herbs and aromatic oils, and had a rope on one end of it.

"Dis a juju for de giant wit a dozen minds. Something tells me dat's why you came here, right?"

Jimbo nodded, still overwhelmed.

"Tell him he need to keep dis somewhere around him most all de time, within say 20 feet or so, just to keep de powers of de spirit wit him. He gon' need it, yep. Now, what's your name, so's I don't have to keep calling you de pilot wit one eye?"

"J...Jimbo, ma'am..."

"Alright, Jimbo, I know you got your doubts, but I tell you somethin'; de cards don' lie, de blood don' lie, and de eggs definitely don' lie. Dis is your destiny, and somethin' dat needs to happen. I can't tell you for sure why it needs to, but somethin' deep down inside my spirit tell me dat you need to go. Take dis wit you, keep it in de spaceship you go to de other planets in."

She gave him a doll.

"Dis a totem for Legba. You gon' have to cross a barrier, a doorway into another world to do de travel you talkin' 'bout. Legba de guardian o' doorways, so you need dis at de front of de ship. Now, dis all de maji I can give you. You best go get your friends and fly to de heavens. I give you my blessings an' prayers."

She smiled and nodded at him as he started to scurry back to the street, halfway scared and halfway elated. All doubts in his mind were now gone. He would run to the church first, before the congregation arrived, to inform his brother of his decision. Then he would run to his plane, get Tommy and Mike, and go back to the northeast. He was almost to the door, when the voodoo priestess called after him.

"Oh, by de way, I got somethin' else special..."

She smiled warmly and brought him a small bag of herbs with a pair of tiny figures attached to the top, one male and one female.

"Dis is a love charm. Give dis to de colorful lady. She need it."

Jimbo nodded his final salutations and ran down the street towards the church. He got there just as his brother was about to unlock the door.

"Seth, I dun talk to de voodoo ledee she say dat I's gon' get ta de stars wit all de people ah know and she knew dat they was..."

Seth laughed, "Jimbo, you and Michelle both always do this. Slow down, and what happened?"

Jimbo took a deep breath.

"I made my decision. I'm gon' go to space, and I'm gon' bring you back a rock. If I don' make it back, den please say somethin' nice 'bout me." Jimbo grinned.

Seth looked back at Jimbo, ecstatic.

"Brother, I'm proud of you, always will be. You gon' make history, and you gon' pave de way for all humanity to spread out like de good Lord intended. God speed, and be careful!"

Jimbo gave his brother a big hug, waved and ran towards the airport. He got into his plane and opened up the video screen, just to let people know what was going on. He dialed Miranda's number and waited as patiently as he could for her to answer. Finally he saw her, smiling, with Julie trying to compose herself in the background.

"Hello?"

"De manbo down heyah tol me dat I's gon get ta space widya, and es mah des..."

"Jimbo, Jimbo, calm down! Now what's going on?"

Jimbo popped his neck and straightened himself up.

"I went to a voodoo priestess for some charms to help you guys, and she told me that it's my destiny to go into deep space with you. Now, I know you didn't grow up in dis culture, but when a voodoo priestess tells you that something is your destiny, you do it."

"Hmm, I think destiny might be the word of the day," added Miranda cryptically.

"I'll tell you the story when I get there. I've got something I need to give Mike and Tommy, I'll meet you back at your place later on."

Jimbo hung up the phone and taxied to the runway, awaiting instructions from the control tower.

Miranda slowly reached for the off button on the videophone, turned around and looked at Julie. She had removed the cross from around her neck and was looking at it intently with awe.

"You know, Miranda, I know you're not a very religious person, but I think there's something truly cosmic going on here..."

## CHAPTER 11

Miranda and Julie fell out of their chairs laughing as Tommy strutted in the front door wearing a three piece suit. Tommy wore the face of a very relieved man. Jimbo walked in the door afterwards, his face obviously in pain from smiling way too much. Mike continued to talk at him.

"So Tommy looks at him and says 'I don't know what you're talking about, and apparently you don't either.' then shows him the entire report that appeared on spaceweb that morning!"

Jimbo leaned against the wall, slapping the door frame laughing. he caught his breath and spoke to Mike,

"And of course, nobody knows that you're the one who published it, right?"

Mike let out a deep menacing laugh, just enough to let the girls in on what they were talking about. They starting chuckling along with Mike, as Tommy grabbed a glass of water from the kitchen. He walked back out with his tie-piece loosened and a tall glass of water, and a much eased expression on his face.

"That was fun Mike, but that consulting racket was a little too much for me."

"You, sir, are a first class actor, Tommy! I don't know of anyone who could've pulled that off better than you!"

Julie's curiosity was aroused

"Consulting racket, Mike?"

A deceptively sheepish smile grew across Mike's face. He looked to Tommy, who shook his head and flourished towards Mike, indicating that he should tell the story.

"First inside trading investigation, one of the agents asked Tommy if he did any consulting. He laughed and told the agent he'd get back to him about it. We ended up doing the freelance consulting gig, where I'd find the information and display it on Tommy's computer, where he'd interpret it and give the advice. He caught on after a little while, figured out my patterns. Before that, he managed to just play it smooth when he couldn't figure out what I was giving him," Mike broke down laughing. Through the hysterics, he managed to slip in the word "donut", at which point laughter dragged Tommy off of his seat, as well. The rest of the crew looked at them inquisitively, when Tommy caught his breath. Mike was still laying on the floor laughing.

"While Mike's mental skills are superior, he can still be a real oaf sometimes. He sends me a web page onto the computer, an advertisement for a donut place near the bio-bev station. He clicked the wrong link, and I had to explain away that, 'while it's not really an investing opportunity, when one gets hungry it is one of the best places around'..."

Everybody erupted in laughter. Finally they all quieted down and took a deep breath. Mike spoke again,

"We covered our tracks quite cleanly, too. Mr. Anderson is taking a sabbatical in the amazon rain forests where, conveniently, he will never be heard from again. After his death is publicly announced, his assets will be transferred to a high

yield science fund towards gene therapy research."

"Brilliant!" exclaimed Miranda.

"Mike also managed to pull a pretty heavy hand at the cards..." Tommy interjected, trying to get Mike to brag.

"Oh that wasn't too much. Card counting on a very high level. That's only responsible for about 5 billion of our total."

Julie looked at Mike, surprised, "Five billion? Exactly how much money did you raise?"

Mike stood up from the floor and announced to the room,

"We have acquired 32.7 billion dollars, which is more than enough to start construction."

A cheer erupted through the room. A smile blossomed from Miranda's mouth.

"I must say Mike, I am truly impressed. Julie and I did some math down here through some of the shopping information you left us, and figured we'd only need 21 billion for the actual ship."

A ray of thoughtfulness emanated from Mike's head.

"So, we've got some extra money to play with... Heated leather seats, anyone?"

Julie threw a sofa pillow at him.

"Well seriously, what all do we need? We'll have to have seats and bedding and other survival things on the inside of the ship. The devil is in the details, you know..."

The whole crew sat around, thinking. Miranda got up to boil a pot of water for more tea. She turned around to walk back to the living room, but found that everyone had quietly followed her into the kitchen. She glanced around briefly, put more water in the kettle, pulled out more teacups, and sat down.

"Well," she addressed the table, "We probably won't keep the ship rotating for artificial gravity. Besides, we'll have gravitational forces from acceleration and deceleration."

Miranda waited for response from everyone else. Tommy spoke up,

"But when we'll be sleeping, we probably won't be accelerating. Our beds ought to be the sleeping bags mounted on the wall, like in the old space shuttles."

"Agreed," Mike stated briskly, "how about food?"

"I would say just a regular hydroponic garden, except for the amounts and types of accelerations and decelerations we'll be putting the ship through," Julie stated thoughtfully.

Jimbo cleared his throat and spoke.

"Fortunately, there's only five of us. We won't need too big of a garden. If we got a hydroponic rig big enough for a garden to feed fifteen people, then we could afford to have gravity pull all the water to one end of it. There'd still be enough oxygen and food. Basically, we just need to treat this as a space station for fifteen people as opposed to five, and it should work out just right."

The group noticed a clicking noise from a sunglasses clad Mike.

"Yeah, fifteen's about right. Good call, Jimbo. Tommy, I'm assuming you calculated a garden room into your ship's design?"



"Yeah, but not that big. Should've thought about it. If we extend the length of the midsection of the ship by a meter and a half, we should be able to fit it without needing any major changes to the structure of the ship."

"Alright, sounds good. Can anyone think of anything else?" Julie broke in again.

"We'll need some means of exercise, since we'll be spending a fair amount of time in zero gravity. Before artificial gravity, muscle atrophy and bone loss were major problems in space, and the only way they could stave off the effects was through regular exercise."

"I actually thought of that in designing the ship. We could get a couple of old exercise bikes and fix them to the floor of the storage compartment on the opposite side of the crew compartment. Two of them ought to work just fine, being as we each need only a couple hours of exercise a day?"

"Yeah Tommy, but where are we going to get them? Oh right, Jupiter's."

Tommy grinned back at Julie,

"Mike and I checked before we left. They've got a large shipment of them in a horrifically gaudy shade of pink that nobody else wanted to buy."

The pot of water boiled, and Miranda promptly poured tea for everyone. As she was pouring tea, she spoke,

"Oxygen supply, food supply, exercise, We already planned waste recycling in the initial design... Medical equipment?"

"Mike and I discussed that," announced Julie, "We figure we won't need any major medical equipment the first time we go out. If we come back and decide to do any major colonization, then we'll worry about major medical stuff. In the meantime, just a bed with straps and a few medkits stashed in the same room as the exercise bikes would work quite nicely."

"Works beautifully," said Tommy, "considering we've had to add a meter and a half to that room for the gardens. It's the same room we've got the waste recycling in, but they're closed systems. They won't give off fumes or any related nastiness that you wouldn't want around a medical clinic."

They sipped tea, glancing back and forth at each other when Jimbo made the astute proclamation,

"For the sake of seating, which way is going to be down?"

Thoughtful murmurs filled the kitchen.

"Probably the wall towards the engine. You'll have to pilot the thing laying on your back," Mike said, "or mount a chair's back against the floor to have an actual seat."

"Yeah, probably the best bet. I'd prefer a chair, and I think we all ought to have five point safety harnesses, just in case something bad happens and we need to be strapped into our chairs."

"Good call Jimbo. Tommy, have you thought at all about debris hitting the front of the ship at the speeds we're talking about?"

Tommy presented Mike with a sketch he'd made of the ship.

"See this arm thing sticking off the top? This is really massive. As we speed up, this is going to develop a gravitational field around it, pulling debris away from the crew compartment and towards itself. I've got one positioned between each of the tachyon sails, so that they won't be damaged either."

Mike looked at the schematic and nodded. He addressed Miranda,

"How loud are the engines going to be?"

The tachyon sails shouldn't be too particularly loud, nor should the gravity wave generator. I think we'll probably want some vectored thrust ion drive engines on the back of the ship to get us out away from Earth, just in case something goes wrong."

Tommy grumbled and grabbed a pencil, amending his design to include ion drive engines. He promptly got an Idea.

"We ought to attach Jimbo's space plane to the thing, in case we do decide to visit any extraterrestrial planets. We'll need something that can enter an atmosphere. What if we position it right that we can dock it on the ship, and use his ion drives to power us away from Earth?"

He scribbled on his schematic as everyone looked over his shoulder. He finished, looked up for approval, and got it from the whole crew.

"We can cut indentations on this tachyon sail, and Jimbo's engines will go on either side of it."

"Very nice. I think that's all we really need." Mike drank the last of his tea and cocked an eyebrow to the whole room.

"It's a beautiful day out, what say we all take a nice long walk? Maybe over to my place, and we can go to Swoden's again?"

There were nods and murmurs of general agreement, and everyone got up and put on light coats. Mike directed them towards a back way to get to his house, a backwoods winding road that led through the indigenous forest.

## CHAPTER 12

Autumn always greeted the eye with the most pleasant array of reds, yellows, oranges, and browns. Contrast that with the green of algae on the bluish grey rocks, and everywhere they looked was like a painting. In the midst of all the technology, it was easy to forget that such beauty existed outside of digital art on computer displays and in dreams. Mike switched off his communications piercings to focus all of his attention on the scenery, as well as the thoughts and feelings it prompted.

He reflected on the fact that the wilderness was the only place known to man at that time where one was both isolated and a part of everything simultaneously. Cities were not the natural state of existence for a human being. Even moderately sized clumps of people were not the natural state for humanity. Why couldn't we all live in small groups, just spread ourselves out among nature?

They rounded a corner and saw Mike's dismaying answer. A town had sprung up along this road since last time Mike had been out this way. There just wasn't room. Combine that with people's culturally enforced fear of solitude, and those with pieces of humanity left were left standing amid the crowds, dreaming of a place like before that bend of the road. Mike sighed as Julie looked towards him with the same despairing look in her eyes.

Julie wondered, how long would it take this small town to encroach over towards Miranda's house? how long before all those trees are gone and replaced with homogenous human engineered algae, with no beauty to it except its ability to produce oxygen? Every day she spent on Earth, the more convinced she was that their trip to space was completely necessary. With her resolved sense of purpose, she broke the silence before the town could.

"So, how are we going to go about building this thing, anyway?"

Tommy was startled out of his admiration of Miranda's back.

"Well, the options are we could build it here on Earth then launch it, or we could build it in space and maneuver it. I'd personally recommend building in space, because I've not taken any atmospheric factors into consideration in designing the thing."

"Yeah, those tachyon sails would easily break going through the atmosphere," mentioned Miranda, "and if we'd have to weld them on up there, we might as well just do the work up there."

Mike submerged himself in thought, and resurfaced eyebrows first.

"As far as logistics of operations go, I say we build the crew compartment and gardens first. Jimbo's ship life support won't support five people for any extended amount of time."

"Hell, it doesn't even have room for five people to sleep in it," Jimbo remarked.

They walked on. A pair of overweight children started bouncing up and down on the other side of the street pointing at Julie's arm. Their mother scolded them as Julie held her head high trying to ignore them. Mike tried to help her by resuming

the conversation.

"Either way, I say the last things to go up would be the tachyon sails. Can we build them modularly, and just assemble them in space?"

Miranda thought for a moment. She decided it was theoretically plausible, but decided to look to Tommy about construction details. Tommy nodded, and she responded to Mike.

"Yeah, we can do that. Properly attaching all the bracings ought to be the hardest part. Mike, you can weld, right?"

"But of course."

"Good. You and Tommy will have to work pretty much around the clock to get that done, because bright lights would be sure to attract attention."

Mike took mental inventory.

"Sounds fair enough. So, we assemble the main crew compartment with the garden first, then we attach the tachyon sails, then we attach the bracings. After that, we should be ready to go, right?"

"Assuming we integrate the gravity wave generator with the ship, yes," Miranda replied.

They looked over the horizon as they left town and saw the tall buildings of the city. The city emanated a high buzzing as though it was a decaying animal surrounded by gnats. The high buzzing was of course the high tones of the hydrogen cars. A thin steamy mist rose from the streets, especially on chilly days like that day. They started to put their city heads back on, but not completely as they were still out in the country side. Tommy took a deep breath and released it.

"What are you guys going to miss most about this place?"

Everyone smiled. This was one of those wonderful conversations the whole group delighted in, ever since they all first met. Miranda was first to respond.

"I think what I'll miss most is the summer breeze."

Tommy smiled and reflected on his trip out to the harbor the first week back from work, when he reunited with his friends. Miranda resumed.

"I remember when I was a kid, my dad and I used to go sailing during the summer time. The cool breeze that seemed to somehow redirect the flow of sunlight off of my shoulders. I've never found anything since with that kind of spiritual healing property."

Jimbo chuckled and gave his two cents worth.

"I know 'zactly what you're talking about. There is a tree out by de airport back 'ome, where I used to climb up and watch de birds and the airplanes, an' feel de breeze..." Jimbo checked his accent as Mike smiled and laughed. He'd seen Jimbo's tree, and had actually joined him there on a couple of occasions.

"But, I've got to say, the thing I'll miss most is dangling my feet in the water, talking with my brother about the mysteries of life as the sun goes down. You watch the giant catfish in the moonlight, and... wait, I know what I'll really miss most. Blackened catfish de way Pierre cooks it at his cafe."

Mike smiled, as he also knew the cafe Jimbo was talking about. It was his first encounter with Tabasco sauce. Mike shook his head and joined in the conversation.

"I think the thing I'll miss, oddly enough, is the people." Everybody looked at Mike dubiously.

"People are interesting creatures. As much as you want to get away from them, they're just too fascinating to let go of. Over the years I've started to really understand people. I've found that when you truly understand something, it's really hard not to have an affection towards it."

Everyone nodded and smiled in agreement. The horrible things humanity had done to itself and to the planet, it was still worth saving. They neared the boundaries of the city, their visions assaulted by a shameless advertisement for a new Holiday Inn station recently built over Mexico.

Julie thought briefly about it. She always loved being in space, even though it terrified her. The freedom, the temporary isolation, all called to deep things in the core of her being. What would she miss on Earth? The atmospheric effects, but that was a given. She blurted out her answer with no context,

"My sister..."

The whole crew looked to her, eyebrows raised inquisitively. Julie pulled her focus out of herself and clarified.

"You all know the details that I'll miss here, sunsets, oceans, sand, mountains... but I think the thing I will miss the most is my sister."

"Why don't you bring her along?" queried Jimbo.

Julie's eyes flared momentarily.

"Because she's going to live. I'm not going to let her go into space and get hacked and mangled like me."

"She's going to live, eh?" Mike remarked, communicating all the world politics that Julie needed simply with the tone of his voice. She looked confused as she stared at the curb. They passed a pizza place, just in time for Tommy to break the awkward silence.

"I think what I'll miss most is going out for pizza."

Miranda and Julie laughed at him.

"Tommy, of all the things you'll miss on this planet, the one you'll miss the most is pizza?"

"I didn't say pizza, I said going out for pizza. Sitting at one of those tiny orange booths with a pizza and a root beer, watching the people come in and leave... The breeze comes in the door, wafting more of the pizza smell towards you. You finish your meal, then go in the back and play some old video games, maybe even some pinball. The whole experience is what I'll miss."

Everyone in the group smiled and nodded. They walked further through the city, noting the greater frequency of crowds and cars, of brightly lit signs and smells of food and street vendors. They all promptly fell back into city mode; Julie put on her best tough girl stance. Miranda started moving out towards the curb. Tommy projected his suave sophistication, which worked especially well considering the fact he was wearing a suit. Jimbo held his chest

out and started to walk proud of his heritage. Mike put his sunglasses back on and reactivated all his piercings, just before he turned the corner towards his apartment.

"I'll tell you one thing I won't miss, though..."

## CHAPTER 13

Everyone stopped and looked at Mike's wrinkled expression as he subtly nodded towards his apartment building. There were three black cars with dark tinted windows, surrounded by men in black suits. There were a few of them running inside the building, and the light inside his apartment was on. Mike and all of his friends shared the same look of dismay as they calmly turned the corner back towards Miranda's place. Mike was the first person to snap out of the dismay, seeing as he'd been there before.

"Well, this is just bloody lovely. We've got to think fast. If they know I'm in the city, probably one of the first things they'll do is lock down the airports. Jimbo, get to your plane and make a puddle jump to the municipal airport nearest Miranda's place. Everyone, pack up everything you need and we'll meet Jimbo at the airport. I'll figure out where we're going to go from here."

Mike held his hand up to his ear, listening intently to one of his piercings.

"They're scrutinizing bus passengers, so safest bet is to take the train. Red line out to Miranda's, follow me."

They all went to the nearest subway station. Jimbo parted ways silently towards the airport, as the rest of them headed back to Miranda's. Mike removed all of his communications piercings except for the one in his ear on the police bands. He hunched down into a seat on the train, effectively appearing a full foot shorter. Julie put on a pair of gloves she kept in the pocket of her jacket to cover her hands. They all inconspicuously crowded against Mike as a transit police officer looked around through the car.

Finally, they arrived at the train station nearest Miranda's place. Mike switched on his glasses to see if there was any news about him. Thankfully, there was not; they were keeping this sting very low key. They briskly walked the last couple of blocks before Miranda's house. As they rounded the corner of the brick fence around Miranda's house, Mike ran around the sides of the house looking for any evidence that it had been tampered with. Having found none, Miranda unlocked the door and they went inside.

Miranda's house was dark, the lights seemed a little dimmer than usual. Mike was used to the sensation, but Tommy, Miranda and Julie had never been hunted down like animals, like Mike was accustomed to. Julie and Miranda quickly packed a few sentimental things as well as changes of clothing, when the phone rang. Miranda jumped and screamed, Julie looked ready to attack it. Miranda pulled herself together and ran down the stairs. She caught her breath and calmly answered the phone.

"Hello?"

"Hi, it's Sara, is Julie there?"

Julie growled and ran down the stairs.

"Hi sis, what's up?"

"I've decided that I'm going to train to be an astronaut. I respect your opinions, but at the same time I'm not willing to

give up my dreams..."

"Sara, we'll fight about this later. I'm in a hurry here, so I will talk to you later."

"But..."

Julie pressed the hang-up button and sprinted back up the stairs. She grabbed a couple of photographs of her and her sister, plus an ancient paper one of her birth parents. They'd died in a car accident right after Sara was born. Sara and Julie grew up with foster parents, so Sara hadn't really gotten to know them. She looked also at a photograph of her with a man with short dark hair. She picked it up, looked at it, and threw it in the trash. A look of sentimentality crept across her brow, and she reached into the trash to remove it. She put it in her pocket and grabbed some of her clothing from Miranda's closet. After throwing clothes and toiletries into a duffle bag, she grabbed the totem that Jimbo had gotten for her in Louisiana, and ran back downstairs.

Miranda had been just rummaging through clothing, and as soon as Julie left Miranda dug through the top drawer of her dresser. She withdrew her most prized possession in the world; a note from Tommy, back in college. She opened it and started to read it to herself.

Dearest Miranda,

I've really enjoyed the past several months of hanging out with you. I think you are becoming very special to me, in a way that is at the same time uncomfortable and overjoyous. I think that we ought to...

Miranda was jolted from her reminiscence by a knocking on her door. Jimbo came in out of the rain.

"Es gon' be a fun night flyin', lemme tell ya..."

Miranda folded the note and put it in her duffle bag with her clothes. She came downstairs to see Tommy with a couple of tents that Mike and he had bought during one of their trips to Jupiter's land based chain. Indeed, there were three backpacks full of stuff, presumably camping gear. Mike had been serious about getting out of here.

Alright, looks like we've got everything. I've found an island that nobody lives on which should be large enough for us to operate off of. I've got the latitude and longitude in my glasses. Jimbo, from what I can see of the place there's a big clearing in the middle where you should be able to land the space plane. I say that's or best bet."

Miranda interjected,

"Mike, I don't think there's a person here who doubts you."

Mike stood up, and a tear dripped from behind his sunglasses. Everyone stood shocked; none of them had ever seen Mike cry before.

"I'm sorry to do this to all of you. You going with me means a lot to me. I'm sorry I couldn't be a better friend to you all..."



Yells of objection filled the room. Mike responded.

"Miranda, you are leaving your home because of loyalty to me. You could easily turn me in and not only have your home still, but a nice fat cash reward as well. That goes for all of you. You choose not to, and I appreciate that. I wish I didn't have to put you all in that position of sacrifice..."

Jimbo gave Mike a big hug. Everyone else joined in, as Mike lifted his head to the heavens, feeling the alternating tears of sadness and joy run down his face. The whole crowd dislodged themselves from Mike, and Jimbo shook him.

"Now Mike, snap out of it. We've got to get out of here. I ran into an old friend of mine at the airport who let me borrow his car. We gots ta' hurry!"

Mike shook his head and recovered his composure. He grabbed a backpack, as did Jimbo and Julie. Tommy grabbed the tents, and Miranda grabbed all the bags of personal belongings. They piled into the old hatchback and squealed off into the darkening night.

It was a very somber ride. Jimbo drove quickly into the night, while the other passengers stared out the window at the passing countryside. It had suddenly dawned that this could well be the last time any of them get to view this place as home. Stick figure houses blew by like dust in the wind. Everything melted away in the rain on the windows and the tears on their eyes. Mike stared blankly out the front of the car, passively monitoring all the information he could on his glasses. He had a theory he wanted to test about how he was being tracked, but now was not the time. Now was certainly not the time. Instead, he turned on the TV and the radio and a couple of widely accessed internet news feeds, plus his police scanner. Nothing interesting, not too much noise about him, but that was a predictable tactic to draw him back to his apartment.

Fortunately for all of them, this was quite an obscure, insufficiently funded airport. Security was considerably under par. Jimbo veered off onto a dirt road where the maintenance vehicles came in. They got through to find that security hadn't been stepped up. There were no federal law enforcement vehicles around. Mike's curiosity overpowered his morosity. He perked up in interest.

"Perhaps they don't know about this place? Quite strange..."

Jimbo pulled into the parking spot by the pilots lounge, ran in and dropped off the keys to his friends, a false smile across his face. He came outside and rushed everyone out towards his plane.

Jimbo unlatched the ladder that led into the thorax of the gigantic metal bumblebee. It took only a couple of minutes to load everything up and secure everything for take off.

"Everyone ready?"

Everyone nodded to Jimbo, all still gloomy like the weather except for Mike, still looking for international or federal law enforcement officials to come out to the plane or block the runway. Jimbo turned on his engines and accelerated into the sky. Mike discreetly gave the coordinates to Jimbo as he turned south.

Mike took a deep breath and addressed the crew. He tried to lighten the mood;

"Attention ladies and gentlemen, welcome to flight pi over two..."

He failed miserably.

"We'll be cruising at an altitude to be randomly determined by our pilot and his friend Eulabelle the alligator. We should be arriving at our destination in about five hours, where the local time is currently nine o'clock PM."

Tommy looked at Mike and shook his head. Mike conceded that he wasn't funny and spoke in his non-stewardess voice.

"Alright, well there's some food in the grey backpack if anyone gets hungry. Have a nice flight."

He turned around and sighed. The three in the back sat stoically for a few moments. Miranda sobbed, which Tommy took as a cue. He reached to put his arm around her, to find her not there. She slumped over onto Julie's shoulder, who was crying with her. Tommy sighed and leaned his head against the cold steel wall of the space plane. It would be a long flight.

Tommy awoke to the roar of ion rockets pointed towards the ground outside where he had laid his head. The side of Jimbo's plane had left a painful indentation in Tommy's head. The Kincaid space hogs most certainly weren't designed for comfort. They all stirred as the plane hit the ground. Jimbo turned off the engines and reported,

"Well, here we are. De plane gon' smell funny for 'bout five minutes, but I definitely don't recommend sleepin' here in de cabin."

Mike agreed and walked towards the back to grab one of the tents.

"This is the big tent. We'll put this up and sleep in it for the night, and set everything else up tomorrow morning. Sound good to everyone?"

Miranda, Tommy and Julie nodded drowsily. Mike smiled at them and started to get off the plane.

The sea air surrounded him, a cold breeze against his face. There was nothing to see, nothing except stars and space stations towards the northwest. In the moonlight he could make out trees, sand, and water visible on both sides of them. No other islands for miles. Perfect.

He smiled as he put up the tent. Before long it was up and anchored, and filled with the five of them, having a snack before bed. They ate in relative silence, light snacks like applesauce and graham crackers. It was too late at night for the full meal offered by a bio-bar. As Miranda's stainless steel spoon scraped against the bottom of the plastic container, she sobbed again. Tommy again reached to comfort her, only to be beaten to it by a Julie who didn't notice him.

"I've left everything behind! No more cool New England breezes. No more warm roof over my head, or fellow academians to talk to online, or even hot tea in a cozy house around the table. I gave all that up..."

She sobbed a bit more avidly, as Julie joined her. A soft tear escaped Mike's eyes, as Tommy stared at the floor.

"Yeah," Tommy said, "We've sacrificed a lot for this dream."

"...nightmares?..." Julie whispered, scarcely audible.

"But I think this dream will go someplace. I'm going to miss home, though" Tommy started to cry.

Mike spoke softly, "They've given up everything they have for me..."

Jimbo got fed up at this point.

"I don't know what de hell you all talkin' 'bout! Tommy, what you need?"

Tommy's chin quivered. He looked for an answer, but couldn't find one.

"Miranda? Julie? What you got to cry 'bout? What you messin' dat's so bad dat you cain't be happy here?"

They looked softly at Jimbo as he looked to Mike.

"Hot tea ain't important. Breezes ain't important. A warm roof ain't important. We gots all we needs right here, and dat's good friends. Mike ain't a lab rat right now, an' for dat I'm thankful. Julie, you din't die in de Medlab explosion, I'm happy for that. We all got each other, and dat's all we need! So pipe down, eat yo' applesauce, an' git some sleep."

Jimbo had picked up a little bit of his brother's preaching technique. Either that or it ran in the family. All crying had ceased as everyone ate the rest of their applesauce. Jimbo was the first to sleep, followed by Julie, then Miranda. Tommy sat up next to Miranda as Mike stared off into the oblivions of his consciousness. Tommy softly addressed him

"Mike, Jimbo's right you know. The greatest thing we have on this Earth is each other. Even though we all need our space, the most treasured thing any human being can have is good friends."

Tommy popped his back after a long pause, then continued.

"I don't think I say it enough, but Mike, I am proud, honored, and extremely happy to have you as a friend. It's not a function of how many times you've saved my life or helped me get rich or anything like that. I like you, as a truly noble and outstanding human being."

Mike sniffled as he felt the tenderness of the moment.

"And Tommy, I'm proud, honored, and extremely happy to have you as a friend too. You've always been there for me in the times when I have been needful, and you've always held out for me and stayed beside me through everything. You are possibly the most genuinely caring man in the world, despite the fact that you try to hide it from people and act tough. I like you as a noble, kind, caring individual."

They smiled at each other.

"Mike, that's what friends are for. That and telling their friends to go to sleep when they really need to.

Mike chuckled softly.

"Tommy, go to sleep."

They both snickered as Mike fond a spot on the ground and Tommy laid next to Miranda. It was a while before Tommy went to

sleep. He didn't tell his friends how he loved them nearly enough. This fact gnawed at his conscience, though it barely touched his anxiety. He needed to tell Miranda how he felt about her, but what if she didn't feel the same way? But what if something happens and he doesn't get to see her anymore. She'll have died without ever knowing. But what if...

The what if's kept on flowing, aggravating Tommy's mind to the point of physical discomfort. He closed his eyes, took a deep breath, and laid his arm over Miranda's mid section. In her sleep she nuzzled up to him. Was this just some reaction she had, or was she really cuddling up to him in particular? It didn't matter, she was in his arms. He sighed a deep breath of contentment as he wrapped his arm around her. He felt a tear of joy slide down his cheek right before consciousness left him.

Had he been facing her, he would've seen Miranda's eyes open up as he put his arm around her. She nuzzled over to where he was. Was this just something he did when sleeping next to a woman when he was dead tired? It didn't matter. She sighed a deep breath of contentment as she nuzzled her way into his arms. She felt a tear of joy slide down her cheek right before consciousness left her.

## CHAPTER 14

Miranda enjoyed the feel of wet sand between her toes. She sat on a rock next to Julie and Jimbo. Julie was listening to a conch shell she had found, and Jimbo was staring intently at the sky.

"Ooh, ooh, look!"

"What now Jimbo?" said Julie.

"There it is again!" Jimbo pointed at a cloud formation in the sky, excited. Julie wrinkled her forehead at him.

"Jimbo, Are you sure you're okay? I really think you're starting to lose it."

"Hmm... well, it does bear a little more than a passing resemblance," said a deep voice behind them. They all jumped.

"Mike for someone as big as you are, how do you manage to sneak up on people like that?" inquired Miranda.

Mike grinned and shrugged. He traced the outline of the cloud formation in the sky, approximating a few angles. He could see how it could resemble the shape of the voodoo charm Jimbo had.

"Yeah, I can see what you mean, Jimbo. Either way, I finally got all the rest of the tents set up. Tommy's still cooking breakfast from those eggs we found."

Mike took a deep breath and looked around. The island was so relaxing. They were the only people who knew about it. He was certain that nobody would be able to find him out there. It was a very welcome vacation, a chance to relax. He considered proposing going on a brief swim, but thought better of it. Julie couldn't, because her mechanical arm was heavier than her other arm. Besides, the salt would make everyone's skin dry.

Julie somehow psychically picked up on the idea. She walked onto the small rocky peninsula connected to the island at that spot and dangled her feet into the water. Miranda followed suit, and Jimbo laid down on the nice cool rock and let the sun replenish his spirit.

"Breakfast is ready whenever you guys are!" yelled Tommy towards the shore line. He stood outside a large tent, the one they'd all piled into the night before, with a large frying pan and a wooden spoon. There were shells of eggs and coconuts strewn about, from Tommy's experimentation to find the right mix of food to make something palatable. They would've feasted on bio-bars, but they still had that problem with the taste.

Tommy removed the frying pan from the cooking fire, still stirring. Everyone brought out their bowls and Tommy served lumps of scrambled eggs.

"Hey Tommy, what's the pink stuff?"

"it's the root from those plants over there. It's edible, I tested it," said Tommy as he pointed at a small chromatography machine beside the tent. The roots had a sweet grainy texture, which when combined with the shredded coconut and scrambled tropical bird egg made a pretty good meal.

"My compliments to the chef," said Mike, "Where'd you learn how to cook like that?"

"I grew up in the midwest, out on a farm, a very rural community. A lot of times as part of my chores I'd have to go out to the hen house and gather eggs in the morning, then I'd cook breakfast.

"But what made you think to put coconut in it?" asked Julie.

"Oh, after a while you get a sense of what tastes will go together.

"Well I think the pink stuff is what makes it. Could I please have seconds?" asked Jimbo.

"Sure thing, eat up. I probably made too much of it anyway. Mike, do you know what that plant is?"

"No clue Tommy, and I'm not about to look it up. My connection isn't too good out here anyway, and I don't want to risk being tracked to this spot. It is pretty tasty, though."

"Tasty, like the gig we pulled up on the station with the stock market..."

Mike and Tommy laughed.

"Man, I will never forget the look on that guy's face. That last 'which is what I probably ought to be doing now' that you threw in was pure brilliance."

"Smooooooth..." Chuckled Julie.

"Yeah, Tommy can do smooth when he really needs to," said Miranda with a smirk towards Tommy.

"Hey now..." Tommy started to defend himself.

"Oh-ho, do I hear a story here?" Mike jumped in. Tommy cupped his head in his hands as Miranda and Julie laughed. Miranda caught her breath and pointed at the embarrassed and laughing Tommy.

"Captain Stoic here comes up to my house when we haven't seen each other in ages, and I see him out the window... He's standing there trying to look all tough and strong and the like... and as soon as I open the door, he squeaks and keels over..."

Tommy threw his head back in laughter, falling off of the rock he was sitting on.

"So I drag his scrawny butt to the couch, and when he comes too, he's got this look on his face like, 'OOOPS!'"

Miranda's Tommy impersonation floored everyone else too. They were having a wonderful time. They all started to catch their breaths, when Julie looked to Miranda.

"Hey Miranda, you remember when we met?"

"Oh god, that was so scary!"

"Well I really did think that you were trying to get with him! I was just trying to make sure that you knew, in no uncertain terms, that he had a girlfriend."

"But the problem was that I didn't even know who he was, just some guy who kept looking at me. So you come up to me and throw me against the wall..."

"Yeah, I had a bit too much to drink that night..."

"Then Tommy comes up and tapped you on the shoulder and..."

They all keeled over laughing again. Miranda resumed through the laughter,

"Tommy says, 'umm, excuse me ma'am?'"

They all lost it completely at that point. Mike noticed through the hysterics that he was shivering, despite the warm morning sun

"Hey Tommy, do you still have the chromatograph on the machine from those roots?"

"Yeah Mike, why?"

Mike got up, a little bit shaky, and walked over to the machine. He looked at the screen on the front and opened his eyes wide.

"Hey Julie... come look at this..."

Julie got up and promptly fell down again, jittery. She dragged herself back up and went to the chromatography machine with Mike.

"It's edible, but... that has to be one of the most powerful stimulants known to man!" exclaimed Julie.

"That's probably why we're all shaky. And look at this spike over here..."

"That would probably give Euphoric properties. Hey Tommy, just so you know, before you feed us any more interesting herbs, would you let the two biochemists take a look at the chromatography machine sample before you feed it to us?"

Everyone laughed and sat around the embers of the cooking fire, trying to calm themselves down. Mike went to the tent and got a few canteens to pass out against the dry-mouth. By early afternoon, they were all under control again.

"Well, that was certainly an adventure. I think we ought to harvest some more of that root, and just be sure to take it in smaller doses. Could be useful. Anyway, we've got a lot of planning to do."

"Right," said Tommy, still twitching occasionally but generally under control, "We're obviously going to have to build this in space. We've got the money for all the required parts, the hard part is going to be building it without getting other people in on the project."

"How big is this going to be?" asked Jimbo

"Well, the ship itself is going to be about 50 meters long."

Tommy started drawing sketches in the sand.

"The difficult part will be the tachyon sails. They're going to each be a 50 meters long and 20 meters wide, so we'll be using eight of them. We're going to have some fairly heavy support beams going from various points on the sails to the nose of the ship, because they're going to be sustaining Herculean amounts of stress."

"Herculean, Tommy?"

They all started chuckling again, but promptly cleared throats and resumed.

"The bracing assembly on the top here will mount to the top of the cockpit, so that you can see where you're going, and we'll have the gravity arms between all the sails like this."

"Looks good to me," said Mike, reviewing the sand drawing, "we'll need to find some base of operations. We can probably do it from the cargo bay of Jimbo's ship. We'll build the crew cabin

first, so that people can be left up there while we are returning here for more supplies."

"Guys, I think you're forgetting one crucial thing," Julie interrupted. They all looked at her quizzically.

"This ship is going to be a hundred meters wide and fifty meters long. How long do you think we could go before somebody notices that we're building something?"

"Hmm, the plot thickens..." mused Mike, "Well, I know there's a lot of abandoned stations out towards the Pacific, maybe one of those could work as a base of operation and some cover?"

"Good idea," said Tommy, "I think there's some old research stations that way... wasn't the original Chemlab over there?"

"Yeah, before they built their current station over the midwest. But they still do some work there, a little bit of the more secretive research."

"I was pretty sure that the facility is completely abandoned." added Tommy

"That's what they'd like you to believe." Mike said with a menacing grin.

"I remember shipping some things to a bio-bev knockoff company down towards the equator once or twice, and I'm sure they went out of business." said Jimbo.

"Are you talking about 'endorphinade?' No way Jimbo, I wouldn't be able to put up with the smell. That stuff was vile."

You don't know the stuff they were putting in that. I shipped it. Believe me, you're right, it was vile."

The guys continued to talk, going through old memories of different places they'd heard of or been to that had been abandoned. Julie and Miranda sat in the background, listening.

"Julie, are you thinking what I'm thinking?"

"Yeah, men can be really silly sometimes."

They chuckled amongst themselves. Miranda stood up and addressed the entire crew in her most sarcastic mother voice.

"Boys, boys, I've got an idea. Why don't we get in the plane, go up, and actually take a look around?"

Everyone was quiet. Mike, Tommy, and Jimbo were looking steadily more and more sheepish, till Mike just burst out in laughter.

"Ahh, Miranda, what would we do without you?"

Miranda spread her lovingly smug grin to the whole crew. Jimbo chuckled, shaking his head, as he walked over to his plane to fire up the engines. On some distant shore, someone heard faint thunder.

"Alright, we'll start over Hawaii, and scour back and forth from the pole to the equator looking for abandoned stations, we'll catalogue them, and then sort through them for feasibility of..."

Julie cut Mike off.

"Mike, less words and more action. Let's go"

"Good call." Mike grabbed his giant gator-head juju and walked with Julie to Jimbo's plane.



## CHAPTER 15

They all boarded the plane as Jimbo vectored the thrust downwards and lifted them off the island. It grew to a smaller and smaller speck below them, as the contrast between the sun and the sky grew sharper and sharper. Before long, The sky had darkened to completely black and the sun shone a brilliant pure white. Jimbo darkened the windows on that side of the plane.

"Alright Jimbo, I'm going to take a brief look on my glasses to see if I can find any leads. Take us towards that cluster of stations so I've got cover." said Mike.

"Mike, aren't you being just a little bit paranoid?" asked Julie.

"Please, for me?"

Jimbo turned the plane towards a cluster of space stations. Since the invention of the MIR runabout ship, space stations had usually been built in clusters, effectively like the strip malls of a half century before. Central to all of them there were "parking garages" which looked like giant neurons, with docking ports all along the arms. Towards the center, there were a few more docking ports with larger runabouts, "busses". They would ferry back and forth between their respective businesses 24 hours a day, once every fifteen minutes. Mike had selected that particular cluster of stations because its garage had the most runabouts parked around it. There would be the most people using their connections, and so there he would have the most white noise cover from someone trying to track him.

As soon as they were close enough, Mike put on his glasses. They booted up, and he opened his storage drive, just for security's sake. To his absolute dismay, he found that a few files had been altered, and one added. He deleted all the added or altered files, and tried not to let it bother him. Search window after search window after search window, he kept on noting references to a "Port Starboard Inn" It took him some digging to find a location, and by the time that he did, he noted the same hacker following his trail.

"Hey Jimbo, you got extra space on this ship's computer?"

"Yeah, why?"

Mike floated up to the front and started uploading his crucial information to Jimbo's ship's computer. He put his glasses back on, clicked his tongue around rather rapidly, then grinned.

"Alright, Jimbo, where can I jettison these?"

Everyone looked at him surprised. Jimbo looked at him quizzically, but figured that Mike must have really good reason for it.

"There's a supply hatch up at the top of the ship. It's got two doors on it, so you could put it on top of the bottom door, close it, then open the top."

"Cool."

Mike floated towards the back of the cabin and up to the small hatch on top of the ship. He placed his glasses inside,

still on, and closed the hatch. There was a hiss of air, then silence.

"Alright Jimbo, carefully lower us down a little bit and take us over Greenland. There's a 'Port Starboard Inn' that hasn't been used in years, that might be our best bet."

Julie was still confused by Mike abandonment of his sunglasses.

"Mike, why did you..."

"The same hacker was after me again, so I set up a random search routine for cooking supplies, as well as a sequence of signal switches between satellites, and released the glasses. If they try to track my signal, they'll find the glasses, and they're still giving off signals as though I was controlling it. Hopefully we jettisoned them in time. I'll get a new pair of glasses later, we've got the money now."

Jimbo's giant metallic bumblebee drifted out towards the northern oceans of Earth at inconspicuous speeds. The clusters of stations grew further and further apart. Jimbo shut off his engines so as not to create any bright lights outside of where people would expect to see ships. More stars were visible the farther out they went. This was part of the wonder of space that people hadn't really known since the space boom.

Out beyond all the blaring artificial lights of the clusters of stations, there were more dark, archaic stations. They floated like cars in a floating junkyard. All had rich stories and histories, laying there, dormant, dreaming. Some still had people living in them, derelicts living in derelicts, communes of arch-substantialists, but mostly the stations were empty. As they neared their destination, they noted a dim, beige light up ahead. As they got closer, Mike broke the silence.

"My, that's... quaint..."

The station had a sign on the "roof" which read "Port Starboard Inn" in big, old English lettering. It was constructed in much the same way as the houses in Miranda's neighborhood, except this looked like a real Tudor house. The support beams were huge, the walls were made of aerogel several feet thick, and the windows were all fairly small and porthole-ish. This had obviously been built a long time ago, back when people were still afraid of space. This was also built to survive centuries if need be.

Jimbo fired his thruster rockets to guide the ship into the one docking port. They jockeyed into position, matching the rotation of the hotel, and slowly drifted down until they heard a resounding metallic 'thunk'. Jimbo worked more controls, causing myriad hissing and whirring noises. Then there was silence. And artificial gravity.

"This must've been designed back when the old busses were the only things available, with the ladders down the floors." remarked Jimbo as he climbed over the seats of his plane towards the hatch. Everyone else followed to find one of the truly ancient hatches. No one person could open the hatch. There were four buttons which needed to be pushed simultaneously to avoid accidents. Mike

reached for two on the bottom, Tommy reached for the two on the top, and the door slowly slid open. To their surprise, the station did not show any of the signs of disrepair that they would normally expect in a derelict station.

"I suppose it's possible that the garden managed to tend itself? There might be some really old goats living here, living in symbiosis with the plants?"

"No, notice the temperature. This place has been kept livable, and there isn't really any evidence of condensation having formed. I say there's probably someone living here," added Tommy.

"But you always hear whispers about the abandoned stations that are inhabited by communes or other people. I've never heard of this place before, ever," said Julie, walking slowly along the outside wall of the station.

They all followed Julie, exploring all the rooms, just to see if anyone was there. They were all starting to agree that the place may well be abandoned, when Jimbo jumped.

"Did you hear that? what was that?"

They stopped and listened, and heard a faint thumping noise, like somebody climbing down a ladder, very slowly.

"Well, it's possible that a rogue group of substantialists found their way out here," mused Mike.

Miranda answered, "But Mike, substantialists would be inhabiting the outer rings of the station, where they can use some of the natural sunlight. Plus, there wouldn't be a single bit of empty space. It would all be used for more plants or space for animals."

"I guess the only other alternative is that this could be the home of some rogues of another sort, though I'm not sure why they'd be all the way out here," said Julie

"Well, if my memories of history serve me right," responded Mike, "the only people who weren't substantialists who inhabit abandoned space stations tend to be the incurably insane. They don't tend to be too friendly, so I'd say we ought to be ready just in case anything happens."

Sad servos whirred faintly, sliding open a door around the corner towards Jimbo's side of the group. Jimbo looked terrified.

"Or maybe... maybe dere's a ghost!"

Julie quivered and grabbed the cross around her neck through her shirt, "Oh come off it, Jim..." She stood petrified.

Around the corner came a decrepit, pale old woman. She had deep sunken eyes, grey hair, and ghostly pale wrinkled skin. Jimbo started babbling incoherently, Julie started rattling off prayers. The whole crew stood, also pale and ghostlike. There were very few stories of haunted space stations outside of elementary school playgrounds, but there were also very few stories about the Port Starboard Inn. Perhaps the reason the place was abandoned was because of the ghostly woman who stood before them

## CHAPTER 16

The old woman jumped with a start.

"Heavens, I thought I heard someone down here! I... well, welcome to the Port Starboard Inn! You don't have any reservations, obviously, but ummm... would you like to rent a room?"

Mike was the first one able to talk. The old lady was very friendly and amiable, but she looked gaunt, ghastly, and somewhat surreal. From the looks of it, she'd not been on Earth for several years.

"You'll have to pardon us, we thought this place would be uninhabited. The few references to it we found were quite obscure."

"Oh, doesn't surprise me. It's been years since anyone's come out this way. My husband started building this around the beginning of the space boom, when all the big name hotels started putting up all their luxury hotels. We thought that tourists might enjoy living the substantialist lifestyle, at least for a little while, but of course they all flocked to the big luxury places that wait on you hand and foot. Plus, the money he'd saved had just about run out when the place was finished, so we didn't have an advertising budget. This place fell by the wayside of the public eye, and it used to be just me and my husband living here. He passed away several years back, and I've been alone here for about six years now. No business, just me and the goats and the plants."

Jimbo had regained his nerves and let out a deep sigh. Everyone else did the same.

"So much for the place being abandoned," said Miranda to Julie.

"Well whether you're going to stay for a few nights or not, please come have dinner! It's been years since I've had company, I'd be most thrilled to eat supper with guests again."

Tommy looked at Jimbo and Mike, and shrugged.

"Who would I be to refuse food?"

"you certainly wouldn't be Tommy," said Miranda as she patted him on the stomach. He grinned, then frowned, then walked after the old woman. Everyone else followed.

The old woman, Alison was her name, proved to be an amiable companion and an excellent cook. They had steamed vegetables with an unleavened, no bake bread. She had prepared a sauce from the goats' milk, along with some herbs and fruit juices, which was most tasty. They had very pleasant conversation over lunch/dinner.

"So, why don't you tell me some more about yourselves? No offense, but you are a very... distinctive... group of people," said Alison.

"Well, my name's Mike," said Mike, "and I used to work for Genesmith. I left there a while ago, and have been looking for work for a while now." Mike had managed to catch himself without any obvious pauses. Keeping secrets is difficult work; he had to

be sure not to expose himself.

Alison looked at him quizzically for a few moments, before her mouth brightened into a smile. She winked as Mike gulped.

"And how about you? That looks like an older prosthetic eye..."

Jimbo blinked a couple of times and responded,

"Yeah, it was the first of its type. I'm Jimbo, I was a pilot for Kincaid, the only one to have a major accident..."

"That was you?! Heavens, my husband and I watched your whole descent! You are an excellent pilot, I'm sure everyone else tells you the same!"

Jimbo graciously bowed his head. Alison calmed down and continued her respectful inquiry.

"So, you're a first class pilot, but what else?"

"Well, umm... I'm from Louisiana,"

"Which explains the voodoo charms, but continue..."

"That's really about it. All my life I dreamt of being a pilot, because my dad and granddad were pilots, and the idea of being free out in the open skies just appealed to me."

Alison looked at him respectfully.

"I understand the sentiment."

She looked further around the table to notice Miranda looking at the upward curving floor, swaying slightly in the direction of rotation of the station.

"Well honey, looks like you don't travel to space all too often... what's a landlubber like you doing all the way up here?"

Miranda smiled, sheepish.

"I'm a primarily earthbound physicist. My name is Miranda, and I'm up here with these guys trying to... gather some information for research on... on gravitational phenomena."

Miranda was looking incredibly uncomfortable at the old woman's amusement. Mike squirmed a little bit to try and figure a way out of this one, but Alison simply smiled and continued on to Tommy.

"And you look like a more space hardy young fellow. Do you work up in space often?"

"Yeah, I work for Catkins engineering. Name's Tommy. I was one of the designers at work on the MIR project..."

"an excellent piece of machinery, by the way..."

"Than you! We don't do much design work anymore, because the MIR is still selling quite well. Nowadays we mostly do construction of MIR spacecraft and accessories for them."

"I see. So you guys haven't put out a new model yet?"

Tommy grinned. "Haven't needed to."

Alison turned her head towards Julie. She briefly considered making a friendly joke about her being really colorful, but decided against it. She could see in Julie's eyes that she was sensitive about it all.

"And how about you? You look like you've had rough times..."

Julie smiled softly towards the table, a smile full of sadness.

"I used to work for Medlab. I lost my arm in the explosion

of '44."

Alison's eyes grew cold and sad.

"You were that lone survivor."

"Yeah."

Alison blinked a couple of times and looked back towards the rest of the group. She perked herself up and addressed the whole group.

"Well, you are all welcome to stay here. It's not like I've really got much use or desire for money these days, so you can spread out as you like. We... I... don't have too much in the way of luxuries here, but there's a ricochet court in the center of the station to the left of the gardens. Observation deck is to the right of the gardens, up by the roof area. I'll be around if you need me."

Miranda pushed back her chair and stood up.

"The observation deck is probably really pretty,"

"Yeah, think I'll go do that, too" replied Tommy, sensing that Miranda was about to say she was going there. Miranda smiled and bit her lip as Tommy got up with a sense of repressed urgency. He smiled at Miranda and started walking towards the roof section of the hotel.

"Hey Mike, you wan' go play a quick round o' ricochet?"

Jimbo addressed Mike, half kidding and half serious. Mike looked at him and smiled.

"Oh, this ought to be fun..."

Mike pushed himself towards the wall in such a way that he wasn't rotating with the rest of the station and was in free fall again. He bounced off the wall and into the hallway as Jimbo grumbled to himself about his stupidity and wandered out the door. Julie still sat at the table, looking through the window on the floor at the moon. Alison took some plates back to the kitchen, then came and sat down next to Julie. She had a subtle, shy expression which was almost completely indecipherable. It was dark, that's all Julie could really say, looking out the corners of her eyes. Alison addressed her.

"I remember the Medlab explosion rather explicitly."

Julie felt mildly indignant. Had the old woman not had that hint of loving sadness in her voice, Julie might have gotten angry.

"I remember it very explicitly too, probably more than you do."

She didn't really mean to be rude, but wasn't about to apologize for it. What exactly was the old woman trying to do, bringing up nasty memories like that?

"My husband and I had been working on this hotel, when he went to go do more work."

Julie looked at Alison, slightly irritated and more confused than anything.

"He was a freelance engineer, had been up here since the early days of space exploration. He was the best of what he did, all sorts of companies would hire him to do research and design things."

Alison paused, staring at the moon along with Julie. She sniffled and wiped her eye, pausing for a few more seconds to regain composure.

"The last day I saw him, we had a big fight. I don't even remember what it was about now, it was pointless, but we were both angry. He stormed out and went to his next contract... on the Medlab station."

Julie suddenly felt extremely guilty for being so rude to Alison. Pang's of survivor's guilt augmented the feeling which was steadily causing Julie's head to sink between her shoulders.

"Alison, if you need to talk, I'll listen. I mean, I know you have some resentment for me because I lived and your husband didn't but..." Julie trailed off. She had absolutely no idea what to say.

"No, it's alright hon. Everything happens for a reason, I just haven't figured out why he died yet. But thank you for listening.

"We met in the summer of 2013. My husband was speaking about substantialism at the university I was attending at the time. I talked to him after he spoke, and we exchange email addresses. After a couple of years of conversation, we decided to get married. I studied biology and botany, and I worked in space stations as a freelance gardener. We'd always plan our vacations together, making sure we'd be off at the same time. when the space boom was imminent, James decided he wanted to build a space hotel..."

Julie's attention crashed against the name. James? Could it be the same James that had assembled the radio and saved her life? Could this be the wife he was talking about? Julie focused her attention back on Alison's words.

"We had the place almost completely built when we had a little tiff about something. I don't know, it was some stupid argument, but he got so angry! I figured he was just having a bad day or something, but he just stormed out and went to fill his contract at Medlab. I actually watched the explosion out of that window while I was eating lunch."

Allison sobbed and laid her head down on the table.

"I never even got to say goodbye! I never even got to find out why he was so angry, or what was going on, or anything!"

Julie put her hand on Alison's shoulder, curious. She opened up her wallet and pulled out a crinkled piece of paper she'd been carrying with her for six years now. It was the picture James had given her of his wife. She hadn't looked at it in a long time, but...

Julie opened her mouth to speak, but had no idea what to say. A tear came to her eyes. She remembered the hollow sadness in James's voice when he died. He was more sad about not getting to see his wife again than he was about losing his own life. His dying request had been for Julie to find his wife and tell her that he loved her. Now here she was, a decade or so older than the woman in the picture, but otherwise identical. Julie struggled for words, until she squeezed out,

"Alison, your husband saved my life..."

Alison sat up and looked at Julie, confused. She followed Julie's line of sight till she focused on the picture and gasped. She stood silent for a little while staring at the picture. Julie spoke.

"Three of us had landed in that supply closet where I was rescued from. It was Wesley, an older man named James, and me. Wesley died pretty soon afterwards, after half of his body was ripped off. James took a plastic bottle through the back. We'd have all died instantly had he not slowed it down, because it almost ripped a hole in the back wall. I patched him up the best that I could, with what medical knowledge and supplies I had.

"James started digging through the medical supplies then asked me if I had a hair pin he could use. I watched him put it all together, until he said 'voila!' and showed Wesley and I how the radio worked. We kept sending SOS signals, taking turns sleeping, till one day I heard James moan. He'd lost too much blood to go on, and he told me..."

Julie started crying along with Alison.

"With his last breath he said 'This is going to be the most important thing I ever say Julie. If you make it back to Earth and live... please find my wife and tell her that I love her...' Then he gave me this picture and he died. I never found out your name from him. But here I am, I've found you, and that's what he wanted you to know. Alison, James loved you very much."

A tear rolled down Alison's cheek, as her mouth turned into a quivering smile.

"Thank you..." she whispered.

Julie gave Alison a really big hug, wide eyed in amazement. This was all coming together to cleanly for anything to be coincidence. Miranda's warp drive coming from her dismemberment? And now, of all the places they could've landed to look for a place to build the ship, they found the one place with the woman she'd been looking for for the past six years. She stared off behind Alison through the doorway as she saw Jimbo walk back into the room, covered in sweat.

"Hey, where we git water... oh..."

Alison stood up and looked at Jimbo.

"It's okay hon, they're happy tears. Turns out that my husband died in Julie's arms after saving her life..."

Jimbo's eyes bugged, at which point he looked at the voodoo charm the woman in Louisiana had given him. Julie had her cross necklace out and was fondling it. Jimbo stood straight with an expression of awe in his face.

"Well, if I wasn't convinced before, I certainly am now. There has got to be some divine purpose behind all of this."

"All of what?" asked Alison.

Julie was in shock, her lower lip quivered because she was so freaked out. Jimbo walked over to her and Alison.

"Dis a miracle. A straight from God miracle. It all has to be."

Julie snapped out of it.



"Jimbo, I'm sure Mike kept you abreast of political goings on right now? This world is about to crumble in on itself, and here it is that right on time Miranda invents a means for humanity to spread itself before it destroys itself..."

"My brother said de same thing, Julie... did I tell you 'bout when I went downtown to see de voodoo priestess, and she said it was destiny for us to travel to another star?"

Julie's brows perked in curiosity.

"She specifically mentioned the colorful woman, the giant with a dozen minds, a boy who builds things, a woman with hair like fire, a young man who builds things, and a one eyed pilot. She said we need to do this for all humanity..."

Julie held the cross around her neck tightly and spoke,

"I will keep you safe in the time of trial which is going to come for the whole world, to test the people of the world. Soon I shall be with you: hold firmly to what you already have, and let nobody take your prize away from you..."

"Revelations 3:10, right?"

Julie looked back at him, snapped out of her trance. She put her hands firmly on Jimbo's shoulders.

"No Jimbo, this can't be coincidence. We've got to step out of this universe, into God's domain... We go through the kingdom of God to be preserved!

Alison looked between them, confused. Jimbo and Julie looked intently into each other's eyes.

"The scriptures..."

"And de voodoo priestess..."

"And coming to the place where James's wife lives..."

"And a partridge in a pear tree?"

Mike had come up behind them as they were sharing their religious epiphanies. They took their hands off of each other and straightened themselves out as Julie scowled at Mike.

"Dammit Mike, you can be so insensitive."

"Me? Timing?"

Alison still looked awestruck and extremely curious.

"Well, I can tell from the conversation that something big is going on, but I've still no clue what..."

Jimbo and Julie blurted it out almost in unison. Jimbo realized nobody could understand his excited babbling, so he let Julie finish the thought.

"We are building a spaceship capable of faster than light travel. We were looking for a place out of the way where we could build the thing so that the wrong people wouldn't get a hold of the technology. Fate led us here, to your station, of all the stations we could possibly have found."

Mike looked panicked for a moment, then sighed as he realized that there was no use trying to hide it from the old woman any longer. Alison looked at him and smiled.

"Mike, don't shake your head like that. You can build the spaceship here by my station."

Mike looked around, not entirely sure what was going on, but not about to look the gift horse in the mouth.

"Alright, well we ought to get shopping then! Tommy gave me specs, but I assume he's still busy right now. Jimbo, do you know where you can find this stuff?"

Mike handed Jimbo a list of materials and technical specifications. Alison was looking over his shoulder when she smiled.

"Wow, that's going to be expensive. I think there might be a better way..."

Mike looked at her quizzically as she walked over to a nearby room and rummaged around for a little bit. She presently came out with a notebook. She flipped pages for a little while, then addressed Mike.

"As I was telling Julie, My husband was an engineer. He did everything to ridiculous safety factors, insuring this place would still be around for the end of the cosmos."

She handed Mike the spec sheet, and he compared it to the one he'd given Jimbo. He looked down at it and Smiled. Alison cocked her head and grinned.

"Since I don't get all too much business anymore, I wouldn't mind selling you the station for a small price..."

Mike was familiar with the language of commerce. He cocked an eyebrow.

"Define 'a small price'."

"Oh... just letting me come with you."

Julie looked at the spec sheets Mike was holding. Every structural specification met or exceeded what the ship would need.

## CHAPTER 17

Tommy and Miranda couldn't tell who was following who over to the promenade. They gave each other confused looks every so often while the other wasn't looking. Their faults were that they were both really shy people at their core. Even though they were both thinking the same thing, neither of them knew how to express it to the other. They each tried to read the other while making sure not to be read by the other.

While they certainly didn't feel peaceful, they managed to look it. They leisurely strolled towards the "roof" of the station. While it was designed to look like a Tudor house, it still had the same basic cylindrical shape common to the older space stations. The base of the cylinder, which looked like the foundation of the house, was pointed towards the Earth. This area of the station housed all the communications equipment, emergency supplies, filtration systems and a first aid area in case somebody got injured. This area of the station also contained all the power supplies for the station. Any solar electricity not used was stored in batteries in this level of the station. Essentially, all the things which were not aesthetically pleasing were kept in that area, affectionately referred to as "the basement".

The other end of the cylinder, consequently, was known as "the roof". The roof consisted of clear aerogels and buckyball wire reinforcements. It was irregularly shaped, with some opaque areas inside dormer window assemblies. Aside from those, the crystal clear aerogels sloped uniformly to a point on the rotational center of the cylinder.

What appeared from the outside as the walls of the house were actually the floors for people inside. The support beams were made of dense aerogels reinforced with buckminsterfullerene cables. Buckyball cable was the only thing with which you could run a strand down to earth and hold the other end onto a space station. Anything else would shear under its own gravitational strain. When you got a bunch of these cables together and essentially 'wove' them correctly, you had supports which were flexible and nearly indestructible.

Most of the stations built after the space boom were more disk shaped than cylindrical. The old cylindrical stations had to be stabilized in their axes every five years or so. Port Starboard Inn was an exception because the center of mass for the station was actually within the heavy metallic disk at the Earth end. Compared to the solid base that it was built on, the masses of all the aerogels and carbon derivatives were negligible. Besides the elongated shape, the internal design of the Inn was fairly standard; it was a design that worked, so it didn't need to be altered.

If you looked at a schematic of the station from the top, it looked like layers of concentric cylinders. The outermost cylinder of the station was where the majority of the rooms were. Sleeping in zero gravity was always highly overrated by people who

were normally Earth bound. You don't get to nestle your head into a pillow in zero-gravity. There were a few rooms towards the center of the station with no artificial gravity, but even in the "heyday" of the hotel (It had never been a particularly popular place), those rooms never stayed occupied for more than a night. Closest to the roof was the observation deck. It was dark, so that people could watch the stars. The aerogel "glass" used the same technology as Jimbo's space plane windows. A computer could detect which seats were occupied, and darken the area of the glass from which the person in the chair would be getting direct sunlight. The viewer could then sit and enjoy the corona of the sun, as well as still have a clear view of all the stars in deep space.

The central segment of the station had two concentric cylinders. The outermost one, right on top of the hotel rooms, was the dining, recreation, and cooking area. There was a small stage which had never been used on the wall towards the kitchen. The recreation area had a bar and a bunch of small round tables with high chairs, surrounding the stage. It was like a club, except for the fact that down was not quite the same direction for you as it was for the next person. The Port Starboard Inn was one of the few space hotels left with actual alcohol at the bar. Only the oldest space hotels actually had a bar stocked with alcohol because gravity is a difficult enough concept when one is intoxicated on Earth.

The next room around the cylinder was the kitchen. It was a fairly normal kitchen, run off of power from solar cells cleverly placed so as not to detract from the rustic motif. Since the kitchen was the smallest room, there weren't nearly as many problems with deciding which way was down. In the kitchen was a ladder leading into the innermost cylinder, the garden. This is where vegetables were stored as opposed to a refrigerator. In the very center of the small garden cylinder was a pole like array of organic LEDs emitting on several frequencies, including ultraviolet. Had they been fluorescent light bulbs, they would've burned out and Alison would've starved long ago.

The food supply, particularly the fruits for the hotel were kept in the center of the station where the station's rotation caused the least amount of artificial gravity. Having less gravity, more of the nutrients could be devoted to the fruit. The fruiting plants were held back from the light directly by a thin metal screen surrounding the lighting array. All the leaves were pressed against this screen, and the fruits were usually just underneath them. For more ground based fruits, such as strawberries and raspberries, Alison kept some of the leaves of the taller plants trimmed back to allow light through.

On the other side of the kitchen were two doors. One led out into the dining room, and one led into a secondary sort of garden. There Alison kept a community of goats, along with the vegetables and the goat feed. The goats provided fertilizer for the garden, as well as providing proteins with their milk and the associated butter and cheese. The vegetables were kept in stronger gravity

so that the stalks or the roots of the plant would be thick and sturdy. With a little bit of legwork between the two compartments, the station had a fully functional ecosystem. There were enough plants in the middle of the station to produce oxygen for up to 100 guests.

Towards the Earth end of the station was the ricochet court. It was another wide cylinder, except this one with flat ends and goals. It was like a large gym. Ricochet was a game much like indoor soccer, except played in three dimensions. The sides of the room were padded with coarse cloth to provide a good grip for people to jump off the walls. There were windows towards the top end, so that people eating could look in and watch the ricochet games going on. The walls had the rings drawn around their circumference which marked the mid field line and the penalty lines. Aside from that it was a very nondescript room.

There was a small door leading to the roof which Tommy courteously held open for Miranda. Tommy followed Miranda through the door and shared her expression of reverent awe. Very few humans in history had ever beheld such an awesome spectacle; the pre-space boom astronauts, the derelicts and arch-substantialists in the abandoned stations, previous guests at the hotel, Tommy and Miranda. The grey disk of the milky way was clearly visible, dotted with flashing quasars and colored patches of nebulae. The two unwitting lovers wanted nothing more than to spin more beautiful universes from the colors of each others' eyes. They looked at each other in the darkness, on the verge of telling each other how they felt. Miranda walked towards the windows and sat down on a love seat built onto the floor of the hotel, just in front of the windows. Smooth words failed to escape Tommy's lips, so he just walked over and sat down.

"This is it," he thought to himself. His friend the frog chimneyed up his windpipe, with the threat of making anything he said sound constricted and high pitched. "It's okay," he thought, "no pressure, if she didn't still like me she wouldn't have asked me to be the one to do this... at least I don't think so..."

Tommy ran around in mental circles trying to calm himself down as Miranda twirled her hair with progressively more torque. She had no curious frog to worry about climbing up her windpipe to see what was going on. Instead, she had a pair of hamsters wrestling in her stomach. No butterflies for her. She tried to reason through all the evidence to determine whether or not Tommy still liked her. She thought to herself,

"He wouldn't have fainted upon seeing me if he didn't still like me. And that look in his eyes when I stood up, that was also the look of someone who is still interested. But what about what he said that last night we were together? 'Be yourself, don't let nagging thoughts of me back over here in the states bring you down...' That definitely sounded to me like a 'you're not going to be close enough for me, so let's see other people' thing. But I've seen other people, and I'm sure he has too, but I still love him..."

She kept running in mental circles, watching Tommy tap his

foot nervously. She had to say something. They both started speaking simultaneously and stopped, waiting for the words of the other.

Tommy knew what he had to ask. He didn't know how to phrase it, it was more like a series of colors and physical sensations flickering from his heart. How to translate into English? 'I feel like I'm dangling off of your eyelashes, deciding whether or not to dive into the pools which are your eyes?' 'I've regretted not sharing the past several years of my life with you, and I'd like to start making up for it?' No, none of that. But he had to say something. Tommy braced himself, sat up, and prepared to give a stunning oratory,

"So... How's life been?"

Wasn't quite what Tommy had hoped would come out of his mouth, but it seemed to have a profound enough effect on Miranda. She gauged Tommy's question and body language; did he just try to say something big and important and was too nervous to say anything other than what he did? Or does he just not really care, and he's trying to be polite? She looked at his inquiring eyes and decided that no matter what he meant by it, she needed to give him a response. She built herself up, edited together all the details of her life that Tommy would want to hear, prepared it into a dramatic monologue, and spoke as boldly as she could,

"It's been alright, you?"

Tommy was caught off guard by this. What, it's my turn again? Now Tommy would actually have to give her information. What to say? He was deathly scared that something he might say would make her run away. He didn't want to screw this up. He refused to. What's he been up to that would be safe to talk about? But just staying safe wouldn't get him anywhere, and he knew that. But it was a lot less scary.

"Well, I've been working a lot, and... yeah, pretty much just working."

She looked up at him as he tried not to melt in her warm, glowing gaze. He wasn't going to melt; he wouldn't let himself. He wasn't going to make a fool of himself, or set himself up for anything too awkward if she started talking about her boyfriend or something. He would analyze all the information, and figure out for sure if she was still in love with him or not.

Miranda watched Tommy trying to be hard. He didn't do it too particularly convincingly. But what was he holding back? Was he going to explode at her about abandoning him and running off to England, instead of going to grad school someplace on the East coast? Or was he trying to confess his love but was unable to? She had insufficient data. She decided to take a stream of words and launch them at the dam, hoping it would break.

"I'm becoming quite the eternal student these days. Lots of lab work... grading papers... inventing faster than light travel..."

She giggled uncomfortably, then stomped on her own toe to stop herself. She sat up and regained her composure, looking straight ahead out into deep space while gnawing on her lower lip.

Had she just made a fatal slip? Did that giggle just give her away? She glanced at him from the corner of her eyes, and decided she hadn't. She wasn't about to make a fool of herself if Tommy started talking about having a girlfriend or anything like that. She'd hold her ground and pass it off as nothing if that were the case. She wasn't going to break down in front of him.

Tommy stayed in place, looking at her as she stomped her foot on the floor and stared straight ahead. The joke about inventing faster than light travel was amusing in its own right, but her giggle didn't sound like an 'I just said something funny' giggle. What was it? Was she nervous? That would be inconclusive, though; she could be nervous about wanting to resume things with him, or nervous about maybe crushing him with news getting engaged or something. He thought he saw her glance at him from the corner of her eyes, but chose not to pay attention. The second time she did, their gazes met and locked like a door latch. Miranda looked at the universe as reflected from Tommy's moistened eye. Was he about to cry? Why? Maybe he want to tell her how he wanted to be in her arms again? Or did he want to avoid breaking her heart by feigning being hurt by his own actions or what? She had to find out.

They both started talking in unison again. They stopped, looked at each other expectantly, and Tommy fell back in his seat with a very large, long sigh. Tommy decided he was starting to lose it. Time to do something. He felt this overwhelming urge to tell her that he loved her and wanted to stay by her side, but the frog stood in his throat like a traffic cop, refusing to let any words through. What could he do? He stretched. As he finished, he put his arm over the seat behind Miranda, thinking to himself, "My God, that's the oldest one in the book. I can't believe I just did that! So Cheesy!"

In the meantime, Miranda's eyes lit up. This was a monumental clue for her; He did still like her! Then doubt started to creep into her mind and heart again. What if all he wants is something physical? Is he just hitting on me, trying to get laid? Or is he really just trying to express himself? He never really was all too good at that. Miranda considered for a moment putting her hand on his thigh as a gesture of affection, but that could be taken the wrong way. She had to do something. She reached up and grabbed the hand that was over her shoulder and pulled it down onto her shoulder. She smiled at Tommy as he quivered.

Tommy wanted to squeal with delight. Did this mean that she really wanted him back in her life, as more than just her engineer? Or did she mistake the arm-over-the-shoulder-while-stretching maneuver as what it normally was, and was playing along for something physical? Still nothing conclusive. He would never know until he asked her. He tried to speak, once, twice, thrice... Every time nothing coming out but faint whispering noises, breezes, the only thing let through by the traffic cop frog. This wasn't working, he thought. Instead, he decided to squeeze her closer to him. This could be mistaken in much the

same way as the rest of it, but he didn't care. He just wanted to be close to her.

Miranda bit her lip to avoid bursting forth with a mix of laughter and crying she felt welling up inside of her. The intensity of the situation! Was he just coming onto her for physical attention, or was this genuine affection from Tommy? How could she know? Only by asking him. She leaned her head against his shoulder as something to buy some time to think. That would be a gesture that could be taken either way. She didn't care how he took it; she just wanted to be close to him. They sat there like that, in a pleasant stalemate, staring off into the cosmos. Tension started to rebuild itself in a matter of minutes however. When it became collectively too much to bear, they both again simultaneously started speaking. Tommy looked at Miranda, They both perked eyebrows, and started laughing hysterically. Tension breaker. Tommy felt just about confident enough to confess his love to Miranda, when they were interrupted by cheering back towards the garden.

As scientists, business came first. They both jumped up and ran back down the hallway towards where they heard Mike, Jimbo and Julie laughing.

Mike sat beside the table with a big grin on his face. As soon as Tommy and Miranda walked in, Mike spoke to them.

"Welcome aboard, matey!"





## CHAPTER 18

Tommy and Miranda shared a befuddled expression. Alison smiled, more motherly than Miranda ever had, walked up and put her hands on Miranda's shoulders.

"I've heard about your plan to build the spaceship. Not only can you build it here, but you can build it out of the space hotel so long as I get to come with you."

Miranda beamed and hugged Alison. Tommy raised an objecting finger.

"But I've got blueprints all laid out, There's some really exacting technical specifications that need to be followed for the ship to be safe..."

Everyone who hadn't just been on the promenade erupted into laughter. Alison handed Tommy the spec sheet for the hotel.

"Read 'em an' weep, son. These are the technical specifications of the hotel. They exceed all the ones that you gave Mike here. I know you've put a lot of hard work into your ship design, and the reason we laugh is because we guessed that you'd react by getting defensive about your idea."

Tommy blushed, right before Miranda gave him a big hug. A continuation of their time on the promenade? he was too flustered to even really think about it. She let go of him and straightened herself out, trying not to blush herself. Mike decided to tastefully refrain from any comments. Instead, he stuck to business.

"I took a look at your design and at the spec sheets of this place. We'll have to build bigger tachyon sails to get the thing moving, but other than that this thing has all the life support we need, all the living space, room for medical facilities... This place is designed for everything we've thought of. Plus, it's been up here for a while, it's not like anyone's going to notice a few minor modifications to this station."

Tommy thought for a moment, shrugged and conceded.

"Well, I have to agree with you. I was really looking forward to building the ship I'd designed in the first place..."

"Oh Tommy, stop whining." Scolded Julie. Tommy sighed and smiled. He knew they were all right; this would be the easiest way to do it.

"Well, in that case, what all do we have to do to this place? Anything at all?" asked Tommy.

"Aren't you the engineer?" Asked Alison. She handed him full blueprints for the Port Starboard Inn.

Tommy stared admiringly; the guy who designed this was very good. The Inn could easily last several hundred years with no maintenance at all. It could easily hold up to all the stresses he had calculated. Perhaps most importantly, this ship was already assembled.

"Alright, first thing we've got to consider is gravitational orientation. During much of our acceleration, this back wall here is going to be our floor. None of the devices installed in the basement are gravity sensitive, right?"

Alison shook her head. Tommy resumed,

"Alright then, the major problem I foresee is going to be the goats. We'll have to find some way to make the wall into as good a place for them to stand as any."

Everyone's expressions dimmed as they realized how nontrivial this task would be. Jimbo was first with an idea.

"Maybe we could have somebody in the livestock area holding the goats near the wall when we start accelerating? Then they're not going to fall to the back wall, but can just sort of be laying down?"

Mike pondered this for a while, then shook his head.

"The problem then is that you'd have to shovel everything into that back corner. Otherwise, somebody is going to be caught in a shower of goat droppings."

Tommy took the thought and kept running with it.

"Wait a minute, we'll only really be accelerating forwards, right? When our bubble of space-time breaks off, we can reverse our orientation and decelerate so that the back wall is still where the gravity is, right?"

Jimbo nodded.

"So, what if we alter the livestock room so that the floor is on a forty five degree incline? That way it's an equally steep hillside for the goats no matter which way gravity is going. The direction of gravity will gradually change as acceleration increases, so it might be a little disorienting to the goats, but not physically damaging..."

Julie smiled.

"Very good idea Tommy! We'll have to move the doorway a little, but... that's fairly trivial."

Tommy nodded and continued.

"Alright, that particular issue is solved, but it opens up several other ones. While we're accelerating, we'll need to have some way of moving around the space ship. We'll spend a good deal of time accelerating, during which time we might have to eat or sleep. We'll probably have to make a few major modifications, like making some of the walls capable of being floors for an extended period of time. Any ideas?"

The whole crew thought about it long and hard. What all was involved? Towards the beginning of the space boom, adjusting to life with artificial gravity at all was strange. As opposed to looking at your surroundings for a visual cue for what direction down is, as you can on Earth, in space you would have to close your eyes and determine which way was down. In some of the smaller stations, you could sometimes even bump heads with a coworker walking on your ceiling. Miranda broke the silence.

"Well, since the sub light engines function on zero point energy, it would be feasible to stop the rotation of the Inn and keep it under a small constant acceleration for artificial gravity."

Julie and Jimbo simultaneously objected

"But what if we want to actually explore something once we're someplace else in the universe? Would we have to drop people off

to explore and then the Inn loops around to pick us up again later?"

"Well, we don't actually need artificial gravity," Miranda replied, "I mean, it's nice, but not entirely necessary."

"It's actually a little more necessary than you'd like to think," added Mike, "It would've been a real stretch to have livestock without artificial gravity. Even in the old stations, they had a carousel somewhere in the station to keep all the non-human animals under at least partial gravity. If we've got the option of constant artificial gravity, that is gong to be our best bet."

Alison addressed the whole group.

"I've got an idea, how about we have a quick snack? All this wonderful thinking is making me hungry."

General smiles and agreement came from everyone, except for Mike slapping his forehead.

"Oh wow, this is going to be a bit more difficult than we thought... what use will a stove mounted on the wall be?"

Everyone grumbled in general dismay. Alison bit her lip, shrugged, then walked to the kitchen. Everyone else sat down at the table which would later be attached to the wall. Tommy took a deep breath as he set his sunglasses on recording mode and put them on the table.

"Alright, let's make a list in the most general terms possible. We'll come up with a general procedure for converting a standard space station into a ship."

Tommy waited for input. When nobody gave any, he resumed speaking.

"Well, first thing we've covered is the livestock, and we're going to solve that by having the floor of that room rebuilt on a forty five degree incline. That has already been solved. We are certain that we'll want to keep artificial gravity, both for the livelihood of the livestock and our own personal health."

"Our own personal health?" asked Miranda.

"Yeah, that's why we needed the exercise bikes, remember? To keep our muscles from atrophying and our bones from losing density."

Mike added, "Like I said, We can get by without gravity, but it's more than just a luxury."

"Besides, if we have gravity we don't need those horrible neon fuschia exercise bikes," remarked Julie. Everyone laughed. Tommy tried to resume being serious.

"Alright, back to business everyone. Things we need to worry about; our kitchen is oriented in such a way that we'd have to be cooking on the wall. Our bedding does the same thing. Since the current floors will be walls, we'll need the walls to be usable as floors and vice versa. All the furniture doesn't need to be reorientable, like all the tables in the dining room for example. We'll only need one to eat at. We might want to bolt these down, and find a place to store all the chairs. In fact, yeah, that'll be the last thing we'll have to do: bolt down all the moveable furniture that we won't be using. If this is going to be an

exploring ship, I think the majority of the time we'll need the furniture oriented the way it is, so we'll bolt it down the way it is. Think that's about it."

They all sat and thought for a few moments. Jimbo spoke up.

"Well, 'bout the beds, the stove and the like... What if you mounted them on curved tracks that go up against the walls? Make it low enough friction, and the furniture will reorient itself to whatever way down is at any given instant?"

There were general nods of agreement, till Mike spoke.

"Brilliant! It's not going to be too aesthetically pleasing, but why would we care? Since we're not buying parts for an entire ship, we can easily afford to get those machined and put them in place."

Tommy picked up his glasses and looked in them.

"Alright, good, it recorded. How about moving around the station?"

"Well, we could put ladders on the existing floors..." Julie stopped as she saw the flaw to her idea. Tommy pointed it out.

"But then we'll be tripping over them all the time when we're gravitationally oriented the way we are now. What if we put them on the side walls, the ones that will never be floors? They'll be ornate handrails when we're not accelerating, and ladders when we are. Sound good to everyone?"

Everybody nodded in general agreement.

"Alright, we've figured out how to deal with changing gravitational orientation... We've figured out living arrangements for the animals that help complete the ecosystem and generate this extremely tasty food we've been privy to... We've figured out how to make our way around the station regardless of gravitational orientation... I can't really think of anything else we've missed, at least internally. Anyone?"

Nobody had any further comments. Tommy shifted gears in his head.

"I think that covers it, now we deal with the outside of the ship. Since there's now a lot more ship than we'd intended, we'll need to build a lot more tachyon sail as well. However, I've been playing with an idea that might make this work out a little better. Miranda, all that matters is that any matter can get around the sails but not through them, right?"

"Yeah, why?"

"Well, what if instead of individual sails sticking off the sides of the craft, we have a big parabolic metal doily? I wouldn't want to stick the bracings directly into the side of the Inn, but could we have the sail assembly dropped from the basement on a main support with the gravity wave generator on it, and the bracings around the side to the bottom of the ship? That way, we're not doing any major internal modifications to this place. We'll just be attaching it all to the outside."

Miranda grinned.

"Tommy, you're brilliant."

Tommy bowed with a flourish. He gave her a glance as to say 'anything for you, my dear', but had no idea if she saw it.

Miranda thought she saw a meaningful glance from Tommy, but she was unsure if she'd actually seen it. She decided to pretend not to notice, just in case he hadn't actually meant it.

The whole group shared meaningful looks around the table. Even though they'd been planning this for the past half year, none of them could really concretely grasp the fact that the whole project was coming together. It started to truly dawn on them all that this wasn't one of their old college projects. This wasn't just a bunch of kids with an idea that would never make it off the drawing board.

Mike took a long look out the window in the floor. He could see the pockmarked bright red carapace of Jupiter's off in the distance. It pulled him like a magnet; he was so overwhelmingly excited that he wanted to jump up and build the ship now. He debated: should he go to bed? Or should he ingest some of that pink root stuff they'd found on Earth, and head out to Jupiter's to get parts? He decided to raise the question to the public, but was interrupted by a yawn. The yawn spread around the table, as well as an implicit realization of how late it was. Alison stood up and started clearing plates away.

"Well, you guys can spread out as you like, any room you want is open to you. You guys have a good night and sweet dreams."

Alison smiled benevolently as she walked back to the kitchen. The warmth of her smile spread its cozy wholesomeness to everyone else in the room. Miranda briefly considered inviting Tommy to spend the night with her, but thought better of it. Too obvious. Jimbo walked off to bed, as did Julie. Mike, Miranda and Tommy still sat around the table, too excited to go to bed and too sleepy to start working.

"I think tomorrow the first thing I'll do is repair the communications equipment in the basement. We'll get a com link up and working so that we can start ordering materials. I don't think we really need to worry about that little island anymore, since now the only parts we need are up here. After that, I'll get Jimbo to take me out to get a new pair of sunglasses, and some of the sundry random stuff that I'm not worried about people tracing. In the meantime, I can barely think straight. Too much excitement for the Mike, only solution is bedtime."

Mike chuckled and mumbled incoherent drowsy excitement as he stood up and lumbered towards a random bedroom, while Tommy and Miranda sat looking into each others' eyes. Neither could decipher the other, so they gave each other a tender smile and went to their separate bedrooms. The kitchen was empty, the stars slowly scrolling by through the window on the floor, as Alison walked back out into the kitchen. She looked through the floor and smiled.

"Wherever you are out there, James... I'm finally going! I only wish that you could come along with us."

She smiled tenderly.

"Oph but you will James, you will. In my heart, and probably Julie's you'll be with us."

Alison blew a kiss out the window of the spacecraft, a ripple

of love across the endless void of space, hopefully to find James one day. She sniffled sentimentally, then went to bed. She and James had dreamed since their honeymoon of going into deep space. Now it was reality for her. Now it was reality for everyone.

## CHAPTER 19

Almost immediately after Mike got the satellite dish working again, Julie called her sister to resume the conversation she'd started at Miranda's place. A smiling Sara answered the phone with a friendly hello, only to quickly wither under Julie's glare. She took a mighty sniff and sat up as straight as she could.

"Hi Julie, how's it going? Where've you been?"

"Never mind that Sara. While I was still at Miranda's, did I hear you correctly that you are training to go into space?"

"Yes Julie, that's right. I respect your opinions, but it is my life, and I'm going to live it."

Julie looked discomposd. Her sister had a valid point, but Julie's desire to keep her sister out of harm's way bolstered her hypocrisy.

"Have you learned nothing from me, Sara? Have you not seen the suffering I've been through? you want to bring that on yourself?"

"Julie, I sat beside your bed while you were recovering, almost every single day! I also saw the smiles in your eyes the other times you came back from space. I remember how happy it made you. You got to be there, to know what it's like. I want it too."

"But Sara, look at what you have on Earth! It doesn't seem like much now, but when you'll miss it when t's gone!"

"Yeah, Julie, look at what I have on Earth! Two drunken foster parents that I can't stand, no friends, a drab city, no athletic talent... All I've got is a brain, Julie, and that's already in the stars. It wants the rest of me to join it, so I'm going."

"Sara, the rest of you might not come back..."

"'Might', you say now."

Julie swallowed the word and continued.

"Look, Sara... You are beautiful. You are complete. You have a beautiful future ahead on Earth. You'll find a husband, start a family..."

"Julie, every guy I've met has been an asshole just like Dave, except I see it coming since you..."

Sara bit her lip and braced herself. She knew shouldn't have brought up this tender subject. Julie's eyes flared as she ground her teeth in anger. She slammed her fist on the table. The thud ad concurrent roar echoed throughout the whole station. A tear came to her eye as she glared at her sister.

"Give me a minute, Sara."

Julie's head sunk into her arms. Mike cracked the door to the com room, having heard the sound of Julie's wrath through the walls. Mike bit his lip when he looked in the room; he rarely ever saw Julie anywhere close to as angry as she was now.

Sara looked at her sister through the screen. She had a certain cold hardness that Julie didn't have. Since their childhood, Julie got most of the attention. Julie was the gymnast, Julie was the one preparing to go to space, Julie always



had people around her. Even after the accident, Julie still had friends like Tommy and Miranda. Sara never had anyone like that except for Julie. Julie had spent less and less time at home since first going into space, so Sara had gone through high school cold and alone. It showed in her eyes. Unmelted by Julie's glare, she saw an opportunity and took it.

"That's what this is about, isn't it Julie. You're afraid I'm going to get crushed like you by some jerk if something does happen. You're afraid I'll be alone and unloved for the rest of my life. Well let me tell you something. I'm already unloved and alone. You love me, but you aren't here. In fact, judging by the curve on that back wall, you're in space right now, hypocrite."

Julie was broken. She was angry, but knew the indisputable truth when she heard it. This really was what it was all about. She didn't want her sister to live through that experience. She mustered up all her energy.

"Sara, do what you want. Don't talk to me."

Sara's eyes started to glisten like melting ice at the rejection. She was about to say something when Julie hit the button on the videophone. She sobbed on the table as Mike walked in. She would've snapped at him were it not for the softness of his tone.

"So that's why you're so bitter..."

Julie sat up, tears in her eyes.

"I try to keep quiet about it. It still makes me angry."

"Yeah, I heard. Maybe if you bring it out in the open, it'll help you cope?"

Julie held herself back, but realized that maybe Mike was right. She'd kept this hidden from herself and everyone else for six years now, and it hadn't started to hurt any less.

"Before I went up to Medlab in '44, I had a fiancé. His name was Dave," she choked on the name, "We were planning on getting married when I came back. He had a job on Earth, forest preservation. His job didn't pay as well as mine, but I wanted to move back to Earth and settle down with him in a cottage in the woods. I was ready to retire early and live with him, because I loved him so much.

"Well, obviously, that didn't happen. Medlab exploded, I got rescued, and was put immediately in the hospital. I don't really remember all too much before they put on the prosthetic, because they had to keep me pretty drugged up. I'm sure you know the procedure, they need to separate out all the nerve endings and clamp them to nanoscopic switches in the device. It was painful anyway, both in my body and in my heart. I remember two of my college friends, newlyweds, came to visit me. They were holding hands. It made me cry for quite a long time, till they increased my anesthetic and put me to sleep.

"Right after I came down off of the drugs, with the prosthetic attached, I saw Dave. He walked into the room, and he had this shocked look of horror on his face. He tried so hard to hide it, but he couldn't. He was disgusted, by all the burns and this gaudy metallic prosthetic arm. He talked to me a little

while, strained, and I never head from him again. He changed his number and his email address because he was so freaked out by me.

"I didn't get truly angry till about a year later, when I saw him on the street. He was with another slender black haired woman who looke a lot like I used to. They were walking down the street, laughing, and had a kid. You know what that means, Mike? Within three months of walking away from me, he had gotten this chick pregnant. I looked even closer and saw the wedding rings on their fingers.

"I wanted to scream, but I controlled myself. Sara's right, that's why I don't want her to get dismembered like me. I want her to find a man and get married to him and have a nice life."

Mike looked thoughtfully at Julie. He cold plainly see that her pain and love for Sara were clouding her logic. How to introduce what he had to say? Mike wasn't very good at being sensitive, but he tried anyway.

"Now Julie, what if you had gotten married to Dave?"

Julie looked at Mike, aghast. She couldn't believe he was going there, but knew that Mike always had his reasons and a desire to do good at the core of his heart.

"Well, I'd like to think we'd live happily ever after..."

"With some guy who split with you just because your looks were altered, and got in bed with another hottie within three months of having left you? The guy's a pig, Julie. I think you should take him off that pedestal in your heart and throw him into the mud where he belongs."

Julie looked at Mike shocked. He had a very grave look on his face. Mike was like the big brother she never had but had wished for growing up. She straightened up and regarded him respectfully with her eyes. Mike resumed.

"And yeah, if you hadn't been in the accident, you two might still be together. Or he might have had an affair behind your back. He obviously wasn't too terribly committed to begin with. Now, do you want your sister ending up with some scum bag like that?"

Julie winced. Mike's comments had struck home. Her heart was on fire, and all her emotions were running out screaming before it had time to collapse.

"Mike, do you know what it's like? To love someone and have them run out like that?"

Mike regarded her through narrow frigid eyes.

"Actually, no."

Julie widened her eyes. No? Mike recognized the look in Julie's eyes and took it as his cue to continue.

"All growing up, I was the scrawny nerdy kid on the outside. I had no friends. The only 'girlfriends' I ever had were high school girls playing cruel jokes on me. I went through college with that mindset, as well. Nobody ever approached me, and I never fit into any social circles at all. After I gave myself the retrovirus, I finally felt confident about going out and getting a social life. But then, I was declared an illegal being. I've been on the run since, and I'm not going to make anyone else live

my lifestyle. I've never been romantically involved with anyone in my life. So I don't know what it's like. That's part of why I'm so excited about going into deep space. Then I can come back to Earth, try to find the girl of my dreams, or someone close to her, then we can live on some other planet, away from Earth's silly laws."

Julie's pain had been wiped up. She suddenly realized that there is always someone worse off. She stood up and hugged Mike. He closed his eyes and returned the hug.

"Besides, Julie, you remember the news. If your sister stays on Earth, how likely is it that she'll live through the impending wars of the next few years?"

Julie sniffled and tightly grabbed a hold of Mike's shoulder. She knew the answer, but wasn't quite ready to accept it yet. Mike stood up and put his hands on Julie's shoulder.

"Thanks for sharing, I hope I've helped at least a little bit. In the meantime, we've got work to do."

Mike walked out of the room as Julie stood silently. That was Mike's escape, wasn't it? that was why he kept himself busy all the time. That was why he kept the noise around him constantly. So that he wouldn't feel alone. He had a mind that nobody else could keep up with, he was essentially the only true and complete individual on the planet. He had nobody who could understand him. Julie let out one final convulsive sniffle in Mike's honor and followed him out the door.

She followed Mike through the station towards the kitchen, where everyone was starting their breakfast. Glazed vegetables with a grainy mush, like oatmeal but not quite. It tasted like bread.

"Ah, just in time!" Mike said as he pulled out a chair for Julie and then himself. He took a bite of the vegetable and grain mixture in his bowl and moaned in delight.

"Wow, this is good..."

Everyone else grunted agreement between spoonfuls, and once they were all finished Mike leaned forward on the table and addressed the whole group.

"Alright, I don't know about you guys, but I want to get started building this dream. Jimbo, your plane all fueled up?"

"Not on full, but that was on my agenda of things to do today."

"Alright, we'll do that first, then I was thinking we ought to head out to Jupiter's try to find stuff to stock the infirmary in the basement, and maybe some of the stuff for the Waring field generators. Who is coming along?"

Tommy and Julie raised their hands. Tommy spoke first

"I'll want to keep track of how big everything is, so I can keep track of where everything is going to have to go, etc."

Everyone looked at Tommy. He didn't sound like he was completely awake, but enough to know what he was doing. Julie spoke.

"And I'll be in charge of the medical equipment for stocking the infirmary."

Everyone nodded. Alison spoke.

"I'll start straightening things up here for construction and a journey. Anyone willing to stay back and help?"

"Sure, I will," said Miranda.

The whole table sat quietly for a few moments before Mike shrugged and raised his hands.

"Well, we ready?"

Everyone stood up and stretched. Miranda started helping Alison clear away the dishes as everyone else started walking towards the airlock where Jimbo's ship was docked. As they walked away, Miranda wistfully watched Tommy walk towards the airlock. Alison looked at her and smiled.

"You're in love with him, aren't you."

Miranda jumped.

"huh?"

"The way you're looking at him, you're in love with Tommy, right?"

Miranda blushed. They heard the muffled sounds of Jimbo starting his plane as Alison put her hand on Miranda's shoulder.

"And judging by the way you look right now, you want to tell him but haven't done it yet. Why not?"

Miranda looked sheepish.

"I don't know Alison, I just... Well, it's a long story."

Alison sat down at the table and looked up expectantly at Miranda.

"Well, tell the story then."

Miranda laughed and sat down. She cleared her throat and tried to sit up prim and proper, but to no avail. she was too befuddled by her own emotions to do much of anything straight anymore. Alison was just the first one to notice.

"Well, Tommy and I were an item back in college. We dated for four years, then I went to graduate school in England and he went to graduate school in the Eastern US. We tried to keep in touch for a while, but eventually he just stopped talking. This is pretty much the first time in many years that Tommy and I have been in the same place at the same time, and I'm not sure whether or not he still feels the same way about me that I do about him."

"Well hon, you're never going to know unless you ask..."

"But it's just so difficult! I mean, it's... I don't know..."

Alison had a very grave and serious look in her face. As Miranda flailed around looking for words, Alison calmly inserted hers into the conversation.

"Let me put it this way, Miranda. You should tell him you love him, because one day he might not be there. I think, from watching the two of you, that he's as in love and confused as you are. What if he dies out there? What if he dies without knowing whether or not you loved him?"

Miranda was dead silent and pale. Alison had scared her.

"Telling someone you love them is the most important thing you can do. Love is really what it's all about."

Alison smiled benevolently and put her hand on Miranda's.

"I've been around for many years, Miranda, and I've seen young lovers come and go through this hotel, on Earth... I've seen lots of life. I think there is something special between you and Tommy. I don't want to see that go to waste because you're both too shy to say it to each other."

Miranda smiled gently as she looked down through the window at Jimbo's lumbering space plane in the distance. Alison snapped her out of it.

"However, hon, we've got work to do. You can tell him you love him later. Right now, let's move this stove and clean underneath it."

Miranda got up to help Alison. The place would be absolutely spotless by the time the rest of the crew would return.

## CHAPTER 20

Mike sat beside Jimbo in the copilot's seat. Julie and Tommy sat in the back looking out the windows. Jimbo had some old fashioned twelve bar blues playing on his computer.

"...Gonna move to the jungle baby, yeah, way out into the woods..."

Julie sat thinking about what Mike had said, trying to float through it and come out on top of her life and her situation. Tommy was pining for Miranda. He wanted so badly to tell her how he loved her, but he'd wait to see if she felt the same way. Mike reflected on his loneliness. Blues was most certainly the most appropriate flavor of music.

"... 'cuz they with things are here now, people, we ain't doin' ourselves no good..."

Mike chewed on his lip and wrinkled his brows towards the outside of the ship. He thought to himself,

"I don't have time to feel this way. I won't have a reason to when we're done."

First thing they did was hit the nearest mall with an electronics store to get Mike a fresh pair of glasses. Mike smiled with glee when he saw that Kincaid had put out their own line of sunglasses computers. He bought a pair and immediately loaded all his software off of Jimbo's ship computer. He smiled, put on the glasses and booted them up. Mike started probing his regular news channels, announcing all the current goings on and consequently what kinds of deals to look for at Jupiter's.

"Kincaid's new consumer digital recording playback device was due out in a week, so they ought to wait two weeks to get the current top of the line once it's obsolete. The substantialists were announcing a "return to space" movement, where they would charter flights up to more of the abandoned space stations and resume life there. Consequently, there'd be more garden supplies available...."

As Mike rambled, Julie looked on in sadness. She understood what he was really doing, whether he knew it or not. Mike stopped talking and started gnawing on his lower lip again.

"Hey Tommy, I'd like to test a theory. I'll stay on the same IP. Now, if you were to look for parts for a Waring field generator online, how would you do it?"

Tommy looked confused.

"But Mike, you're the internet search master..."

"And I think that's how they're tracking me. If I'm right, and I search like you instead of like me, they won't be able to figure out who or where I am."

Tommy thought about it for a minute. He shrugged and spoke.

"Well, first thing I'd do is go to a good internet search engine known by the mainstream population and search for 'Waring field generator parts'."

Mike wrinkled his brow then shrugged his shoulders.

"What other searches would you have going on?"

"Mike, I wouldn't have other searches. I can't focus like

you, remember?"

Tommy could swear he heard the grinding of Mike's brain shifting paradigms sans clutch.

"So what results did you get?"

"Well, I got a bunch of science fair websites, looks like a dead end to me."

"Then click the first one and look for store links..."

Tommy and Mike went on like this for the rest of their slow trip towards Jupiter's as Julie and Jimbo listened on, amused. The search that would normally take Mike about thirty seconds took Mike and Tommy thirty minutes. Mike took a deep breath and announced to the cabin.

"Well, I know two things. First of all, I'm going to teach Tommy how to find things on the internet. Second, nobody tried to track me at all."

The cabin cheered.

"Now, let's see if I can hunt the hunter..."

Mike clicked his tongue rapidly for a few moments, till he noticed something.

"Mmhmm..."

Mike had open in his field of vision thirteen different windows keeping track of communications satellite logs. He noted the same IP at 13 different places, moving around in a very complex pattern that appeared almost random. Anybody else would've seen a random pattern, but Mike saw an extremely organized search routine, being performed most likely by a human or group of humans, rather than a computer. To test, he bounced IPs a couple of times, following the hacker or group of hackers around. He laughed as the hacker became aware of his presence and fumbled on a few connections. A cat and mouse game ensued for a minute or so till Mike shut off his glasses.

"Well now, isn't that interesting. I think they'll have to find a better way to track me. We'll do our shopping, then I'll investigate this further. I'd like to find out who is after me, then I can figure out how to avoid them."

Jimbo shrugged and chuckled. They pulled into Jupiter's and connected to one of the craters on the side of the giant yo-yo. They all deftly floated past the salespeople over to the elevator by sector 07, where all the powerful electromagnets would be. The only person of their group who actually knew how the Waring field generator worked was Miranda. Tommy knew how to put it together, and Mike knew how to find parts. It had something to do with large multifrequency diodes and electromagnets. They'd need a very powerful DC power source, as well, so Mike looked for batteries. He found all the parts, rubbed his chin and addressed the others.

"Now the big trick is to buy things in such a way that nobody will suspect we are building Waring field generators. Any ideas?"

Tommy smiled.

"Big LEDs, DC power supply... we need highly reflective metal foil for the tachyon sails right? Sounds like we're trying to set up a flashy advertisement somewhere to me..."

"Tommy, you're brilliant! We can also get away with some of the backing metal that we'd be mounting it all on."

"Actually, Mike, that would be easier to come by at a place which specializes in it. I don't know how much I'd trust structural components from Jupiter's, y'know?" Jimbo stated plainly. Mike and Tommy conceded his point.

"Well, that's our story, we'll stick to it. In the meantime let's hurry, I've got a bad feeling that something's going on. We'll need that whole stack of those diodes..."

"Mike, that's twelve crates, at 144 diodes per crate..." Julie noted, more than a little startled.

"I told you, these things need to be big. Julie, Jimbo, you grab those. I'm going to go with Tommy to pick out a big roll of some reflective foil. After that, we'll meet you over in sector two and see what kind of DC power supply we can find."

Jimbo and Julie struggled with the crates of very large diodes, wrestling them onto one of the shopping cart contraptions. They all fit, but just barely. The bungee cords and tarp were stretched to their limit. Jimbo went back up to get a second cart for when they got the Power supply. They all converged on the second floor of sector two. Mike and Tommy carried a 2 meter long roll of reflective foil.

"Ah, good job Jimbo," He said as he maneuvered the roll of foil into the shopping cart, "Now, what kind of power can we find."

Mike looked around, then continued,

"We aren't going to have access to zero point for very long in the space-time bubble, since we'll be separate from the rest of our universe. We'll need something to power those monsters, I say this looks nice."

Mike pointed towards a battery array bigger than the shopping cart. The other three looked at him in disbelief.

"Mike, you do realize that's a spare of one of the backup systems they use for this place, right? You can power all of Jupiter's from that for 48 hours."

"Or we can power all the Waring field generators for twelve. Help me lift this, we'll take it up towards the large cargo exit while Jimbo goes and brings the ship around to there. Hmm... hopefully we won't have to use this, but if we're asked, we work freelance, and we're building a big LED sign in hopes that some apartment complex, or one of a dozen or so potential customers who know us, will buy. It'll be for advertising, plus an overkill backup system, just because it's always better to be safe than sorry. Got it?"

Every nodded as Jimbo left to go get his plane. Since they were only on the tenth floor, moving the battery array wasn't too much of a problem. They got up to the checkout as Mike looked around nervously. He noticed that there were several men in suits wearing sunglasses. That hadn't been a good sign all the way back to the turn of the century. He got ready to talk, when he noticed a savior.

There were a group of Koreans purchasing a dozen aluminum



tubes. Since the people after Mike were Americans, it stood to reason that they'd go for the nuclear threat rather than the imaginary one. Mike wiped his brow as they floated through the checkout.

On the underside of Jupiter's, opposite the pockmarked parking area, there was a large metal door. They carefully guided the battery array towards this door as it opened, revealing a stubby MIR spacecraft with rubber bumpers all around it, a couple of Jupiter's workers in space suits, many hooks and tethers, and an identical large metal door on the other side. This was the large cargo entrance and exit. They let the battery array slowly drift towards the two workers in space suits, who caught it and tethered it to the small Mir. The cart with the diodes and the roll of foil also went in there. After everything was all tethered and secured, the door inside the store shut and sealed.

Jimbo saw the flashing red light above him which was his cue to open the cargo bay doors. He opened his doors as the station opened its doors and the two workers carefully maneuvered everything into his cargo bay. After tethering it all with complimentary Jupiter's tethers, They floated back into the huge airlock and shut off the flashing light. Jimbo closed his doors and pulled back around to the parking area.

As Everyone piled back into the ship, Mike laughed nervously.

"Wow, I'm losing it. We almost got completely busted in there."

Everyone else looked at him curiously.

"All the federal agents! I think they're guessing that I'm building something, though they're not sure what. All they care about is catching me and detaining me. Where else would one shop up here than Jupiter's? We're lucky those korean plumbers were shopping for aluminum pipes for the apartment station they work at. I got too excited and put us all at risk. Terribly sorry about that."

Jimbo bit his lip then shrugged.

"Well, we didn't get caught, and that's some of the heavier stuff we need. Everything else ought to be fairly easy to purchase without raising any eyebrows."

Mike took a deep breath and spoke again.

"Anybody here read '20,000 leagues under the sea?' Captain Nemo built an entire submarine anonymously. He did it by ordering all his parts one at a time, mostly through mail order. Doesn't really work now, with all the tracking going on, but the same principle is in order. We need to spread out our buying. I say we ought to head back to Earth after all, do more of our shopping there. What do you guys think?"

Everybody agreed as Jimbo turned his plane back towards the equator. The first thing they did when they landed in a major city was hit various banks withdrawing reasonable amounts from all the accounts that Mike had set up all over the place. Within a couple of days, they'd scrounged together a couple million dollars of their money. They sat in a hotel room discussing what to do next.

"Alright, everything else can be done with checks and debit cards. This should be fairly hard to trace. I've called Miranda and Alison, they know what the gig is. I've found a machine shop that'll make all the curved tracks we need. Tommy's got a hold of a place that'll make our doily in segments. We'll order those to separate post office boxes on separate accounts, they should be ready within the month. There's some other parts that Julie's tracked down, we'll get those once again on separate accounts and separate P.O. boxes. We got that all taken care of?"

Tommy and Julie held up nondescript envelopes containing large checks and order forms. They got into a rental car and drove to various places around the state to drop off the letters in mailboxes. Mike was making absolutely sure that they wouldn't get tracked.

Jimbo made a few runs up to Jupiter's and other stores with the cash, posing as a contractor. He procured all the buckyball wire. Julie's shipment of ladders was delayed, and she was quite dismayed when she got finished wooden ones as opposed to the metal ones she ordered. The doily parts arrived under the guise of being a large art project. Every time a large shipment of something came in, Jimbo would fly it to the island they'd left for the Inn from. Within a couple of months, they had collected all the parts they needed on the island.

The sun rose on their last day on Earth for a long time, and they were all up and glad to greet it. Jimbo was harvesting plants with bulbous pink roots, as Julie and Mike sat on the Eastern side of the island watching the sun rise. They sat silently for a a very long time, when Mike finally broke the silence.

"Hey Julie, if this whole method of travel works, what are you going to do when we come back?"

Julie thought for a long while.

"Not enough information, Mike. If we find another inhabitable planet, I'd like to come back here and get all the things necessary for establishing an environmentally conscious community. I've seen what we've done to this planet through sheerly not knowing any better, then refusing to drop bad habits. If we go to another planet knowing what we know now, we can take much better care of it."

They sat in silence a little longer, when Mike resumed.

"Yeah, you're right. Since the industrial revolution, only fairly recently have we learned what our industrialization actually does to the environment. We could have a second chance on another planet. I think we'd want to find many different planets, and help people to move all throughout the planets. That way there aren't too many of us in one place at one time. We can give our mother Earth a chance to heal, then maybe we can come back here to the cracked ruins of our old cities and start over here responsibly, too."

Jimbo came and sat down next to him. He had an entire wicker basket filled with pink roots.

"Damn Jimbo, how many of those did you get?"

"Probably a bit too much. Ah well, we can find something to do with it. There's still a significant number of the plants here. I've also got a couple of live plants in the ship, so we can plant them in the garden if need be."

"You really like those, don't you Jimbo," Julie asked sarcastically.

"Actually Julie... I've been in a religious trance once before, guided by a voodoo priestess back home. I was possessed by a loving *iwa*, A wonderful, musical spirit. It was one of the strongest spiritual experiences of my life. I felt so close to God it was amazing. Before the ceremony, we all had concoctions of different herbs and roots. That mixture made me feel just like this stuff did. I think God put everything on de Earth just to help us fin' our way back to 'im. All de plants, all de animals, all de people... We's here to be each other's teachers, y'know?"

Jimbo cleared his throat as Julie looked at him with interest. Mike saw something in Julie's eyes he hadn't seen before. It made him curious. Jimbo continued, having calmed himself down.

"I think these roots have spiritual importance. I think there's a reason we found them, a reason we came exactly to this place, and I think we will have some sort of important use for these."

"Oh I agree Jimbo. God makes everything happen for a reason..."

Of course, Mike thought. They shared a strong spiritual element. It was almost too perfect. He couldn't believe he hadn't thought of it before. He considered meddling, but decided not to. What he saw between their eyes were sparks. There was a connection there, it would only take time for them both to realize it.

The sun rose completely, as Jimbo and Julie wrapped up their conversations. They got half of what was on the island into the space plane to ferry it up to the Inn. The first trip up they took all the small stuff, the diodes, curved rails, the ladders, all those sorts of things. Once they were all loaded into the station, they got the heavy stuff, the metal doily parts and the roll of foil, and left it in Jimbo's ship, docked into the station. Finally, the crew of six were all united again. Just in time for dinner.

"Alison, I still don't know how I've lived without this kind of food for so long..." Mike spoke between bites of the same milk and fruit meal he'd had the first day they were up there. Alison smiled at him.

"It's strange, we've all known each other less than a year, and yet we feel like a family. This is really nice."

Everybody shared warm looks around the table, quietly smiling and eating dinner. When they were all done, Miranda stood up and addressed the whole crew.

"Well, here we are. We've got all the parts here, all the workers we need, and a dream to build. Who says we start building?"

Mike raised a fist.

"Hear hear! Tommy, you've got the construction plans, right?"

"Got fresh blueprints down on Earth. I told the guy it was a design for something in a science fiction story."

Everyone chuckled. Tommy rolled out the huge piece of paper.

"I say first and easiest thing to do will be to put up the railings. After that the sliding tracks. That's what we can work on now. I've got the rest of the plans and procedures in my glasses. I'll upload them to everyone."

They all got copies of the plans and set themselves to work. Within a couple more months, the entire ship was built except for the gravity wave generator. The Waring field generators fit nicely into big cylinders mounted in supply closets built around the ship. The metal doily was almost hypnotic, glistening at the back of the ship. Tommy and Mike had put the parts together in space suits, tethered to Jimbo's ship. They managed to do it all very inconspicuously. Mike had been programming the computer for their visual piloting system when he heard a stream of expletives from Julie. He saw her running towards him, panic stricken.

"Mike, we've got problems."

"Such as?"

"Customers."

## CHAPTER 21

Mike stood up and tried to keep his cool.

"Are they here yet?"

"No, but they're definitely headed towards the station. I was hanging around in the com room when they called us. I didn't answer the phone, but on the message they asked if we were open for business still. They said they'd call back right before they docked."

Mike slapped his own forehead.

"Oh, that's just lovely. Everyone hear that?"

People's heads popped out of all the corners of the station

"Hear what?"

"We've got customers on the way. Let's meet at the dinner table and figure out what we're going to do.

They all piled into the kitchen, nervous and grumbling. Miranda spoke.

"Well, if we're going to avoid suspicion, we'll have to play it cool and act like we're happy they're here."

"Never did I think I'd be discomposed by having guests here," lamented Alison. She took a deep breath and spoke.

"Alright, here's my idea. There are uniforms in my room. Mike, I might have something that fits you, I'll go check."

Alison went into her room and came out with several assorted uniforms.

"Wow, we're lucky. Alright, Mike, Tommy and Julie, you guys put these on. You are a maintenance crew. Miranda, you be room service. The skirt's a little short, but I'm sure you won't mind. Jimbo... you mind playing barkeep?"

"Not at all."

"Good. I'm the addled old lady. And I see them out the window. Alright, places everyone!"

Everyone got up and assumed their roles. Mike, Tommy and Julie resumed the work that they were doing. Mike made sure that he had an extra programming window up, just in case the guests could read computer code. Tommy went back to the kitchen, finishing off the new door to the livestock room. Julie went back to the medical station she'd been installing in the back of the ship. Jimbo looked sharp in a bow tie, wiping down the bar. Miranda looked cute yet sophisticated in her miniskirt, blouse and coat. Alison grabbed an old cane from her room to play her part. She hobbled over to the airlock as the luxury model MIR butted up against it.

"Alright Miranda, you talk, I'll just stand here and smile. I'll butt in and say something random to make them uncomfortable and drop the subject if need be."

Miranda nodded as they heard the airlock pressurize. Miranda and Alison opened the door to see a young couple walking across the roof of their vehicle.

"My, this place is quaint, the gravitational orientation is all wrong."

The woman replied,

"Oh yes honey, but the decor is so rustic!"

Miranda stood tall and smiled as best she could. Just the way these people carried themselves did not endear them to Miranda at all. They came across as incredibly rude and snobbish. However, she had to play the part.

"Hi, and welcome to the Port Starboard Inn! May I take your luggage?"

The woman smiled back at her.

"Oh thank you. We expected this place to be truly quaint, so we packed very lightly."

The man passed out five full suitcases to Miranda. Alison just stood there smiling. Miranda continued,

"I don't remember seeing any reservations, are you sure you've found the right place?"

"Well, we think so, the web site said to drop right in."

Miranda bit her lip as Alison tried hard to just stand there smiling. When Mike had gotten the com link up and running, he'd forgotten to take down the old web page that was still on the computer. Now that it was summertime and people were looking for vacation spots, the Inn was showing up in everyone's web searches. Mike was audible in the next room as he started cursing and pounding on the keyboard. Miranda grimaced.

"Terribly sorry about that. you see, we're... we're doing maintenance, upgrading some of the facilities in the hotel. What you just heard was the guy working on the computer system. I presume he ran into some sort of programming error."

"Ah, I see," said the man, "I figured there were some sort of renovations going on, with that hideous old space plane and that huge dish on the bottom of the station. Tell me, what is that for?"

"Do you want a room with one bed or two?" Asked Alison, Miranda almost laughed. Alison played that role extremely well, to the point of almost being comical. The man responded,

"One bed of course, but i'm still curious as to..."

"Oh, I see," said Alison, "Perhaps you two young lovers would like to try one of the zero gravity suites? We've got natural leather straps for the tether rings on the wall..."

The couple blushed. The man scratched the back of his head and answered, stuttering.

"I... I think we'll just take a single bed room with gravity... thank you..."

"Very good then, Miranda will show the way. You two have fun, and don't make too much noise."

Alison's smile unnerved the couple even more. It would be a while before they asked any more questions. They quietly followed Miranda, still blushing from the old woman's lewd comments. Miranda smiled, innocent and charming, and opened the door for them.

"Dinner is going to be at eight o'clock eastern time. If you need anything, my name is Miranda. Jimbo is the bartender, and Alison is the proprietress. You guys have good evening!"

With that she shut the door and walked briskly over to the

computer where Mike was.

"We forgot to take down the website!?"

"I didn't even think to look for it. Dammit!"

Tommy walked over, having heard all of it.

"Well, certainly sounds like things are going to be getting interesting around here."

"I'm deleting the web page as we speak," said Mike, "so that maybe we can prevent a huge influx of tourists."

Tommy took a deep thoughtful breath and exhaled in a mighty sigh.

"So, what do we do now?"

Mike smiled as he told the computer to delete the file.

"We go ahead as scheduled. We're the maintenance crew, remember?"

The three of them chuckled briefly as they went about their work. Mike was busy programming the computer to measure feedback from the Waring field generators. He ran a few simulations, but would have to run them by Miranda after the guests were asleep. The program mapped out space-time as a wire frame sheet, humps where the gravity wells of stars and planets were. Steering the ship didn't seem too hard in the simulations, and if he'd done his math right, the travel would take only hours per light year. He was excited. A smile crept across his face as he started adding little cosmetic details to the program.

Tommy went back to one of the basement where Julie was working. Tommy was busy laying in the power systems, that huge battery reserve and associated wires. Julie looked up as he came in. She was stocking first aid kits to place around the ship.

"So, how are the new guests?"

"Well, they strike me as fairly obnoxious. Shouldn't be too bad though. Alison embarrassed the living hell out of them, it was great."

They both laughed. Julie decided not to ask for details till later. Instead, they both just went about their work.

Miranda started setting a table with silverware for their guests. They would be eating in the formal dining room, since in the kitchen, the stove on the sliding rails would look just a little too suspicious. Jimbo stood behind the bar, grumbling, polishing glasses.

"Hideous ol' space plane, de nerve..."

Followed by a nearly incomprehensible stream of profanity with a thick cajun accent. Miranda smiled at him.

"My sentiments exactly. I don't know, they've not done anything too bad yet, but I just don't like their demeanor at all. The way they carry themselves, it's just... I don't know, I just don't like it."

"You get that all the time in this business, dear," said Alison as she walked out from the kitchen with a bus tub and a stand for beside the bar, "You just have to realize that it is a business, and you're not being paid to like them, only to pretend that you do."

Jimbo looked up and smiled at Alison's revelation to him.

"Y'know, I think you've just made my life over the next few days a lot easier."

Alison curtsied. Miranda giggled. Jimbo started rummaging through the liquor cabinets, just to see what was on hand.

"Wow Alison, you got this place stocked good!"

"Yes, James was quite the liquor aficionado. Every time he'd make a trip to Earth, he'd bring back yet another bottle of rare liquor of some sort."

Jimbo opened the refrigerator behind the bar to reveal some very old cola. To his surprise, it still tasted okay. He'd not had just a regular cola in ages. the cola was very sweet. in fact, he knew just what it needed. He pulled out a bottle of well aged rum and added some to his glass of cola. Alison and Miranda looked at him, smiled, and shook their heads. Alison spoke to him.

"All I've got to say, Jimbo, is that when the guests come out, you'd better not still be drinking that. They seem like the kind of people who might call the health inspector on their cell phones to report minor violations like that.

"Don't worry ma'am, I'll be careful."

No sooner had he spoken than the door to the young couple's room began to open. Jimbo downed his drink and put the glass in the bus tub under the bar, as Alison put on her senile old lady grin.

"Can I help you?" Jimbo asked with a slightly thicker accent than normal, but still comprehensible.

The man spoke.

"Yeah, we were just curious... why is the bed mounted on a roller track?"

Miranda grimaced. She'd taken the guests to the wrong room. Alison smiled as Miranda floundered.

"I'm sorry, she must have taken you to the room we're converting into a playroom. If people bring kids, they'll need a space to play."

"But isn't that what the ricochet court is for?" asked the woman.

"Well sometimes kids miss the comforts of gravity. They can get on the bed and it slides down the wall," Alison suddenly realized the hole she was digging herself into. The man acknowledged the hole and tried to push her into it.

"But doesn't that violate some safety regulations?"

Miranda detected Alison's folly and stepped in, addressing her.

"Alison, thank you for trying to cover for me, but it's okay."

She turned and walked a little closer to the couple.

"Truth is that I wasn't thinking and put you in the room my boyfriend and I stay in whenever he comes up to visit. He rather enjoys the bed being in different positions..."

The couple once again looked extremely embarrassed. They would've been horrified had it not been for the fact that Miranda was so cute. In the background, Tommy's head popped around the



corner bug eyed and curiosity roused. Jimbo subtly motioned for him to get away.

"I know you guys didn't really want to hear that, but it's the truth. I'm sorry if I've disturbed you..." Miranda trailed off, hoping to get a preliminary clue of their reactions.

"Oh no, not a problem at all. I, uh... I was just curious is all. No offense, but do you mind if we have a different room?"

Alison smiled warmly.

"Sure, Miranda will take you to a different room. Sorry for the inconvenience!"

Miranda walked with them down the hallway. The woman stopped and looked to the side.

"These hand rails are... odd... may I ask why you chose them?"

"Oh, that's new too. You see, umm... Alison is having more and more trouble getting around, so any extra and hand holds she has are very helpful to her. Besides, We think they look really nice."

The woman rubbed her chin thoughtfully.

"Actually, they aren't all that bad. They're growing on me, I think. Where did you get them? Honey, do you think those would look good in the upstairs hallway?"

The man nodded in agreement as Miranda promised them that she'd find contact information for the company they got them from. Once they were soundly in their rooms, Miranda walked back to the dining area smiling sheepishly.

"You know, if we keep this up, I think we'll scare them away."

Everyone chuckled as Mike walked in.

"Miranda, you busy? Would you mind checking out the guidance program? Maybe run a few simulations yourself?"

Miranda shrugged and followed Mike to the room with the main computer.

"We'll have to put a terminal up in the roof, but it would run exactly the same way this does."

Miranda ran a few simulations. She piloted the ship around with no problems at all, and she didn't even know how to fly a plane. Was it really that easy? She did some math on a napkin from her apron and smiled. Mike had designed the guidance system perfectly. She started another simulation just as the couple walked in. Miranda jumped, startled. By the time she looked back at the screen to figure out how to explain it to the customers, Mike had hit a button on the side of the keyboard. In front of Miranda was a touch screen with menu items from the eatery on it. Mike started talking as though he was in the middle of a conversation with Miranda.

"I basically made the interface on this one more efficient, so that it's easier to put in the orders. I'll have to reconnect the monitor in the kitchen, but the software works, and that's the important part."

Miranda pushed some buttons, flowing right in with Mike's ruse.

"Well, you changed the locations of some of the items, but... I can deal with it."

Miranda looked up and smiled at the woman

"Can I help you?"

"Yes, could you tell me where the bathrooms are?"

Miranda hid her look of panic from the woman, but not from Mike. There were two bathrooms in the ship, one had the toilet, sink and shower mounted on the wall. Even the crew were always forgetting which was which. Mike scrambled and covered.

"There are two of them and we're in the process of renovating one. Let me go check to see which one it is."

Miranda breathed an almost imperceptible sigh of relief.

Mike was a genius. He came back in and announced,

"It's the one on the right."

Miranda smiled and said to the customers, "Right this way."

Mike sat down and plugged away at the computer some more, when Miranda came back in.

"Well, I think we've covered all the really close calls. Can't get much worse from here."

Alison hobbled to the doorway. She looked both ways before entering, then stood up straight and briskly walked in.

"Hon, I think you spoke to soon. I just got a call from a hotel inspector. He says he checked by here and expects the space plane gone within two hours so that he can dock and inspect the hotel since we're back in business."

Mike abruptly sat back in his chair and released a sigh, which turned into quiet, pained laughter.

"Everything goes so smoothly, until we're almost done..."

The woman came out of the bathroom and Alison hunched down again, to hobble off and inform Jimbo, Julie and Tommy.

Mike and Tommy quickly removed the rails from everything in the kitchen. Those would be impossible to explain away. Mike dug through his wallet and gave a card to Jimbo.

"While the inspector is here, you are Jake Turing. That was my alias when I got my bartending license."

Jimbo glanced at Mike, concerned.

"Mike, you know the basics of flying a space plane, right?"

"Yeah, but I'm actually going to get Julie to do it. I'll need to be here to smooth-talk, and Tommy will need to be here since he's the qualified engineer. Julie knows the basics of flying a plane too, so don't you worry."

Jimbo tried to look relieved, but not very successfully. Everyone bustled about, trying to both cover their activities and quickly get the station back up to code. For a station to function as a hotel, they had to meet the standards of the NESHA, the Near Earth Space Hotel Association. NESHA was an international body, not tied to any of the legal systems of Earth. However, if someone was running a hotel that was too far below code, NESHA would remove the inhabitants of the hotel and bring in some of their own maintenance personnel to bring the hotel up to health and safety code. Here was their biggest opportunity to get busted and have to start from square one. The whole crew met

around the dinner table to discuss plans. Alison started the meeting.

"Alright, I think the best bet is to continue as we are. We can get away with a lot of strange additions to the station if the inspector thinks I'm just some batty old hag."

"By the way, Alison, you play the part beautifully."

"Thank you, Miranda. I did a lot of acting back in school, and community theater whenever I was visiting Earth."

"Well it certainly shows."

Alison again nodded thankfully towards Miranda, then got everyone back on topic.

"Mike, you'll probably need to do much of the explaining, you're the quick witted one. Tommy, you can bore the guy with engineering talk. Miranda and I will provide whatever distractions are needed. Jimbo, you know the basics of bartending? No more than four drinks in an hour, don't let anyone into the zero gravity areas of the ship for thirty minutes after consuming alcohol. Follow that logic, and you're in the clear..."

They heard a knocking outside the kitchen. Miranda got up to look, then put on her biggest fake smile.

"Oh hello, can I help you?"

The young couple was standing outside the kitchen, smiling.

"You told us that dinner would be served at this time?"

Alison grumbled and went into the kitchen as Jimbo went to the bar. Mike, Julie and Tommy slipped out the back door of the kitchen to get to work. Julie got into Jimbo's space plane and fired up the engines, backing away from the station just in time to see the MIR in NESHA livery drifting in.

Alison whipped together a quick feast and Miranda served it. The couple ordered champagne and went on and on about how quaint, rustic, and old fashioned it was. Before too long, the man and the woman were rudely staring at Jimbo's prosthetic eye. He looked back at them.

"Can I help you?"

"Oh no, it's okay, we were just wondering about... you know..." The man pantomimed by pointing toward his own eye. Jimbo looked at him with a matter of fact look.

"Champagne cork, back in '43."

The man forcefully suppressed a laugh. The woman slapped him.

Miranda also struggled not to laugh, but was saved by Alison's call from the airlock.

"Miranda dear, could you please help me open the airlock?"

Miranda quickly turned around to hide the growing smirk and walked towards the airlock.

The inspector stepped out of his spacecraft to see Miranda and Alison's bright white smiles. He did not return them. The inspector was a gruff man, short and rotund. He had graying razor stubble and a small stain on his slate gray suit. He looked around, then nodded to Alison and Miranda as he climbed out of his spacecraft and gruffly addressed them in a thick, generic southern accent.

"May I speak to the owner of the establishment?"

Alison hobbled over to him,

"Eh?"

The inspector looked at the hunched old woman with the 'this is going to be a long trip' look in his eyes. He spoke to them, obviously pre rehearsed and scripted.

"I am inspector Franklin Gould with the N.E.S.H.A. We are doing an association mandated inspection for safety of clients and the preservation of our industry. This inspection should take less than an hour and involves materials inspections, centered rotation check, sanitation check, and basic mechanical equipment check. Do you have any questions?"

Alison looked at him, slightly more seriously than she wanted to. She'd love to just play dumb completely, but knew that it would only make matters worse here. Still, she looked at him with her idiot grin and frailly spoke to him,

"No questions. What would you like to see first?"

Miranda tried again not to laugh. Alison took almost half a minute to speak that one sentence. Her strategy was to irritate the guy so that he'd do a less thorough inspection. There were many things in the hotel that would be difficult to explain to an actual inspector. The inspector pulled out a clipboard and answered Alison.

"First thing, what is that big metal contraption on the bottom of the station?"

Oops. How were they going to explain that? Mike walked up and saved the day. He said, haltingly, obviously scrambling to come up with the best excuse possible

"Actually sir... it's a sort of light, for advertising purposes."

Miranda grimaced and glowered at Mike.

"Umm... excuse me, I need to go tend to guests..."

She ran off, past the guests and into the nearest room with a computer terminal. She began furiously tweaking the program in charge of operating the sub light engine as she listened to Mike and Mr. Gould speaking in the background.

"Doesn't look too much like a light to me. May I see it in operation?"

Miranda's worst fears for the situation had been realized. She cursed in the background. Mike covered it up with a cough.

"Certainly, sir. We will show you that in a few minutes."

Mr. Gould grunted and walked towards the dining area to see the young couple bickering and Jimbo trying not to laugh. He'd started quite a confrontation between them with his remark about his eye.

"That was rude and inconsiderate of you to laugh, honey."

"I tried not to laugh. You have to admit the irony of the situation..."

Mr. Gould walked over to Jimbo, who snapped to almost military attention.

"Can I help you sir?"

"Yes, may I see your bartending license?"

Jimbo pulled out the license Mike had given him. The card was so beat up that the picture was hardly discernible, but the date was still readable and valid.

"Thank you, Mr. Turing. How many drinks may a guest have within one hour?"

"Four."

"And how long before they're allowed in the ricochet court or anyplace else with decreased gravity?"

"Thirty minutes."

"Good. May I take a look at the kitchen?"

As soon as Mr. Gould was out of audio range, Miranda started grumbling and speaking math aloud. Mike's solution was the only way, but it was painfully difficult. Energy in this universe is generally released in the form of photons. Miranda had to take the tachyon sail and alter the energy levels so that the energy of the photons would put them in the visible light spectrum. It was possible, but very math intensive. She worked the math problem, continually reconfigured the systems that would operate the engine, and paled with the sudden realization that even if the energy is down to the level of visible light, the tachyon sail is still an engine. She thought for a minute, shuddered and laughed uncomfortably while picking up a pair of sunglasses. She called Julie.

"Hey Julie? I need your help."

"If I can help from up here, then the situation must be pretty bad."

"It is. I need to power up the tachyon sail to make it look like a giant light bulb. Problem is that it will impart forward momentum on the ship, so I'll need you to take Jimbo's plane and keep the ship stationary."

Julie cursed profusely. Miranda continued.

"You've got some extra buckyball cable and a space suit, right?"

Julie went silent for a few seconds.

"Miranda, you must be joking..."

"It's only visible light, it won't hurt you."

Julie had figured out what she needed to do, but was definitely not happy about doing it. One of the great properties of buckminsterfullerene is its flexibility. A cable of it could bend and stretch, but not break except under the most extreme circumstances. Julie suited up and tied a few cables to the middle of the tachyon sail and attached the other ends to the cargo hold of Jimbo's ship. Lamentations issued forth as she climbed back in the cockpit. She was fifty feet away from the business end of an engine capable of delivering four million Newtons of force at full throttle, and had to pull against it when Miranda started up the engine. Fortunately, Julie had secured the ship out of visual range of the portholes on the bottom of the ship. All that the inspector should be able to see would be a bright light.

Mr. Gould walked back from the promenade next to Mike and Alison.

"So you say these things are a new design of water heater?"

"Yes sir, but we've not installed them yet. The proprietress's grandson designed them. There is a prototype being tested on Earth, we will wait for the results of the safety tests before we finish installing them."

"Good, safety first. I believe that concludes the inspection, but first I'd like to see how that light works."

Mike went into the room where Miranda was still working. She was mostly double checking calculations. She looked up at Mike, sweating. Mike apologized to her.

"I'm sorry about this, it's the only thing I could think of on the spur of the moment..."

"Me too, Mike. I'm pretty sure we can get it to emit visible light, but I hope Julie will be alright."

"Julie?"

"Yes Mike, how else are we going to prevent the ship from moving forward?"

Mike slapped his forehead. Miranda shook her head and took a deep breath.

"Well Mike, if you go to power up the engines like you normally would, they should work as a light bulb. I'll keep in touch with Julie."

Mike took a deep breath, nodded, and walked to the terminal across the hall where he'd been working earlier.

"Alright Mr. Gould, we've not actually done a full test of this yet, so let's see if it works."

Miranda whispered to Julie through the phone.

"Hey Julie, are you ready for this?"

"Not really Miranda, why?"

Miranda shook her head and sighed.

"I'm really sorry to put you through this..."

"It's okay, Miranda. We've all got to make sacrifices for the team sometimes, you know?"

"Just shield your eyes. The light from this will be rather intense."

"That's what I was figuring. Let's do this."

Miranda hushed Julie over the phone, listening to Mike talking to Mr. Gould.

"Alright Mr. Gould, I will now turn on some of the preliminary charging systems."

Mike switched on the water filtration pump. Miranda chuckled at Mike's brilliance.

"Alright Julie, you've got noise cover up here. Go ahead and start up the engines. I'll tell you when to throttle it."

Julie grabbed the cross around her neck and started praying to get through this unharmed. Miranda had a display of the Inn's engine "throttle" on her screen, waiting patiently as Mike continued to talk. Mike gave his cue,

"Alright, let's turn this on see what it does..."

"Julie, NOW!"

Julie looked away from the station to see a brilliant white spot appear on a cloud formation on Earth. The heat from the

engine made Julie's exposed skin unpleasantly warm. She had Jimbo's space plane at full throttle and was still being slowly pulled back. Miranda listened in tense anxiety to Julie's strained breathing. She was scared, obviously, but how much pain was she in? Miranda listened intently and jumped when Julie finally said something.

"Miranda, turn it off... It's pulling us away from the Earth, despite all the power of Jimbo's engines!"

Miranda coughed loudly a couple of times. Mike took his cue and tapered off the engine burn.

"So you see, Mr. Gould, this system works rather effectively."

"Oh I'll say," replied Mr. Gould, "Has this been patented?"

"Patent is pending," Mike lied through his teeth.

Miranda spoke to Julie, still whispering.

"Alright, things were okay up here. You okay down there?"

"I think I got a sunburn, Miranda... "

"But there wasn't any UV wavelength light in that..."

"I know, Miranda, it was just that bright."

Miranda grimaced. As Mr. Gould gravely walked by the room. Alison followed, still doing her senile woman impersonation quite well. Behind her was Mike, who looked extremely worried. Miranda followed them to a table in the dining room.

"Well, this place doesn't quite meet code. There are a few things which you need to do, we've already discussed those. You'll need to remove those water heaters completely, until they are certified. That light on the bottom of the station is way too powerful and needs to be removed. I still don't think I want to know what the roller tracks on those beds were for, but I've got a general idea. As long as those are never used for customers, then it's okay. However, that light and the water heaters need to be removed. There'll be a NESHA crew here within 24 hours to do it."

Mike scrambled.

"Oh sir, that really shouldn't be necessary. We are the maintenance crew here, we can do it without any inconvenience to you or your organization."

"No son, it's regulation. If this place is going to continue to exist here, it will need to fall under all rules and regulations."

Jimbo smirked with an idea.

"Would anyone like coffee?"

Mr. Gould was sitting at the table with his back to Jimbo. Taking advantage of this fact, Jimbo held up a small bag with some of the pink root powder. Mike contained his laughter.

"Mr. Gould, would you like some coffee?"

"Yes, but make it really strong. I can't stand weak coffee."

Jimbo chuckled,

"You got it."

Mike cleared his throat to further address Mr. Gould as smoothly as possible, trying to make a deal.

"Mr. Gould, I'm sure there must be some way around regulation in this matter. We've got other projects in other places around

here which are not hotels in which we could use all the materials that your crew would be taking. It would cost you and NESHA money to get rid of the spare parts, and nearly drive us out of business."

Mr. Gould thought about it a little bit.

"You make good points son. It's against regulation, but let's see what we can work out."

Mr. Gould straightened his back and raised his chest into high-powered negotiation position as Jimbo walked out of the kitchen with a freshly brewed cup of coffee. He put down the pot and brought out six cups, which he placed at everyone's place at the table.

"All we had was the sweet grinds, so you probably don't need any sugar..."

He poured Mr. Gould's coffee, then walked behind him. He addressed the rest of the room with an emphatic wink of his electronic eye.

"...and it's really really strong, just like you asked."

Jimbo poured coffee for everyone else, who raised their mugs in unison. Everyone sipped, Mr. Gould gulped.

"Wow that's tasty. At any rate, you guys need to keep your raw materials. I'm telling you that you can't keep them in this station, at least not hooked up. Now, if you took off the room number signs on those rooms with the sliding beds and made those into storage closets to put the water heaters in..." Mr. Gould let out a snort, "would they become water closets?"

Mr. Gould laughed at his own joke. Everyone else chuckled with him.

"Sorry 'bout that. Anyways, if you do that I can let that slide. Now, about that light on the bottom..."

Mr. Gould snorted, trying not to laugh.

"It looks like a doily! If you can put padding around the outer rim so that no spaceship can run into it, then... then it'll look like a gingerbread house!"

Mr. Gould started falling into hysterics as the rest of the crew looked at each other and smiled knowingly. He righted himself, still laughing.

"Then you could dress the barkeep and the waitress as Hansel and Gretel, and the owner here would need to get a bigger oven, and... and..."

Mr. Gould fell off his chair laughing. He jumped up with an agility that belied a man of his build, trying to gain control of himself. He noticed his hands shaking and smiled.

"Wow Mr. Turing, you weren't lying about strong coffee. I like this stuff!"

Jimbo smiled and addressed the inspector with the most cordial graft he could.

"Well, assuming the place is completely up to code, I can get you five kilograms of our coffee grinds to take home with you..."

"Make it seven," replied Mr. Gould, obviously intent on haggling.

"How about nine?" inquired Jimbo, breaking the debate pattern



completely. Mr. Gould smiled.

"Done. This place passed."

Mr. Gould took the paper off the clipboard and crumpled it up. He laughed again and ripped it up into little pieces, handing it to Miranda.

"Here's some paper crumbs to spread around so you can find your way home! It's like a trail of bread crumbs, but it's... it's..."

"A paper trail, sir?" Mike augmented. Mr. Gould fell over backwards again. Jimbo helped Mr. Gould back onto his feet, who promptly slumped over onto the bar.

"Here, give me the clipboard, I'll go ahead and fill out the certificate..."

Mr. Gould shakily signed all the paper work as Jimbo went to the kitchen to mix more of the coffee grinds for Mr. Gould. Jimbo came back with a large container of coffee grinds as Mr. Gould laid the certificate on the table.

"It's been a pleasure being here, maybe I'll come back later on as a guest. You people are wonderful."

"The pleasure's been ours. You have a safe trip back towards wherever you're going!"

"Will do!"

Mr. Gould shakily walked towards the airlock and boarded his ship. The sound of his engines faded away to the arguments of the young couple from their room. The woman stormed out.

"You are so horribly insensitive, Harold! I can't believe we even decided to come up here like this. you have no respect for me or anyone else!"

"That's not true honey, besides, you are the one who was insulting the decor as being quaint and old worldly..."

They bickered like this to the stifled grins of the rest of the crew, when the man walked over to Alison.

"I think this vacation is being cut short. What do we owe you for the time we stayed here?"

Alison smiled warmly.

"Son, you didn't spend the night here, it's free of charge."

"Oh thank you. Sorry about this, we'll be going now."

He followed his wife to the spaceship and argued with her through the door for a minute or so before she let him in. Their ship passed Mr. Gould's, and the entire crew sighed a huge sigh of relief. They watched Jimbo's plane slowly drift back into the docking port as Miranda and Tommy went over to open the hatch and greet Julie. Julie stepped out of the space plane, red like a lobster.

"Miranda, that engine is ridiculous. Good job. I need some after-sun lotion."

"Hmm, wonder what it will do on full power," mused Miranda, "Probably be a lot more efficient and not generate waste photons like that."

Julie went to the infirmary and brought back some after sun lotion. She sat on the window sill next to Mike, looking down at the ships floating away as she put on the lotion. Tommy wiped his

brow.

"That was really close."

Mike thought for a minute, then smiled.

"Yeah, I was afraid that he'd get to the roots of our plans, but... it would appear the roots got to him first."

Julie slapped him.

## CHAPTER 22

Everybody's faces were pressed against the side of Jimbo's space plane. They beheld with awe the spectacle of the Port Starboard Inn, completely ready for deep space travel. Jimbo piloted them in dramatic circles around the ship, just to view the ship from all angles in all its glorious splendor.

They had removed the sign of the inn, so that it was now just a cylindrical tudor house with a pointed top and a huge dish on the bottom. The gravity wave generator was a sphere covered in parabolic disks mounted between the ship and the sub light drive. Miranda floated back to her seat in Jimbo's ship and pulled herself into it with an overwhelmed smile. Everybody seemed to share the same grin. They'd all put so much effort, so much time and so much dreaming into the construction of the space ship. Seeing it hovering in space in all its surreal completeness.

It was indeed a surreal sight. James had crafted the station quite elegantly to look like a Tudor style house. The "doily", as the tachyon sail had been affectionately referred to, had a dull silver sheen on top, almost like pewter. The effect was a model house on a pewter dish, like a piece of ornamental artwork one might see in a china cabinet in an antique store.

The gravity wave generator was the feature which made the entire structure look technologically surreal. Even when the drive was inactive, starlight distorted slightly when passing around it. The metal it was built from had a translucent purple sheen which reflected the distorted starlight in such a way as to make the globe of the drive appear like it was drawn, rendered on a computer from the early 21st century.

So the entire image was a cylindrical Tudor house sitting on top of a magical orb, sitting atop a pewter dish. The crew smiled in a sort of mystical awe as Jimbo slowly piloted his big metal bumblebee back towards the Earth. The silence was broken by a giggle from Miranda.

"I'm just so thrilled!"

Julie hugged Miranda without noticing Tommy on his way to do the same. Everyone smiled affectionately with Miranda, still with the pervasive sense of awe from viewing the spaceship. Mike took a deep breath and was, as usual, the first one to break the mood with items of business.

"Julie, did I give you directions to the building where I managed to hide all the medical equipment?"

Julie sighed knowingly. She still felt warmly sympathetic to Mike like as though he was a lonely child. In a way, he was.

"Yeah Mike, I got it. I told everyone else here too, for when they need to come back and get their final disease treatments."

"Good deal," replied Mike, "by the time we get back, the rest of the station ought to be sterile. I don't want to risk someone getting violently ill when we're several light years from home."

Before leaving the station, Mike and Julie had looked up all the information they needed on veterinary and botanical medicine

and made sure that the goats and plants were completely healthy. they sterilized the kitchen by hand, and sealed off that area of the hotel. The rest of the hotel was being sterilized by the equivalent of a bug fogger, killing off any germs that might still be in the station. That would take a couple of weeks to run its course, at which time the crew would come back, depressurize the ship and fill it with clean air. While on Earth, Julie and Mike were going to run medical treatments on everyone. Julie would run courses of immunizations, and Mike had been designing customized retroviruses for everyone just to boost their immune systems, in case they encountered some pathogen while out exploring. The main purpose of the brief return to Earth was to allow everyone a chance to say goodbye to their favorite things on Earth. Though all simulations had worked beautifully, there was still the chance that the warp system wouldn't work properly and they'd be stuck outside of the universe forever. they could also explode like Medlab. Either way, Everyone had things that they wanted to do on Earth before leaving. The sterilization was an excuse as much as it was anything.

The rest of the journey back to Earth was basically silent. Everybody was painfully aware of all the possibilities, yet were dead set on following through with the journey. They'd put too much into it.

They landed at the airport near Miranda's house after Mike determined it was safe and solemnly exited the plane to greet the rising sun. Julie addressed the group, very businesslike.

"Alright, we meet two weeks from now down in New York. Make sure you've got anything you intend to take with you on hand, because we're going to pretty much immediately leave from there to come back to Jimbo's plane and go back to the ship."

Julie smiled eagerly and shrugged.

"I'll see you all then, I suppose!"

She walked off to the nearest bus stop to get back into town. Everyone split up their separate ways. Tommy stopped and turned around to talk to Mike.

"Hey Mike, Where are you going to go? I'm sure it's not safe for you to go back to your apartment... do you want to come out to the midwest with me, visit my home?"

"No thank you, Tommy. My home is up here. I'll find something to do, don't you worry about me. Besides, the one thing I didn't manage to fix with my gene therapy was my allergy to hay."

Tommy laughed and waved goodbye as Mike grinned. Miranda and Julie were walking off towards the busses together, Tommy was walking towards the air terminal to catch a flight back to the midwest, and Jimbo was sitting with his back against the front wheel of his space plane smoking a cigarette.

"Jimbo, you smoke?"

"Only once in a great while. I figure this is a smoke worthy occasion."

Mike smiled.

"Mind passing me one too?"

"But of course."

Jimbo handed Mike a smoke from his aging stash of cigarettes. It had been determined long ago that cigarettes are addictive and extremely unhealthy, but nothing is bad in proper moderation. The two sat in front of the plane, silently watching the sunrise on the bottoms of the space stations.

"Hey Mike, you ever name constellations of space stations? Like, you ever look for shapes in them?"

Mike stared thoughtfully. He remembered how the ancients viewed the stars. Some would say that the stars were dead kings, others would see bears, crabs, scorpions, hunters... still others would see dippers and drinking gourds. Mike's favorites were the ones who told stories. He'd never thought to view the space stations that way. Why not? He laughed and pointed the cigarette to the sky like a pencil, tracing out the constellations.

"It tells a story, doesn't it, Jimbo?"

Jimbo chuckled as Mike continued.

"Let's see, that triad shape in that circle of stations, that's medlab. Lab B is the one on the bottom with extra stuff around it, the sparkles are like an explosion..."

"Yeah, an' that little square, that's the supply closet Julie was caught in."

"Yeah, I can see that. Over there on the other side of the sky, that zig zag line... that kind of looks like a person sitting down. Miranda at her table, designing the warp drive?"

Jimbo laughed,

"Yeah, an' look! Cup of tea and all!"

"Where?"

Jimbo pointed out a little U-shaped collection of space stations. Mike laughed.

"Sure enough. Let's see... that's like my apartment building, with that one in the middle that's like the light in my apartment..."

"The voodoo priestess behind a table, up there..."

Mike chuckled and opened his backpack to check on his big alligator head. He then looked up for a moment, then chuckled.

"And there, Jimbo, is the juju you gave me!"

Jimbo laughed. Mike zipped up his backpack and took a deep breath.

"And that pointy shape, that looks kind of like the Inn. Actually, oddly enough, I think that constellation contains the Inn itself. Yeah, look, see how the light diffracts strangely from that one? That's the doily!"

Jimbo laughed and looked elsewhere in the sky. He dropped his cigarette.

"Dang it, dere it is agin'!"

Mike had learned to recognize the shape. It was, once again, a representation of the shape of the charm the priestess had given Jimbo. Mike chuckled.

"Who knows Jimbo, maybe it's another space ship?"

"Mike, don' you even start wit me, boy!"

Jimbo laughed at him as he picked up what was left of his

cigarette and finished the last couple of drags.

Mike threw the cigarette butt down, stood up and stretched. He waved and nodded a silent salute to Jimbo as he walked towards the bus stop.

Mike honestly didn't know where he was going to stay for the next couple of weeks. He didn't have much to say goodbye to and he didn't want to get in the way of his comrades who did. He had some things he needed to research before he went up, theories to check, but he felt another strange compulsion. There was a waning sort of hollowness that he felt inside, like a great empty room, too big for him to see. But he felt something else, like a child in a distant corner of that room, or something like that. A quiet voice inside Mike's head that was scarcely audible over the constant hum of Mike's mental machinery. It was a sad sound, a lonely sound, a sound that needed nothing more than to be acknowledged and heard. Maybe he did have something to say goodbye to?

He listened to the muffled squeal of the bus motor behind a weather report playing on his sunglasses. Mike looked around to be sure the bus was empty, then let his guard down. He had to be moderately aware on the station, but now he was alone and two weeks from his freedom. He'd been on the run for seven years, it was time to take at least a little break. He blurred the cell tower monitoring windows into the background of his glasses to pay attention to the news cast. He knew that he was getting nowhere close to the full story, but it didn't matter. The fun part was watching the newscaster. Mike could tell intellectually that she had very little idea exactly what she was talking about, but that she felt she knew exactly what she was talking about.

"People are silly," thought Mike to himself. He continued to watch in amusement as the newscaster rattled on about sunny days ahead, partly sunny weather and slight chances of rain in the mornings. She spoke with such confidence. Mike saw the confidence in a lot of people. It was their wishful thinking, for the most part. People of Mike's time had this urge to be in control. If they couldn't be in control they'd at least fake it. The journalist had no idea what was really going on in the world, she only had the information she was given. She had no way of being sure it was real. She could only relay the information with stern confidence in her own veracity. Mike chuckled, closed the window in his glasses and looked out the window of the bus.

So many people, trying to look bold and proud. Trying to look like they're in control. All obviously hiding something, thoughts and fears like spiritual parasites eating away at their souls. He recognized it all too well. He had his own spiritual parasite demons that he tried not to pay attention to, but never to any avail. Everyone else seemed perfectly capable of it, but Mike knew he would never be; he knew too much about the world.

So many people lived their entire lives engorged in fantasy worlds of their own creation. Their worlds usually took the names of "Tomorrow," or "Next Month", or any other unit of time. Life may be miserable at the moment, but to think ahead meant an

escape. To daydream meant a misplaced hope, but hope nonetheless. The easily attainable hope, completely non realistic yet pretty and comfortable.

Mike smiled forlornly at the people walking in the streets. Some held their heads, chests and pretenses high, strutting like they were kings of the world. They were in a way; just not the same world that everyone else lived in. Other's skulked in conversation, their pretenses raised like white flags from their hunched shoulders. They conceded the existence of objective reality, but chose their escapes into music and fantasy net streams consciously. Then there was Mike.

Mike got off at the next bus stop with a sigh and a sidelong glance down the street towards where he used to live. Sadness crept into his soul with the realization that many of the people on the street would be happy with their pretenses for the rest of their lives. They could live out the remainders of their lives in their own little worlds because everyone else did too; the entire culture had evolved from this escapism.

People of the time were heavily indoctrinated with the idea that external accessories defined the internal person. Women wore paint on their faces to make their facial colors look more natural. People based their entire self worth on their appearances or on the things they owned. Children were raised with the idea that if you are unhappy, buy something to make you feel better. Don't bother finding and removing the source of the unhappiness. Instead, buy a faster car, or better clothing, or a better computer, or a shiny new MIR, or bio-bevs or anything else that might kill the negative feelings at least for a little while.

Mike decided to stop being bitter. He shrugged off his antagonism and walked onwards towards the cybercafe. All the while he was still reflecting on human nature. How much of that pretense was culturally induced, as opposed to just human nature? While the culture of Earth was growing steadily more and more homogenous, cultural differences were still wide enough that general human traits were still observable. In the westernized world value was placed on external objects, but interculturally there was always an emphasis on fitting in. It was necessary to be part of the tribe, part of the group. Yet, as part of initiation into any group, there was usually some ordeal of solitude. An African youth would lay on a bed of leaves and get his chest scarred to be officially recognized as a man of the tribe. He would have to stoically bear the pain alone, not share it with anyone. Teenagers in the Americas often had self imposed ordeals of solitude, angst ridden masquerades and emotional gauntlets caused by having to actually try for the first time after having life handed to them as children.

Mike chuckled at the irony. To be accepted into the group, a human being would need to remove themselves from the group, prove or assert one's individuality, then blend back in with the group. "Why the ritualism?" Mike pondered. It all seemed to lead back to Julie and Miranda's theories on the contradictory human condition. We need to be separate, yet need to be together. But how did that

work, exactly?

Mike's internal monologue circulated along the same path for some time till he got to the old cybercafe. The place had been established in 2005, making it almost half a century old. He smiled with the realization that at some time, the flat panel LCD screens and tower computers that the ones in the cafe were modeled after were new, exciting technology. The cafe had modeled their computers after the old ones to get that "antique" feel, as the owner had once told Mike.

One day, the Port Starboard Inn might be part of a vast floating museum of deep space memorabilia, a hulking relic next to the sleek, compact ships of a hundred years from then. Mike sat down at the bar section of the cybercafe, next to a pair of college students experiencing lulls in their conversation. Mike ordered a cup of coffee and looked at the big view screen in the corner. Nothing interesting on, only a basic Fourier analysis rendering of the music playing in the background. One of the youths spoke up, obviously over-caffeinated.

"So man, what you think the future holds?"

Mike concealed his laughter with a cheshire smirk.

"The future? Hmm... Well, assuming there's not too much war in the near future, probably a lot more of the same. It'll just all get smaller."

Mike grinned cryptically. The other college kid asked for clarification.

"Smaller?"

"Yeah, that's been the only difference, hasn't it? Computers still function using ones and zeroes. Cars still run on internal combustion engines. Displays still involve pixels. Spaceship engines still use Ions. The only technological advances we've had have been to take what we have and make it smaller. After the space boom, we've hit a technological plateau."

The two youths raised protesting fingers to make their rebuttals for the case of technology, when Mike resumed.

"Now hold on, I said they reached a plateau, not *the* plateau. We just need a new technological advance to kick the whole cycle off again, to climb our next mountains..."

Mike decided to stop there. He had to be careful; now was definitely not the time to get busted. To his surprise, a waitress behind the bar chimed in.

"See, that's what I've been telling you two! As a species, we need to go beyond just space to advance further technologically."

Mike looked at her quizzically. She wiped off the counter in front of Mike and spoke to him quietly.

"They've been in here much of the night, doing a survey for school. We had an argument earlier about it, where I told them that we'd have to go explore other planets to get any new technology. You just agreed with me, I think."

She smiled, smacking her bubble gum, and walked off. Mike hid his surprise at nearly being caught and innocently looked at the two sheepish youths. He then looked at the waitress. Perhaps



a segment of humanity was ready for deep space travel? Later, he thought. He sat at a nearby table with his coffee and simply watched people.

A couple of girls from a nearby liberal arts oriented college came in for cups of chai. The two youths instantly straightened themselves up and started babbling pseudo-intellectually between each other. Mike smirked at their laughably obvious attempt to impress the two girls who walked in, as well as the fact that the girls didn't seem to notice. As they ordered, the same youth asked the question he'd asked Mike. The two girls looked at each other and giggled. The shorter of the two responded first with a barely coherent stream of adjectives. The other student from the technological school pulled out a previously unseen notebook and started frantically taking notes. Mike shook his head with a grin as he realized that the two girls' responses probably wouldn't make it into the report anyway. The guys were only trying to impress them.

Could people really be so shallow? Obviously. The evidence had been around for over a century. Advertisements from the 1950's sold products based solely on the presumption that everyone else was doing the same, and you had to fit in. Around the 1990's, the emphasis had shifted more to the "extreme", the far out individuals, hanging out with all their far out individual friends. Mike blinked rapidly for a few moments and turned his glasses back on to do research. Sure enough, the emphases had never changed. People were attracted to the group in the same way, but through different means:

In the 1950's, conformity was the major cultural cornerstone. People were attracted to the group by the security of conformity. In the 1990's, individuality was the major cultural cornerstone. People were attracted to the group by the image of individuality. nonetheless, the group was still important.

From the turn of the century, people accused many consumer corporations of manipulating humanity and human culture, building to a head during 2017 and the Substantialists 2.5 million member sit in on the streets of Washington. The corporations raised their hands, claiming inability to manipulate such things. They were speaking the truth. You may be able to control human nature for a while, but permanent change is impossible without hundreds of years of work.

"When was the major change?" Mike mumbled to himself. He dug through more history till he found information about the 1960's. There he saw the beginnings of change. Life had started to stagnate, then suddenly people demanded change. nobody accepted their roles anymore, women didn't stay in the kitchen, children didn't trim their hair into crew cuts, men didn't stay strong and silent. People questioned their lives and came to the conclusion, "There has to be something better than this." People spoke out against racial and cultural injustices, and changes slowly and eventually started to take place, culminating with the substantialists and the space boom. That was back around when Mike was born. How long had it been since the last period of

prosperity?

It dawned upon Mike. The Port Starboard Inn really had reached its time, hadn't it? He laughed; He really was part of humanity. Part of the same cycle, growth and stagnation, death and rebirth, plateau after plateau. Miranda's idea had been right on time to start the innovations of the next era of humanity. He realized that their whole crew would be obscure forgotten pioneers. Some handsome figure, who started as an everyday Joe, probably about 10 years old as of Mike's ruminations, would be the first colonist hero. Mike and crew would be the first few rogue innovators, and others would follow on their heels, lifted to fame on the gravitational ripples caused by the Inn.

It was only three or four hours till Mike fully realized the depth of his actual connection to humanity. Though he wasn't technically human anymore (according to the laws of the time), he was still human in regards to culture. He was still a cell in the organism, a potential vehicle for change like a finger which reaches for a grip on the evolutionary rock face. He wasn't alone at all. It was all an illusion. The togetherness was the reality.

Mike threw his head back and laughed, severely startling a busboy who was busy cleaning the table next to him. Mike got up and helped clean up the spilled coffee on the floor.

"Terribly sorry about that. Didn't mean to scare you."

"Oh, that's okay man. You do realize we close in five minutes, right?"

Mike looked at the clock in the corner of his glasses. He'd been researching and contemplating for many hours. Fortunately he'd learn to instinctively do web searches like Tommy, so he hadn't been tracked at all. Mike stood up, left a \$10 bill on the table and left.

The door of the cafe closed behind Mike, and then silence. waves quietly lapped against the piers, and a lighthouse flashed out at sea in the distance. Mike smiled affectionately.

"I am here, my brother or sister shining the light at me!"

He smiled gently and took a seat at the edge of the harbor, his feet dangling over the edge. The cool fall breeze blew across his face as he thought about all the people he'd seen and known. Fleeting acquaintances from high school, his biology teacher, his dear friends... He looked up to the sky and saw a twinkling space station overhead, wondering if any of his companions were looking at the same flicker in the sky. He was not alone. Everyone on the planet felt alone at times, and indeed they needed to be alone. Yet we are all together. No matter how far away from the Earth Mike and crew found themselves, they would still be connected, still a part of humanity.

## CHAPTER 23

Mike dwelt for a moment on his humanity, when a stiff breeze from the harbor sent a shiver through him. The bold pinkish-orange glow of street lamps rose on wisps of water vapor from all the hydrogen cars, thinning out as rush hour had decreased to nothing. Pigeons bobbed their heads around the pavement in search of spare scraps of food, hoping their dark feathers wouldn't attract a seagull to bully them away from any finds of edible treasure. Mike took a deep breath and started walking towards downtown in hopes of finding a 24 hour restaurant.

Fortunately for Mike, this wasn't a particularly daunting task. Mike came across an International House of Pancakes, where he sat down amid the desolation of the 2 AM rush from the bars getting out. Empty packs of cigarettes, dirty plates, segments of napkins with phone numbers written on them, and the occasional forgotten hat or over shirt littered the restaurant. The door leading towards the kitchen hissed with the sound of a dishwasher as a frazzled waitress ran out, downed a glass of coffee, and approached Mike's table with a washcloth.

"Terribly sorry about the mess, I..."

"It's alright, take your time, I'll be here for a while. You want any help cleaning any of this up?"

The waitress took a look around making sure that her manager wasn't around, then handed Mike a bus tub to clean the tables.

"Thanks hon... you want anything to eat?"

"Nah, just some coffee."

Mike and the waitress smiled at each other as she ran back to the kitchen. Mike started calmly cleaning tables. It was something to do. The waitress brought out a pot of coffee and put it on Mike's now clean table. She had apparently understood the language and knew that Mike intended to spend the night there. Before too long the tables were all cleaned and the waitress treated Mike to a basket of mozzarella cheese sticks.

Mike stirred some cream into his coffee and watched the wisps of cream circle like the arms of galaxies. Where would they go? Other than Julie and Miranda's joking suggestion of visiting Orion's belt, nobody had really planned a destination. They were just going to go someplace. Anyplace. Mike hoped that it would be someplace with a livable planet. Just to see new life, maybe even new civilizations...

Mike snapped out of his daydream trance. He sipped the coffee, suddenly very aware of his surroundings once again. He was living in the fantasy world, just like the people walking the street. It was time to get back to work. Mike donned his glasses and started hunting around the news. Nothing too unexpected, more international tensions, heavy substantialist protesting... then something hidden deep within the annals of pseudo journalism presented itself to Mike, almost imperceptible.

Someone reported a security leak from the pentagon, something about a project "Mongoose" involving gene therapy. The article said a few blurbs about genetically engineering a superhuman, and

cited witnesses who saw some equipment being shipped to a laboratory known to do top secret government work. Mike would've thought it only conspiracy theory nonsense were it not for a chilling thought that perhaps it really was only one person hunting him down.

Mike took another long gulp of coffee, popped his neck and started using the search algorithm he'd derived from Tommy. As horribly inefficient as it was, it assured that he wouldn't be caught. Tommy's search was very linear; Mike felt like a rat in a maze searching for a piece of cheese rather than the scientist watching the search from overhead. dead end after dead end, Mike pursued chains of hyperlinks, sometimes ending up at a porn site or a brief documentary someone had made of him (Mike always chuckled at these, since nobody was quite clear what happened after he left the New Orleans hospital but everyone felt they knew exactly what happened).

He jumped onto one thread in a poorly secured arab server where a marginally effective terrorist organization was "covertly" pooling information. Mike found a project number associated with project "Mongoose" and added it to his search queue.

Mike paused before he entered the new search. This would attract attention, no matter what search algorithm he was using. He looked at his cell tower usage window to see if there were any IPs he recognized. The old ones he'd always avoided in the past were up, those would be the ones who would start chasing him down when he searched for the project number. Avoiding them would be easy. A series of thirteen identical IPs bouncing from tower to tower would be more of a threat. He was about to walk right into the lion's den.

Mike took a deep breath as his mind raced at a million miles an hour. He sat with his tongue hovering behind his left incisor like a mouse staring across a room with a dozen cats in it, looking to the mouse hole on the other side.

"Well, here goes nothing," he muttered aloud as he clicked his piercing against his tooth. Search results started to pile slowly. nobody seemed to have noticed yet. GXP-909X showed up twice from Mike's choice of search engines that Tommy also knew about. Neither one was particularly helpful. Suddenly, as Mike started to lose hope, a link suddenly appeared at the bottom of the search results. Mike raised an eyebrow; was this a trap? Instead of the entire page refreshing, as computers had done for almost seventy years, the additional link showed up at the bottom. The description of the page yielded nothing, but Mike noticed the suffix .nsa at the end of the web address. This was something he'd not seen, so he decided to chance it and click select the link.

There wasn't a visible page on the other end, but no suspicious activity either. Where others would see only a blank page with a redirect on it saying that the page doesn't exist, Mike saw that there was an invisible link coded in at the bottom of the page. Mike viewed the target of the link in a way which no computer was supposed to (the preview program was of Mike's own

design), to see that as soon as he clicked it he had three seconds to put in a password. Instead, he decided to look for a back door.

Mike thought so hard he actually broke a sweat. Whatever clandestine page this was, the designers certainly knew what they were doing. Finally, he found his entrance and went. Within the next few seconds, several computers sprang into action to try and figure out where he was. "Time to play rough," he thought as he rapidly clicked his tongue around. Back to his old ways, Mike opened thirteen files at a time, scrolling through for information he needed. It was a mad dash, in search of information as the government computers used some of the oldest tricks in the book to trap him in the system where they could easily trace his location.

He crashed a couple of computers as he finally found it; GXP-909X overview. Mike grabbed the file then shut off his glasses to get out of there quick. He heaved a deep sigh and returned to his coffee mug for a brief respite until he turned his glasses back on again, without connecting them to the web. After less than a minute of attempting patience, the glasses were again powered up and displaying the project overview to his dismay and utter horror.

GXP-909X OVERVIEW  
CODENAME: MONGOOSE

PROJECT MONGOOSE EXISTS FOR THE PURPOSE OF PURSUING AND  
DETAINING THOSE IN BLATANT VIOLATION OF THE MENTAL  
STATUTES OF THE LIMITATIONS ON HUMAN GENETIC MODIFICATION  
ACT. THE AGENT IS INFECTED WITH A VARIANT OF THE  
RETROVIRUS CREATED AT GENESMITH INC. WHICH GIVES THE AGENT  
SUPERHUMAN INTELLIGENCE AND ABILITY TO TRACK DOWN OTHERS IN  
VIOLATION OF THE STATUTES OF THE LIMITATIONS ON HUMAN  
GENETIC ENGINEERING ACT.

Mike put down his glasses in horror. He wasn't being chased by a group of brilliant people, he was being chased by an equal. Genetically modified with a derivative of the same retrovirus that made him the way he was. Mike realized he may have finally met his match. A government sanctioned illegal being created for the sole purpose of tracking him down and taking him into custody. He took off his glasses and stared coldly into his rapidly cooling coffee, when he was startled by a pair of familiar voices at the front door of the restaurant.

## CHAPTER 24

"Oh come on, it doesn't matter how good of an actor he is!"

Miranda pointed at the picture of Les Simmons, posed heroically, advertising his latest movie. The poster was stuck on the side of the bus with Miranda and Julie staring intently, one with infatuation and one with disgust.

"But if he's an actor, he should be able to act! If you want someone to just look pretty, a still image like that is all you need. They shouldn't bother wasting millions of dollars to have him stand around with his hair blowing in the wind in between bloody fight scenes!"

"But you have to admit, he is hot."

Julie sighed and conceded the point. for a moment, anyway.

"But that's not what matters! He's just a... "

"Julie, is he hot, yes or no."

Julie sighed and lifted an eyebrow and the adjacent corner of her mouth towards Miranda.

"Yes dear, he is attractive, but..."

"Well HA! That's all I'm saying."

"So you think it's worth twenty bucks just to go watch him on screen?"

"Yeah, why not?"

"Isn't it cheaper just to sit here on the bus and look at the picture?"

"Well yeah, but..."

"Miranda, is it cheaper, yes or no."

Miranda sighed, "yes..."

"Well, HA, that's all I'M saying!"

Miranda chuckled.

"Seriously Miranda, if you're not going to a movie for the acting or the special effects, then there's not really much difference between a still image on the side of a bus and the 'actor' himself. Especially Les Simmons."

They both laughed and sighed. The supposed actor's pretentiously masculine snarl could be traced back for generations in movies. The art no longer held the respect or importance it once did. Entertainment was no longer a communal thing where people would travel en masse to movie theaters and sit in clumps of humanity on couches. Entertainment in their time was primarily interactive; video games, interactive film, music, all sorts of things which were best displayed and played with on a pair of sunglasses. Movies were for the nostalgic artistes or the adrenaline junkies, normally the latter. The thrill of special effects on a hundred foot tall screen with better than photographic resolution could not be matched, not even by reality. Occasionally, a piece of true cinematic art would grace the screen for a little while. Other than that, movies held no real appeal within the culture anymore.

The argument started when Julie scoffed at the subtitle under the poster, advertising it as an "art" film. Les Simmons never did anything artistic; he was always the stoic hero who blew up

the enemy at the end of the show. He never acted in anything which deserved any artistic merit, at least not according to Julie. For Miranda, the fact that he was attractive was enough to make the movie a success. To Julie's chagrin, Miranda was right; people still flocked to movies to see attractive people on a big screen.

Julie shook her head to make it stop thinking about the poster and the decaying culture it represented. She knew there was hope for Miranda, she just needed to get her away from that cultural mess.

"So, Miranda, What do you plan to do when you get home?"

Miranda smiled with closed eyes and a deep breath.

"I haven't gone sailing since I was a kid. I might not have another chance to do that if the warp drive doesn't work, so I'm going to get in a few hours on the ocean every day."

Julie smiled.

"Wow, that sounds nice..."

"How about you, Julie?"

Julie smiled softly. Miranda already knew the only the Julie really needed to say goodbye to on this Earth. She could see it in Julie's eyes. She could also see a struggle, perhaps the same unresolved struggle she'd been in with her sister for most of the years since the Medlab incident. Something seemed different about it, though, so Miranda laid her hand on Julie's shoulder. They sat silently like that for a long time before Julie finally spoke.

"Miranda, do you have any brothers or sisters?"

"No..."

"Hmm," said Julie as she tried to think of a way to relate to Miranda how she was feeling. There was a bond between siblings, something which is eternal and can only be understood through experience. She looked out of the corner of her eye at Miranda's spaced out look and began to feel much more comfortable. She'd forgotten about Miranda's empathy. Miranda had the same pained look in her eyes that Julie had.

"I might never see her again, Miranda. I might never be able to come back."

Julie paused for a long time.

"Sara's some of the last unspoiled beauty on this planet. I'll really miss her."

Miranda gave Julie a big hug, at which point Julie took a deep breath and lifted her head up high.

"I just hope she's not going to blast off into space like I did and ruin herself and her chances at happiness. Other than that nagging issue I'm quite sure that she's grown up enough to deal with her own life."

Julie paused again, then sniffled.

"but that doesn't mean I'm not going to miss her."

The bus stopped in front of a corroding building whose bricks echoed songs of her childhood to her. Miranda recognized the look of nostalgia spread across Julie's face and removed her arms from around Julie's shoulders just in time for Julie to stand.

Julie didn't spend much time around the neighborhood where

she grew up. It was always a painful reminder of her childhood and adolescence. Her family was never too particularly wealthy. She had two loving, intelligent parents who were among the unluckiest people in the world. They both worked very hard, always barely missing promotions and pay raises, so that despite their strong minds and hearts of gold all they could afford for Julie and Sara was to live in the slums. Julie inherited her folks' conscientiousness and wit, which made life in that part of the city very difficult for her. As a child, she was always teased as "the smart girl", always ostracized at recess for being different and sometimes, in rare cases, physically harrassed by bully classmates. She received no respect from anyone but her parents and her teachers through childhood.

During early adolescence, she got even less respect. Now she was not only the infamous "egghead" girl (though her head did not resemble an egg at all), but also drop dead gorgeous. Anyone not poking at her wit was simply pubescently lusting after her as an object and she knew it.

When Julie was twelve, her sister Sara was born. Her father finally had an imminent promotion, so that her parents could actually afford to expand the family. When Sara was born, Julie promised her in her cradle that she'd make sure that Sara didn't have to live through the solitary torment that Julie did. Julie always looked out for her sister, bullying back any bullies and helping Sara learn to be couth enough to know when to stop talking and to simply do. Sara learned to be a lot less "egg-headed" than Julie was, which gave her a much more pleasant childhood.

Shortly after Sara was born, their father's company went out of business and he had to find a new job to support the recently born Sara. He got a job working for the same company his wife did, fixing old computers. One day, as they were traveling home from work together, an antelope which had by chance escaped from the zoo earlier that day ran out into the highway right in front of them. They hit it and went into an uncontrolled spin which caused the car to wrap itself around a sign post on the highway, instantly killing both parents.

Since abortion was made illegal in 2010, the number of illegitimate births soared through the roof. Adoption agencies and orphanages were completely overrun with children in need of parents, and consequently the standards for foster parents dropped considerably. In an effort to attract more people to foster parenthood (on the logic that it was better for a child to have bad parents than no parents at all), state-run agencies even offered a monetary stipend to potential foster parents. This money was what attracted Julie and Sara's foster parents.

Julie regarded them both with nothing more than contempt and disgust. When her foster father picked them up from the orphanage, no sooner had he gotten into the car than he opened a bottle of liquor. He had finished half of it by the time they got home. Julie hoped maybe their foster mother would be better, but she drank even more than their new "dad". Julie spent the rest of her childhood in intense schooling, defending her sister from



alcohol induced abuse, and teaching her sister how to defend herself. The only thing Julie consistently had which brought her any joy was gymnastics. She never got any emotional support for it after her parents died, but continued anyway.

The building Julie was now staring at was her old gym. She used to practice long hours on the uneven bars when she needed an escape. The building had a lot more graffiti on it since the last time she was there, with a few windows boarded up, but otherwise unchanged.

"Julie, I think the bus is about to leave..."

Julie snapped out her nostalgic reverie to Miranda's warm, understanding smile. Julie hugged Miranda and started to walk off the bus.

"I'll see you in a couple of weeks. Have fun sailing!"

Miranda quietly waved as Julie stepped off the bus. The bus whirred away to the faint sounds of a heavy bass beat a few blocks away and the chatter of children in an inner-city playground. Julie knew that before long the nostalgia would wear off and she'd be again disgusted by the filth of the city, so she decided to enjoy it while it lasted.

Walking through the city, past her old grade school and some of the markets, she became more strongly convinced than ever that she needed to get as far away from this planet as possible, at least for a little while. In the crowded areas of town, she noticed a kind of tension in everyone which everyone recognized but nobody could explain. Julie smiled to herself; she knew both the problem and the solution. Maybe one day she could free some of these people. Maybe.

She should not have been shocked when she turned the corner and saw the apartment building where she spent her adolescence. It was a crumbling brownstone building. It also had graffiti all along the sides, social commentary and territorial marking which could all be explained by there not being enough space. She could tell which apartment was her old one by the thick dingy curtains through the windows. Nobody could ever see what was going on in there. Nobody inside could really see out either; her foster father would start yelling angrily if anyone tried to open a curtain.

Julie closed the door of her subconscious to stop the flow of memories. She wasn't here to relive painful memories; she was here to see her sister. She swallowed hard, clenched her fists, and continued walking down the street. She didn't see her foster-parents' old car, but decided to be cautious anyway. She wanted to avoid her foster parents if at all possible.

The front door of the building was dark and grimy. Julie quivered as she remembered the horrible squealing noise made by the door upon opening. Perhaps the memory was more ghastly through memory association, thought Julie. She swallowed hard and pressed the second floor doorbell. She then drew herself up and stood, stoically, expecting the worse. Her fears were eased as she heard quick nimble footsteps down the stairs. A ghastly metallic groan emanated from the door, followed by a slender dark

haired girl with melting eyes in her face of stone.

Julie smiled and embraced her sister like one who is lost in the desert would embrace a water fountain. Julie's source of spiritual sustenance, the one thing which kept her going sometimes, now stood before her. Whether she was going to ruin her life getting blown up in space like Julie didn't matter to Julie right then. All that mattered right then was right then, the moment, the fact that the two were reunited.

Sara tried to remain stoic. She was also ecstatic to see Julie, but conflict was fresh in her mind. Since her childhood, she dreamt of nothing more than escaping. She was very young when mom and dad died, and so knew nothing other than the cruelty of kids in the school yard, the drunkenness of her foster parents, and Julie's hard concern and tough love. Had Sara been any weaker of a person, she'd have cracked under the tension long ago. Even now, as she was prepared to graduate high school, she was on the verge of emotional collapse. Now she found herself at a crossroads, between doing what was right for her and doing what was right for Julie. The choice seemed obvious, but she felt too indebted to Julie to just up and leave for space.

"I've missed you so much, Sara!"

Sara's eyes finally melted from ice to water, streaming down her face.

"I've missed you too, Julie."

Julie released her sister from her embrace and firmly put both hands on both of Sara's shoulders.

"So, what's new with you?"

Sara looked up at Julie with sad eyes, which Julie immediately understood through sisterly intuition.

"No, we'll discuss your going into space later. What else is on your mind?"

Sara paused for a moment still with sad eyes.

"No, that's pretty much been it. The step-folks are out working, then they're going to get drunk on their paycheck."

Julie stuck her tongue out in disgust.

"So they'll be gone for a while. I've just cleaned the house, want to come up for some tea, maybe a round of chess or something?"

Julie smiled in emphatic agreement. She walked upstairs behind Sara, during which time her purpose there suddenly flashed into her head again. She realized that she would have to tell her sister about the deep space ship, and that she might possibly never come back. How would Sara react to that? Would she maliciously report what was going on to anyone who would listen, to make sure that nobody would go unless she did? It was the ultimate escape Sara had always looked for and spoke of while growing up.

"Julie, are you coming or what?"

Julie had stopped on the stairs while Sara had kept going. Julie smiled and continued walking.

"Looks like you've got a lot on your mind too, sis. Want to talk?"

"No, maybe a little later Sara. In the meantime, let's have that tea and bring out the chessboard."

Sara went to her room and pulled out a beat up old cardboard box. From there she removed a torn cardboard chessboard with thirty one chess pieces, along with one piece from a checker set which was supposed to represent a black rook. Julie went to the kitchen and put a beat up teapot on the stove to boil. The building was a hulking relic, complete with gas stoves run on methane and two prong electrical outlets. The walls were yellow from the cigar smoke of her foster father. The apartment normally reeked of it, but Sara had done a thorough job cleaning. The carpet was ripped and burned in several places, along with most every other piece of upholstery in the apartment. The only cloth goods which were not covered with cigar burns were the heavy canvas curtains. For some reason, their foster father held a strong aversion to light or the idea that anyone might see inside the apartment. Nothing too bad went on inside the apartment, except for the frequent yelling, yet for some reason he insisted that nobody ever be able to see inside the apartment.

Julie sat down across the scraped up coffee table from Sara, who had finished laying out the chess board. Julie made her first move by jumping a pawn two spaces ahead.

"So, how's school been?" Julie asked Sara. Sara scoffed and gave Julie the most sarcastic expression she could possibly muster.

"Oh, it's been wonderful Julie. Boys are pigs, girls are bitches, teachers don't know what the hell they're talking about, administrators have God-complexes, except for principle James who only has a Napoleonic complex, the books are falling apart and filled with typos, some little prick decided to set off a cherry bomb in the sewage system, and..."

"So basically, nothing's changed?"

"Precisely."

Julie nodded as Sara pulled a knight out of hiding from behind a pawn.

"Only difference is that the few decent teachers have retired."

Julie looked up, concerned but not too particularly surprised.

"Who?"

"Well, for starters, Ms. Kowalczyk sent a rather vicious email to all the staff, administration and students with her resignation and thoughts on academic policy."

Julie laughed,

"Once a political science teacher, always a political science teacher, right?"

"Yeah, I guess so. Mr. Johnson decided to go back to teaching at college, also citing academic policy."

Julie nodded solemnly. There was now only one teacher there who she liked anymore. She shrugged and slid a bishop across the board towards an exposed rook. Sara winced, but then smirked as she took out the bishop with a knight. She spoke again.

"Yeah, it's been a real drag around here. You know that the average class size is 60 people down at Bush high right now?"

Julie raised an eyebrow.

"That many, huh?"

"I mean, I could expect it for college or something like that, but not high school. That was one of the things Ms. Kowalczyk was on about in her email, about how her average political science class had more people in it than the football team, yet there were half a dozen coaches and only one of her."

Julie chuckled. There was a fairly long silence before Julie made her next move.

"Check."

Sara sighed and scratched her head. She moved a bishop over to protect the king then kept on talking.

"There's just so many people. In school, on the street. People are so pushy, so touchy. There's money around, but it's concentrated in all the wrong places. I mean, think about Kincaid's business, Jonas Kincaid would be the wealthiest man alive if he lived now. The rest of us, like out here in the neighborhood, it's a miracle to get enough food sometimes. I don't know, it's just so frustrating."

Julie looked on in sympathy. She knew this already, but saw that her sister only needed to vent.

"And you wonder why I want to live and work in space? You made out pretty well, financially."

Julie scowled and presented her mechanical arm to Sara as a reminder. Sara continued, unaffected.

"Yeah, but when's the last time you had to worry about lunch money? You had enough income to support me AND our foster parents, though I can definitely understand why you don't want to pay their liquor bills."

Sara deftly maneuvered her queen into position.

"Check."

Julie looked down at the chess board, then decided that it was more important to talk to Sara than play chess.

"Sara... how many times do I have to talk to you about this? You're not going to go up and risk destroying your life just for a..."

"But what is life without risk? What's the point of living if you never take any chances?"

Julie's eyes ignited, but were quickly put out by the icy grey of Sara's retinae.

"Julie, you lived for thrills, and don't tell me otherwise. If you don't want to live like that anymore, then that's your business. I don't think you know just how dead you've looked since the accident. I mean, I can understand how it would permanently affect you, but still. Just because you don't like your life doesn't mean I'm not allowed to like mine."

A bead of sweat rolling down Sara's forehead betrayed her anxiety, though Julie allowed her to keep the illusion that she still had her cool. After all, what was there to say to that? Instead she just moved her king out of the way of Sara's bishop.

Sara shifted the bishop again.

"Check mate."

Julie sat staring at the chessboard for a while. Sara had raised some extremely valid points and Julie knew it. What right did Julie have to tell Sara what she could and couldn't do? It was after all her life. But all life is connected, Sara hurting herself would hurt Julie and the rest of humanity in an indirect way. Julie felt something distinctly wrong about the situation, but was interrupted by Sara before she could figure it out.

"Julie, it's getting pretty late... you wouldn't mind going out to your old flat, would you? I'd really rather avoid the drunks if at all possible."

Julie nodded in understanding and helped put away the chessboard. Sara wrote a note and left it with a corner tucked under a liquor bottle on the kitchen table. They both silently left the house, greeted by the night sky. Julie took a deep breath and released it in the form of a long sigh.

"Sara, you know that the only reason I go on like this is because I love you, right?"

Sara smiled.

"I know sis, that's why I haven't told you to bugger off yet."

They both chortled almost inaudibly, then embraced each other. Julie looked off over Sara's shoulder. It was so nice to love and be loved. So nice to not be alone for a while. How would she be able to live in deep space without Sara to come back to? She sniffled as she looked up to the stars. A space station twinkled overhead like a beacon of hope. Just someone trying to say "I'm here, and so are you!". Julie wondered if any of her friends, somewhere out there in the world, might be looking at the same spot in the sky. She let go of Sara and smiled.

"Sara, I'm going to really think about this. I know there's nothing I can do to stop you, but I'll still think about it nonetheless. In the meantime, are you hungry?"

Sara nodded.

"Mmm... pancakes?"

They linked arms in a gesture of sisterly playfulness and start bouncing down the street towards the nearest 24 hour breakfast place. Obnoxious yellow streetlights stood leaning against urchins on the street, there so long they'd almost petrified. Life was too much, too crowded, too noisy, too inhumane. Instead of the usual disgust, Julie looked on with a sort of compassion. Much longer, and the whole world would petrify the same way.

"There's no time to dwell on all that, though," thought Julie to herself, "What is important is now, here, on Earth, with Sara and the cool breeze."

Before too long, the big glaring blue sign stood monolithically across a small parking lot.

"You know, I could really go for a milkshake. What do you say, Sara?"

Sara giggled.

"Yeah, I still wonder what kind of milkshake you'd get from a zero gravity cow."

Julie laughed. She and her sister used to joke when they were kids about opening a petting zoo in space. Julie froze as she entered the dining area when she saw an incredibly pale Mike sitting in the corner.

"Mike?"

"...Julie...?" Mike whispered.

Julie briskly walked over to the table Mike was sitting at. Sara looked confused, but followed her sister over to the corner booth and the large, heavily pierced man sitting there. Mike's hands were shaking and his eyes were watery. Julie almost cried sympathetically; she'd never seen Mike so terrified in her life. To her alarm, Mike started chuckling nervously.

"Mike, what's wrong?"

It took almost a minute for Julie to get anything out of Mike as he started laughing more and more hysterically. Finally, he collected himself and spoke.

"Well, found out what's after me..." he handed Julie the sunglasses. Mike had regained his color by now, while Julie lost hers.

"Oh my God, Mike... they've broken their own laws, just to track you down and dispose of you?"

"Looks like it."

"Umm, excuse me," interjected Sara, "Julie, should I know him?"

Julie paused for a moment, still reading in the glasses.

"Oh, yeah, Sara this is Mike, one of my best friends in the world."

Mike smiled and extended a hand to shake. Sara addressed him,

"Now, what is making my sister so pale?"

Mike's smile faded momentarily.

"Julie, she's cool, right?"

Julie gravely put down the glasses and pointed her most fiery gaze in Sara's direction.

"Sara, do you promise on your life never to tell ANYONE what you're about to hear?"

Sara shot her coldest glare back towards Julie

"Of course Julie. You have my word."

There was silence for a few moments, till Mike took a deep breath and spoke to Sara.

"Well, remember the guy from Genesmith with the retrovirus that caused the Limitations on Human Genetic Modification act?"

Sara nodded. Then her eyes opened wide as she put two and two together. Mike read the expression and replied.

"Yep, that's me. The government has been trying to track me down for six years now. Normally avoiding them is easy, but over the past year they've been getting way too close for comfort. I thought I was being pursued by a group of people with brilliant minds and almost intuition level communication. But turns out they've pulled a rather dirty trick on me. Only thing that's

keeping my head level right now is the knowledge that if it's not level, they'll certainly catch me."

Julie gave Sara the glasses, which she put on and proceeded to read. Julie sat down next to Mike and gave him a big hug. Sara whistled, impressed.

"I actually did a little bit of illicit research myself on the genetic modification law, and about what caused it. I... it's definitely a pleasure to meet you. How much of what they say online is true?"

Mike laughed.

"Well, the part of my brain that deals with attention is seven times as large as it should be, with neurons packed in twice as dense. The rest of my brain is also a lot more densely packed with neurons and chemical receptors. Basically, I can do thirteen things at once, my IQ is off the measurable scale, and I've not gotten sick since the retrovirus."

"So the lightning thing isn't true?"

Mike raised an eyebrow, amused.

"Probably not, though I'd like to know where you heard that."

"Sure," said Sara as she started speaking instructions to Mike's glasses, "what is this blinking red light?"

Mike sat up with a start, carefully but quickly grabbing the glasses from Sara's face. He looked in the lens and grimaced.

"I've got to bolt, they triangulated me somehow."

He threw a five on the table for his cup of coffee, saluted the waitress and left. Julie and Sara followed him out.

"Mike, where are you going to go?"

"Someplace that;s not here, and fast"

"Well Mike, you could come to my old flat up at the north end..."

Mike looked around. No signs of law enforcement yet. He shrugged and extended a hand towards Julie.

"Lead the way!"

All three of them jogged uptown, taking back streets and alleys whenever possible. they all started noticing more black cars running around town, but managed to avoid all of them to get to a decrepit old apartment building. Julie didn't like her place, but it was shelter when she didn't have anywhere else to go. It was a two room apartment, the bed, the kitchen, and a living area as soon as you walk in the door, plus a small bathroom in the corner to the right. The wooden floor was discolored from water damage and sagged in the middle. The paint was peeling off the brick walls, the lights were old and fluorescent, and the window looked out onto the side of a windowless brick warehouse. Julie switched on a reading lamp pointed towards the ceiling in the corner, so she could turn off the sterile white fluorescent tube overhead.

This was the apartment Julie had been renting since before she went into space for the first time. She moved out of her house as soon as it was legally possible and had a key made for Sara. Even though she could now afford a much more luxurious apartment, She still felt a small attachment to the place, a kind

of feeling of sanctuary. She offered the plush chair to Mike and the corner of the bed to Sara as she unfolded a lawn chair for herself.

"Anyone want coffee?"

"No, had a bit too much at the restaurant. Sipping nervously, don't you know. Ah good, the waitress didn't talk!"

Sara looked at Mike, then at Julie. Julie knew to expect this already. Sara looked back at Mike quizzically, as he pointed to one of his piercings.

"This one's tuned into the law enforcement bands. I've been listening to a police scanner the whole time since we left the restaurant. They made it to the restaurant, and the waitress said she'd seen me, but apparently doesn't remember you two or where we went. She just told the cops that I was a good tipper and that's all she knows." Mike smiled. "Who says generosity doesn't get you anything?"

Sara and Julie laughed. Mike leaned back in the chair and heaved a sigh of relief.

"So, how are things going for you two?"

Sara smirked.

"Well, I'm feeling pretty good. Just beat my big sister in a game of chess."

"I dare you to play him, Sara."

Mike laughed.

"Now Julie, best not to tempt the mortals..."

Sara looked at Mike aghast. Julie was embarrassed that Mike figured out how to manipulate her sister so easily.

"Oh bring it then!"

Julie shook her head and brought out a chess board she kept at her place and spread it out on the coffee table. As soon as the pieces were laid out, Sara made her first move by bringing out a knight again. Mike grinned.

"Checkmate, thirty three moves."

Sara scowled as Mike moved a pawn out. Julie smiled and put on a pot of tea for herself. Sara continued talking amiably as she contemplated her next move.

"So, Mike tell me a little about yourself. I mean, you're like a super hero to so many kids who don't feel like they're in control of their lives. I never thought I'd meet you, much less did I think that my sister would be best friends with you."

Mike chuckled

"Well, I think you just summed it up. I didn't feel like I was in control of my life, so I stepped out and took control. Unfortunately there's never a rewind function to go with it."

"Rewind? What are you talking about? You are a superhuman! So many people would kill for your abilities!"

"And there are people trying, every day. Kill or detain, something to take me off the streets. Life may have sucked when I was a kid, but at least I wasn't on the run all the time. At least people could deal with me. At least I could deal with people without condescension. Do you know how long it's been since I've truly had anyone to look up to?"



Sara looked at Mike, starting to grasp the gravity of what he was saying. Mike moved a rook to a position one square behind where Sara thought he would. She reached for her bishop when Mike interrupted.

"You can't do that."

"And why not?"

"See that other rook?"

"Oh."

Julie sat back down with them.

"How many moves is that, Mike?"

"Twenty four so far."

Julie nodded. Mike glanced at her and made her shiver, not by way of expression like she did, but solely because she thought she saw what was going on behind his eyes. She knew that he was silently asking her if she'd told Sara about the Inn yet, and that he already knew the answer. It wouldn't be so bad if Mike were actually psychic, but he knew these things solely based off of people's actions and reactions. Mike was indeed very difficult to get along with, especially if you hold a notion of secrecy. He always cracked right through it. As if reading her mind, Mike looked up at Julie. He knew that Julie wasn't quite ready to spill it yet, so he let her simmer under his occasional watchful glance till he lost patience.

"So Julie, when shall we go take care of the medical stuff at the warehouse?"

Julie stuttered for a moment.

"I, uh, I guess maybe, umm..."

Julie's stammering let Sara catch on that something was going on here.

"Sis, what's he talking about?"

Julie let loose an exasperated sigh and a resigned glare into space. She had to tell her sister. It was inevitable.

"Sara... Do you swear on your life, honor, and everything connected to you that not a word of this will ever leave this apartment?"

Sara looked concerned.

"Yes Julie, I swear."

"Well, Sara... you've been studying astrophysics, right?"

"...yeah..."

"And you remember Miranda, right?"

"oh yeah, how's she doing?"

"She designed a faster than light drive for a spaceship and built it."

Sara drew all the necessary conclusions and stared at Julie, truly angry. Here was Julie, lecturing her about how she couldn't go into space because it was dangerous and she'd get messed up the same way Julie did, and Julie is about to plunge off into deep space and go exploring? Sara thought about how Julie loved her. Why would she be going away like that, and most importantly why would she be unable to say anything directly about it? was she trying to run away or something?

In the meantime, Julie got ready to defend herself. She'd

been recognizing her hypocrisy more and more with the past year, but was not yet quite ready to let it go. The warring factions in her personality took up arms again for moral battle.

Mike bemusedly lifted one corner of his mouth as he watched Sara starting to come out on top in Julie's internal battle. He knew this moment was coming since he saw the conversation between Julie and Sara on the videophone. Mike watched the tension elevate to monumental levels, when he decided to do something to break the tension.

"Hey Julie, you have any popcorn?"

Sara and Julie replied in unison,

"Shut up, Mike."

Mike jumped up and did a brief cheerleader impersonation which caused both Sara and Julie to laugh against their wills. Mike decided to interject to defuse the situation. If Sara's temper was anything like Julie's, there might be an encounter with law enforcement that night after all. Before Mike had to come up with anything, Sara came to the rescue.

"Julie, I've got to admit I'm a little shocked. I mean, the fact that you've been in and out of space for the past year has struck me as a blaring hypocrisy, but I've dealt with it. The fact that you got to live your life and are having difficulty allowing me to live mine, I've learned to live with that. But here you are, about to plunge into deep space, possibly the most dangerous thing anyone has ever done, and yet you still tell me that I can't even work in near Earth space because it's too dangerous?"

Julie stared blankly for a moment. Mike raised an eyebrow in Julie's direction, awaiting a response. Instead, Sara continued.

"And yeah, I know Julie, you've been hurt real bad by your excursions into space. your life fell apart after you lost your arm, and you don't want the same thing to happen to me. Well first of all, Medlab and the stuff going on up there weren't exactly standard work. Most stations don't do research like that. Second of all, Julie, I love you. The good and the bad. The good and the bad things of your life have shaped you into what you are. The good plus the bad makes the real. We all need hardship in our lives, and you can't tell me otherwise."

Julie tried to interrupt, but was quickly hushed by Sara.

"People need hardship to grow. People need pain, because how could they be happy if they had nothing negative to compare their feelings to? It's my life. They're my mistakes. I'll make them, dammit. I'm prepared to go through what you have, though I know I won't because I'm completely alone.

"Do you realize that Julie? I think that's what hurts me the most here. You are all I have on this world. If you disappear into deep space, what's going to become of me? Then I'll have nobody. Lots of filler, random people everywhere, but none of the love that I share with you."

Julie bit her lip then finally responded.

"Sara, when you were a baby, I made a promise to you one night, over your crib. I promised you that I'd do everything I

can to protect you from this world, because it hurts. I lived through lots of the pain, and I didn't want you to do the same. I wanted you to be liked. I wanted you to be complete. I wanted you to be happy. Can't you see that I'm doing the best I can to do that?"

"Yeah, but what would make me happy is to go into deep space with you."

Julie raised an objecting finger.

"Now hold on Sara. Working near Earth is one thing, but risking your own destruction just to do something cool?"

"If it's too dangerous for me, then why is it not too dangerous for you?"

"Because I don't have anything left..."

"Neither do I, Julie! And I'm hurt by that because you do have something left. You have me. And I have you. And you want to take that away in a fit of blind hypocrisy, just because you want me to be your little Barbie doll, who you can pose and introduce to various Kens and dress up. You want me to be your little splotch of perfection in this world."

Sara's icy cold eyes reduced Julie's fire into a cool liquid, melting into her chair. She sobbed once or twice, which prompted Sara to go over and gently hold Julie.

"You know Julie, she's got some valid points."

Julie tearily looked up at Mike as he continued.

"You want to protect her from harm, but if she stays on this Earth, what are her prospects? I know I've kept you posted on global politics."

Julie shuddered as Mike relentlessly spoke on.

"Plus, She dreamt of going into space just like you did, for almost all of her life. It is her life, and her responsibility to live it, right? Furthermore, I can see how happy you two are together. Coming from someone who truly has nobody to relate to, I think it would be extremely foolish for you two to split up. You love each other very much. If you ever didn't have that, even if only for a few moments, you'd know that you want to stay together."

Julie stopped crying as she noticed Mike's eyes getting watery.

"I'm not human, do you know that? My DNA is only 97.8% similar to human DNA. I modified myself to the point of not being human anymore. I'm one of two members of my species, and the other member is out to kill me. You two are both one of a kind, but you complement each other perfectly. Julie, I move that you bring Sara with you to the Inn."

Julie looked at Sara for a moment, then smiled.

"Sara, would you like to come with us?"

Sara squealed and wrapped her arms around Julie, kissing her on the cheek. Mike grinned as Sara ran over to give him a big hug too. Sara turned around and put her hands on Julie's shoulders

"Don't worry Julie, worst that can happen is we die together. Is long as we're together, it's alright."

Julie smiled again. This was a pleasant ending to their year

long argument, though still there was part of her screaming to keep Sara here on Earth.

"Well Julie, in that case we'll need to inoculate her and make sure she's got no illnesses we wouldn't want to have on a star ship light years away from Earth."

The three of them stepped out of the door, and started moving towards the warehouse where Mike and Julie had stashed all the medical equipment.

## CHAPTER 25

"Well I'm certainly ready to go," commented a very indignant Alison. Miranda gave her a big hug of consolation. Alison had returned to her old home only to find it in utter disrepair with spraypaint on the side of it. Even in the more rural areas of the country, the entire country had turned into the inner city.

Everyone had returned home to similar horrors. Jimbo had returned to Louisiana and actually went to the new mall on Arceneaux road. on the other side of the road cement was being poured for the foundation of two new apartment complexes. The entire bayou was being crowded out by civilization. Humans, wading in their own cultural excrement, screaming for release from it.

He tried to escape to his tree, but even that wasn't worth it anymore. the main route to the new mall was along the road his tree was on, so any time he would start to relax and clear his mind, another hydrogen car would whir by.

There seemed like no hope for Earth. Jimbo was deeply saddened. He wished he could help the Earth, help the people on the earth. It took all the self control jimbo had not to invite them all onto the Inn with him. People in such sad states, so sad, so trapped. Jimbo got his best consolation from his brother.

"Jimbo, You can do dat when you come back. You still don' know if es gon' work yet, right?"

"Well, we done tested all de systems, dere ain' no reason it wouldn' work..."

Jimbo, you know damn sure I'll be on de next wave o' colonists after you go. I'll set up de first church on whatever planet you find. We'll build many more ships like dat, a fleet to carry us to de promised land!"

Jimbo and his brother laughed at the prospect, till Jimbo gravely spoke.

"But Seth, we gotta be careful... ain dat what happened in America? De pilgrims bought over all de stuff from England dey felt at home wit', and den it grew inta what we got now."

They both sat in silence for a few moments, then Jimbo continued

"What we gon' do is make several ship like ours, den we gon' sell 'em at cost, if even dat. People can go find dey own planets. We can't have all o' Earth movin' to de same place, cuz den we gon' have de same problems!"

Seth nodded his head.

"Jimbo, de years made you wise, you know dat?"

Jimbo beamed. Seth, callign him wise?

"But I ain' as wise as you Seth. We gots to keep dat balance up, y'know?"

Seth laughed and put his arm around Jimbo's shoulder. Jimbo spent the rest of his two weeks in the sanctuary of his brother's church. After two weeks he was glad to be back on his way to the northeast where mike's makeshift lab and all his friends would be.

Miranda had gone out to the coast to go sailing. She found

her way back to her childhood home, which was a little more grey than she remembered, but still home none the less. When she saw her parents, they seemed to have a perpetual sadness in their eyes. She sat down and had tea, when she found out that her folks hadn't gone sailing in quite a long time.

Miranda went out to the docks to her dismay. Almost the entire bay was now a marina. The scent of the ocean from her childhood was now clouded with the stench of human sweat, and the noise of the gulls was drowned out by people's chattering. This was a place where people came "to get away". Away now consisted of all the people one was trying to get away from. There was simply no room.

Miranda hopped in her folks' small sail boat and maneuvered around all the parked boats to get out to open water. Once she was there, she noticed all sorts of odd things floating in the water. Soda cans, key rings, clothing, boat pieces... Fortunately most of the industrial pollutants of the past were gone, but still a little lingered, mixed in with the rest of the overcrowding. Stopping the pollution was definitely the first step in saving Earth, but it seemed to Miranda that the next step would be to somehow stop humans from reproducing.

Miranda laughed off the cynical thought from her mind. They didn't need to stop reproducing, they just needed to leave. Miranda found a spot where there were no other boats for 100 yards and opened up a lawn chair to sit down and relax. She thought about what would happen if the warp drive worked. Would they build similar ships for the rest of humanity? They'd somehow need to get a patent on the technology without letting other people exploit it for the wrong purposes. Miranda wracked her brain with this for an hour until she finally decided to cross that bridge when she came to it. "Now is so much more important than then," thought Miranda as she got up to go ride the wind some more.

Tommy went back to the midwest expecting the heroes' welcome he'd always gotten before. Where there used to be one high school where everybody knew him, there were now five of them, at which none of his old teachers still worked. He had to work at tracking down any of his old friends, as his small town had grown into a major city.

Tommy found his way back to his parents' house to find them depressed and immobile. His dad had sold the farmland a year ago to a developer wanting to make a housing development and maybe a few apartment buildings. The restaurant Tommy's mother used to work at had gone out of business when several major chains opened up on the same block. Tommy's old high school football stadium had been torn down to make room for an entire new area of the school building, on top of which a new stadium with artificial grass was built. Tommy had never seen a football stadium built on top of another building before, but due to the crowding everywhere else, it was necessary.

Tommy had actually headed back to the coast a week early, simply because he couldn't handle it. Older cities were still more spread apart. He got claustrophobic in his hometown, even after

spending a year in a space station. He had been hanging around in the warehouse with Mike, Julie, and Sara for an entire week before everyone else showed up.

Perhaps saddest of all was Alison. She'd been away from Earth for several years and wasn't prepared at all for the shock of viewing the drastically changed world. She used to live in a small cottage out in the country. Much like Tommy's hometown, the country had been built up into a major city. The cottage was still there, between a laundromat and an all you can eat Mexican restaurant. The windows were boarded up and the outside of the house was covered in graffiti.

She had an old key for the place and went to unlock the door, only to find the lock broken. She cautiously went inside to find a community of beggars living there. She left in disgust before anyone could say anything to her other than indignant cries of trespassing. She didn't think it worthwhile to inform them that she actually owned the house. She wandered around, looking for at least some semblance of the country she once knew. At first, she was fearful of being mugged by a group of random ruffians, but soon found that this pervasive sense of apathy filled the city. Nobody cared enough to steal money from an old woman. Cash registers and electronic crime were easier, and you didn't have to get out of bed to commit them.

The one beam of happiness and hope that she'd found was in the nearest nursing home. A childhood friend was there, looking much more ancient than Alison.

"Christina? My God, how've you been?"

"Al... Alison? Nevermind how, where've you been?"

Alison listened in horror as Christina told her about the decay of the old country village into a massive slum. Things were only bound to get worse, as well, since the space boom also ushered in a second baby boom. The population of Earth had climbed to nearly 11 billion, much to the chagrin of those whose job it was to calculate population growth rates. Christina sadly postulated that the Earth wouldn't be able to support that many people, and Alison sadly nodded as she realized that Christina was right. She thought for a moment of telling her old friend about the Port Starboard Inn and her anticipated voyage in two weeks, but decided not to tease the old woman; Christina was in much worse shape than Alison. There was no way she would make it.

The entire crew sat in a small room in a semi-abandoned warehouse which Mike and Julie had been using to store medical equipment and supplies. They were all there to get their final check-ups before going back into space to the freshly sterilized Port Starboard Inn. The old fluorescent lights buzzed overhead, set into a dropped ceiling which gushed cool air from the oversized air conditioning vents. The walls were white, the floors were white, the ceilings were white... everything in there was white. The lack of variation of color only augmented the depression within the room, but the blinking lights of the medical equipment gave hope. Mike walked into the gloomy crowd of his comrades.

"Sara's checked out. I do believe that means we're ready to go..."

The gloom lifted off the room, as the harsh fluorescent lights now came like rays of sunshine on the souls of those in the room. The Inn was home now. Earth would be looked upon with only the nostalgia that an adult looking at their baby crib might have. It might be a nice place to visit, but they'd never have to sleep in it again. Alison smiled the smile of a very tired woman who is finally getting some much deserved rest. Tears of joy filled Miranda's eyes. Jimbo started babbling something incomprehensible as he snagged Tommy, Julie, and Sara in a group hug. Miranda stood up and addressed the group.

"Guys, I really don't know what to say... This has become a great dream for all of us. It started in tragedy, and now it's become maybe one of the greatest things humanity has done yet. In a few hours we'll be back at the Inn, after all this year of hardship and hard work. I'm really proud to be a friend to all of you, and..."

She laughed and broke down in tears of joy. Tommy got up and gave her a big long hug, which all the others watched with understanding. After their embrace, Mike stood to further address the group.

"Well, don't count chickens before they hatch. We've still got to make it up there, and like I've told some of you, we've got a serious adversary after us. For safety's sake, I'll lead the way. And even if you feel like being a loyal friend to me, if I get caught, none of you know me or who I am, got that?"

Everybody solemnly nodded at the sternness of Mike's voice. He then looked around to make one final check of the room and slipped his backpack and sunglasses back on.

"Well, apart from that, I assume we're all ready to go?"

Everybody chuckled and nodded in agreement. Mike slowly opened the door out into the main hallway and suddenly stopped in shock. On his glasses, a message popped up filling the entire left lense which said, "Mike, look out!"



## CHAPTER 26

Mike heard some scuffling in the hallway, so he quickly turned and spoke.

"Well, looks like they have us. Stay here and don't make a sound!"

Mike turned off the lights and slammed the door behind him. There were three agents on one side of him and four agents on the other, among them a taller red haired man with sunglasses and a drawn gun.

"Could that be the mongoose?" thought Mike. Mike looked from the corner of his eye and reconsidered; no self respecting superhuman would walk around with their fly unzipped.

"We know who you are. You are coming with us," the man said. Mike took a deep breath and jumped for the nearest air conditioning vent, almost directly over head. A few shots were fired, but quickly the head agent yelled for his men to stop, "We need to take him alive, you idiots!"

"Good," thought Mike, "it's not as dangerous as I feared."

Mike slid through the duct with his characteristic grace which belied his size. The duct took a hard right, which he deftly negotiated towards the nearest vent. The next room he came to was connected to the hallway he had just left, but the door was closed. He lifted the ceiling grate and noted that there were four doors in the room. One led to the hallway that he had just come from, one led to the same hallway but around the corner, and the other two led to other rooms. Mike had memorized the layout of the building long before; he realized back when they first planned to use that building that every moment of every day they had a chance to get caught, and he had to be prepared. He silently dropped into the room, and listened for orders being yelled.

"He's a big guy, he can't be completely silent!"

"But sir, he's not in the air shaft!"

"Well listen for a noise!"

"Noise they want?" thought Mike. He dug through his ever present backpack in search of something disposable. Finally, he chanced on a bottle of hair gel. "Ought to do the trick," he thought. He quietly opened the door leading directly away from the hallway and made sure he had a clear path. He turned around and lobbed the hair gel bottle at the door leading to the hallway where all the agents were. Commotion ensued, and as soon as they were almost at the door, he slammed his door then quietly reopened it and skittered across the next room.

"Which door?"

"I heard him slam a door, must be this way!"

Mike chuckled very quietly and continued running.

Before too long, he made it to the end of that series of rooms. He reappeared into the hallway, where he found a pallette of heavy duty cleaning solution. Soap. He had an idea.

There was a slanting hallway leading down around the other corner. Mike took several bottles of the heavy duty cleaning

solution and dumped it on the ramp. The oozing substance uniformly dripped down the surface of the ramp towards the end of the hall, where it pooled up rather impressively. There was a heat sensor there which could trip off the fire extinguishing system. On the wall was an intercom, and he could hear half of the agents were one floor up and half of them were on his floor, following where they thought he was going. Mike knocked down a chunk of the dropped ceiling to look at wiring from the intercom. there were several wires running up and down stairs, and he could see the appropriate buttons for those. There were also two buttons for on his floor, one ran to each end of the hallway. He looked at the wires, traced them back to the end of the hallway he was standing at, then removed the case of the intercom.

Inside, Mike found where the wires connected. First he hit the intercom button for the floor above. He yelled into the telephone, "guys, he's down here!" He listened to the commotion upstairs as the agents rumbled down the stairs in the center of the buildinghe waited till he heard them out in the original hallway again.

"Where is he?"

"I don't know sir,"

"Aren't you the one who called upstairs on the intercom?"

"No sir, I..."

Suddenly Mike let out an overdone yelp of pain, a Wilhelm to be precise, to draw attention to the end of the hallway.

"He's this way!"

Mike slid down the ramp, using his perfect sense of balance to remain upright on the way down. He pulled himself along a railing at the bottom of the stairs, through the mire of cleaning solution, to the other end of the hallway.

"He must have gone that way!"

Mike listened in amusement as all the agents slipped and slid down the ramp. As soon as he counted all seven of them, he came back into view.

"There he is, get him!"

The writhing pile of soap covered agents tried to crawl towards him, but always managed to fall down. Through the commotion, Mike couldn't do anything but smile and shake his head. He removed a cigarette lighter from his pocket and held it up to one of the heat sensors as the head agent grimaced and sighed.

The water jets overhead suddenly burst forth a high pressure blast of water, almost instantly turning the soap into an impassible mass of bubbles. Mike laughed, shut the door behind himself and walked off.

"Alright, let's see, how to get back upstairs from here..."

Mike's thoughts were cut off as he heard a door slam open behind him. He whirled around to see a very soapy head agent, pointing a gun at him.

"Alright, that's it wise guy. You think you're real funny, don't you."

"I think your fly's unzipped..."

The agent looked down to check the state of his fly as Mike

slipped through the nearest doorway. Lots of profanity came through the door after him, followed by a very angry agent in the process of zipping up his fly while running. The room they had entered was a very big storage space, filled with old hydrogen tanks, formerly used to fill nanotube bricks. Mike turned around to face the agent.

"STOP!"

The agent stopped and pointed his gun at Mike.

"You do realize that these are empty hydrogen tanks, not something you want to be firing your gun around, right?"

The agent looked at him, choking on rage.

"Don't you dare move, asshole."

"What are you going to do, shoot?"

The agent started walking towards Mike, who quickly picked up the nearest tank and threw it at the agent. He collapsed under the weight of the tank as Mike continued to run upstairs. As he went, he grabbed a rope on the side of the stairs and proceeded to tie a lasso at one end of it. He ran across the catwalk with an even more enraged agent limping behind him, still brandishing his firearm. Profanity echoed through the warehouse as Mike jumped up to the nearest window and looked back to make sure the head agent was still following him. With the reassurance of the profanity, Mike began to tie the loose end of the rope to the base of the railing of the fire escape stairs. He then laid the other end, which he had tied into a lasso, down right on front of the window, and threw what little excess rope there was over the side of the fire escape. Using his strength he broke the back railing, the one he hadn't tied the rope to, then ran down one flight of stairs to the loop of the rope dangling underneath the stairway.

"I'll get you, you bastard!" screamed the agent as he climbed out of the window. As soon as both of the agent's feet were on the ground, Mike yanked the loop as hard as he could. The lasso closed around the agent's ankles and dragged him over the side of the fire escape, where he dangled by his ankles. As he passed, Mike made sure to grab the gun. Mike climbed down the next flight of stairs, just for the sake of being a bastard. The agent hung upside down, swaying slightly, his face lacerated from the grating on the fire escape. Mike stood shaking his head, gun in hand.

"You know, you're a real prick, you know that? I can see why they want to track you down," said the agent.

"Well I'm not all too bad if people aren't cursing and pointing guns at me." Mike defended.

"What is about you genetic freaks? You're all assholes."

Mike simply walked away. The head agent had refreshed Mike's memory that he probably had to deal with the genetically modified agent sometime in the near future. He made certain the gun was properly loaded and started devising a way to get back up the floor that his comrades were on.

Mike climbed into the nearest window, which led to another floor of the warehouse. This was a one story room, with numerous pillars and old boxes laying around. Mike started scanning the room for a door, and stopped scanning when he found another person

in the room.

The blacked out window shut behind him. The only light in the room was the dim emergency lighting that had switched on with the fire suppression system. Against these emergency lights he saw the dark silhouette of a tall slender figure, standing stoically, yet poised to pounce whenever the need arose. Unlike most people, who sway slightly when standing and keeping balance, this person stood perfectly motionless except for the rise and fall of the shoulders which indicated breathing.

"No time for being nervous," thought Mike to himself as he bolted behind the nearest column to the right. He listened as the agent slid behind the column on his left, towards the door. Mike took mental inventory of the situation.

"Alright, agent went behind that pillar over there. Now, he's not going to go to the left, because that will put him in my line of sight. There's two doors, so as long as I don't commit to one door or the other, he can't block me in. I think from that first move, he's going to directly come and get me. So, I'll move one column over to my right..."

Mike darted for the column as the agent stayed in waiting. He listened for the next sound of movement, when the agent followed him, anticipating his next move, which would've been towards the most well shielded door. "Clever," thought Mike, "but then again, what else could I possibly expect?"

Mike scanned the room, at least from his meager viewpoint. He hadn't really gotten a clear mental map of the other side of the room, but he could clearly see most of his half. There was a row of boxes which looked like the best possible cover for an open firefight, but Mike was going to avoid that if at all possible. There were a few smaller boxes around that might cover movement, but nothing else he could hide behind other than that stack of boxes and the pillars.

Mike heard motion. He silenced his mind and focused all his attention on his binaural hearing, trying to locate the sounds. The agent moved one pillar closer to him. Mike was confused. Wouldn't it be more effective to trap him in there by guarding the less accessible door and keeping an eye on the one out in the open? Why would the agent want to follow Mike? Mike pondered the logic for a moment, when he decided it was best to get out of the way. He moved himself one column towards the stack of boxes to figure out his next move.

But the agent once again moved to follow him a couple pillars in front of and to the right of Mike, the agent darted towards the center of the boxes. The door was in the rear right corner relative to where Mike stood. He had nine possible moves, of which two were blocked off by the boxes. The agent was unrestricted, but behind a pillar, so the only feasible moves were every direction except forward. This gave a total of 56 possible combinations, which Mike sped through. None of them seemed particularly advantageous, except maybe to skulk along behind the boxes towards the door on the right. Mike knew the agent was probably expecting that; indeed, the most likely reason the agent

had followed Mike that way was to force the move. Mike shook his head at the cleverness of the agent.

As Mike silently skulked across the back of the row of boxes, he heard the scuffling of boots which indicated that the agent was in motion towards the stack of boxes! Mike quickly went one column further towards the door, then hid behind it. He peered behind the boxes but couldn't see the agent, only to hear a slight rustle from the column diagonally between him and the door. Suddenly it dawned on him; the scuffling in the wrong direction was a decoy to lead him that way. The agent ran towards where Mike was, expecting him to run for the door, when the agent cut and ran towards the door too, stopping when Mike stopped.

The agent was now directly in the way of the door. Mike thought for a few seconds, trying to think of a possible way to move around the obstruction. Suddenly Mike's eyes lit up as he quietly unzipped his backpack and removed the giant alligator head juju from his backpack.

"Well, Jimbo did say this would save my life," thought Mike. He took the alligator head, and in one swift move slid it across the floor. He heard the scuffling of the agent, so he ran one column closer to the door. Unfortunately, the agent had moved, saw the decoy, then decided to stay. Now Mike was on the opposite

"Well this is it," thought Mike, "Anyplace I go I'm done for. I know the agent is on the opposite side of this column. He's moving to the left, probably to turn around and get me. One choice. One opportunity. Here goes nothing..."

Mike whirled around as quickly and as nimbly as he could at the same instant as the agent. They both stood there, calm, collected, and with a gun pointed at each other's head.

## CHAPTER 27

They stood calmly regarding each other for quite a long time. The agent stood about 6 feet tall, had flowing jet black hair and extremely fair skin. She was an absolutely gorgeous woman; Mike conjectured that she'd been engineered that way to try and take advantage of Mike's pre-evolutionary carnal instincts. While Mike felt tempted to lower the gun and simply admire, he decided he wasn't that far out of his wits yet. With her free hand she removed her sunglasses to reveal very large, shiny, and involuntarily seductive eyes. Mike removed his glasses as well, partly just to behold his equal without shaded lenses, and partly as a gesture of respect. While he was deeply afraid of this being in front of him which was invented for no reason other than to track him down, he felt a deep respect and almost awe at finally meeting an equal. A thought crossed his mind which drew a chuckle from his mouth.

"You know, I've been living in fear of you for the past year. We've been engaged in some of the most intense intellectual warfare ever to grace the surface of the planet, and it all ends here, with a gun to each others' heads."

The agent let out a low, quiet, almost playful chuckle. Mike continued.

"Well, so it ends here. It's a shame we have to meet under these circumstances. Humanity is dying, you know that? We are killing ourselves. Nature is trying to kill us and we are simply helping it out.

"Technology is the only evolutionary tool that humanity has. We don't have the thick winter coats of other animals, or the quickness, or the strength. We are weak, bald creatures with nothing more to our advantage than a brain and the ability to use tools and technologies. You and I, mongoose, you and I represent the future. Whether everyone else likes it or not, the only ones of us to survive are going to be the ones who are willing to partake of the technology which is the saving grace of humanity. People like us will be the ones to propagate and live on..."

"Or those out in deep space."

Mike squinted and took a deep breath as his heart broke. They knew about the Inn. It had probably been commandeered and dismantled while the crew was on Earth. Mike tried to play it cool, just in case.

"Yes, you're right. But that still hinges on technology. These technologies developed in and for space are the key to the survival of the human species. We have these technologies, and some of us are willing to use them. However, if this species is willing to destroy itself, willing to throw it all away on grounds of provincialism, then I would like to be the first to go."

Mike threw his gun to his side, prepared to die. He raised his arms in a messianic posture, eyes closed awaiting the inevitable. He opened his eyes again as he heard a mild chuckle from the agent.

She raised the corner of her mouth into a half smirk and

started slinking towards Mike like a cat. The locomotive smoothness of her motion was enough to distract even Mike, whose arms lowered slightly as his eyes opened wide at the seductive grin of the agent. She pressed her body up against his and whispered up into his ear.

"You do realize that my existence is just as illegal as yours, right?"

Mike looked down at her, befuddled and still slightly nervous from the deadly smoothness and seductiveness of her advance.

"What do you think they'll do to me after they have you?"

"They wouldn't lock you up to, would they?"

"Only if I stopped working for them."

"Well why would you do that?"

She stepped away from him with a look of mock-indignance.

"Michael, I'm ashamed! You of all people ought to know that just because my body isn't completely human doesn't mean my soul isn't!"

Mike, for the first time in a long time, looked genuinely sheepish.

"Of course I'd stop working for them. Already have."

Mike cocked an eyebrow again, as she briskly stepped back about two meters from him and stood at near military attention.

"I, Adina Molotov, do hereby officially request political asylum aboard your interstellar vessel."

A massive smile spread across Mike's face as he slowly collapsed to the ground cross legged, laughing hysterically. The agent chuckled and joined him on the floor.

"Wow... the past year, you've been trying to track me down just to join the crew?"

"Well, not the entire past year. At first I was faithful to my job, till I realized how silly it all was. The more research I did on you, the more I felt you were a kindred spirit. Eventually, right after that stunt where you ejected your sunglasses from Jimbo Robichaux's ship, I decided I'd rather be on your side than theirs."

Mike laughed.

"All the way back then? Then why'd you send the feds to my apartment?"

Adina gasped.

"Wait, that really was your apartment? I'm sorry, I thought that was a decoy you'd set up!"

"It was set up to look like a decoy, which is why nobody'd found it before that."

"Wow, brilliant! If I do say so myself..."

Unanimous laughter erupted between the two of them.

"So Molotov, huh? That your given name?"

"Yeah, Adina Molotov is my given name."

Mike smirked.

"Sounds nice, I'd drink to that."

"A cocktail?"

"But of course."

"Punny, Mike."

The two chuckled heartily as they both enjoyed for the first time bouncing commentary off of like minds.

"Can't believe they'd just lock you up after they caught me. I mean, would you get the same kind of treatment?"

"Well, technically, I'm slightly more legal than you are.

"Barely legal?"

"Yeah, you could say that."

"so THAT'S what all those junk emails were warning me of!"

"What, me subtle?"

Julie had entered the room.

"Oh my god, there's two of them..."



## CHAPTER 28

Julie gently rubbed her temples as Mike and Adina continued talking and laughing. On one hand, she was extremely happy for Mike, having found someone he can truly relate to. On the other hand, she listened as they simultaneously maintained many strings of conversation, cross referencing and correlating each one so it was hard to tell exactly how many, and was rapidly getting a headache. Everyone else in the ship was just fine, happily ignoring their fragmented babble unless it was directly addressed to the listener.

"God that was you?"

Mike sheepishly grinned as Adina looked at an old picture Mike kept on his glasses.

"It's nice to keep records of the past, at least for personal use, right?"

"Definitely, I'd never connect you with that geek."

"Oh this I've gotta see..."

Julie went over to where Mike and Adina were sitting, and reach out for Mike's sunglasses. He gave a resigned sigh as she took the glasses, looked into them, and started laughing hysterically.

"Mike was, as he'd described to them, scrawny and pale. He didn't do himself justice, however; The soda bottle glasses, hunched posture, and severe acne all made the picture that much more complete. She shook her head and handed the glasses back to a playfully dejected Mike.

"Oh it's okay Mike, mine's just as bad..."

Adina handed Mike her pair of glasses to show a severely overweight woman, also with moderate acne. She didn't wear glasses, but had dingy brownish red extremely frizzy hair emanating from her head like a cotton ball. She had small, squinty eyes and an obvious patch of hair over her upper lip that she'd obviously tried to hide with makeup in the picture. She waited for Mike's eyebrows to lift themselves above the glasses frame to give her explanation.

"I was a secretary in the department who volunteered for the mission. I knew of you, but didn't really care. I just heard there was the option of making myself look better and being able to walk properly, so jumped on it."

"Didn't we all?" inquired Mike as Julie shook her head and walked away. Mike continued.

"Secretary, eh... So I bet you managed to look into some really heavily classified stuff..."

"Mike, I've seen things you've never even heard of. Believe me, I know the stuff you have seen."

"How much have I seen?"

"Of the stuff that's new since last year? Oh, maybe about twenty percent of it..."

Mike's eyes perked inquisitively.

"Let's just say I'm not the only genetic experiment they've been doing. But we'll talk about that en route. I don't like the

looks of that freight ship over there.

Mike looked where Adina had looked towards a freighter hanging out by a derelict station.

"Hmm..." said Mike, "Those engines are way too big to be a regular freighter, especially since it looks like a much newer model than the old planes like Jimbo's..."

"Plus it's a completely derelict station. See the light missing at the top? That's probably a pressure leak, meaning nobody could live there.

"I see. Jimbo, you might want to step on it towards the Inn. I think we're about to have trouble.

Jimbo slowly accelerated the space ship to avoid suspicion. Alison fastened herself onto a seat, Tommy and Miranda stared out the window at the supposed freighter. Julie scanned through the windows looking for anything else suspicious. The ominous clicking of Mike's tongue was the only sound above the rumbling of the engines. Suddenly Mike and Adina both started talking at the same time in continuous unbroken sentences.

"Yeah, it's an ambush. There should be a couple more ships off in that direction, plus a few attack cruisers oh god we've got problems will be coming from Earth shortly after us Mike I think they're onto you well we don't have to worry about lasers or weapons because the doily can handle it but we will have a chase..."

The whole crew looked on in amazement till Adina shouted to Jimbo,

"Jimbo, step on it!"

Jimbo rammed ahead full throttle as the freighter ship started moving on an intercept course.

"No worries everyone," Adina comforted, "they still think the Inn is abandoned and we're just trying to get away from them by running there. Once we're on, we need to move fast though!"

Jimbo rammed his plane into reverse to dock with the station at speed, when Mike splayed himself over the door to open it. the crew piled in and took stations.

"By the way Adina, how are you controlling your glasses?" Mike asked.

"Ocular implant. Make's me less easy to recognize than you."

Alison went to go check on the goats as Miranda fired up the computer guidance system. Jimbo took the controls at the front of the ship and Tommy took the radio.

"Attention! We have you surrounded! We will dock with your station momentarily, you are expected to be against the nearest wall with your hands up."

Mike grinned.

"Jimbo, we ready?"

Jimbo muttered a brief agreement as Mike switched on the main engines. He listened over the radio as Jimbo put them forward full throttle.

"What the hell..."

There was no characteristic roar of engines. From the back of the Inn there was a faint bluish violet trail of superheated

particles which had been tachyons nanoseconds before. The station more than just lurched forwards; it accelerated like a sports car. The freighter tried to keep pace, but to no avail. Jimbo yelled at the front of the ship.

"Yeeehaw!!!"

The entire crew was pressed against the back wall. The ship was accelerating at approximately three times the acceleration of gravity. Julie used her mechanical arm to pull herself towards the front of the ship where Jimbo was. She got there to see Jimbo sitting next to the alligator head from his ship and the Legba totem from the voodoo priestess at the helm. Jimbo had the grin of a man experiencing the greatest adrenaline rush ever. Julie knew it well; she remembered similar feelings from gymnastics.

Before she started reveling in the spectacle of zipping by space stations and military ships, she remembered her original purpose.

"Jimbo, slow down! We're at 3 Gs, somebody's going to get hurt!"

Jimbo looked back at her with a look of concern as he put the throttle at two thirds. Two Gs shouldn't be too bad, he thought. Julie put her arm on Jimbo's shoulder as she looked out the front of the ship, still rapidly accelerating.

Alison struggled to get up. Fortunately she was a very strong woman, despite the slightness of her build. She walked over to one of the rooms on the outside of the ship where she could watch the scenery go by. Suddenly, everyone heard an explosion.

Miranda and Tommy laughed giddily at the whole spectacle. One of the attack ships from the surface had just fired a missile at the back of the ship. It approached the doily, but the closer it got the more it glowed. It melted right before it hit the doily, and as soon as any part of the liquid missile hit the doily, it suddenly burst into imaginary matter, jolting the ship forward. They both listened to the radio in amusement.

"What the hell? How do we get this thing?"

"Think we need to hit it from the front sir."

Tommy climbed as nimbly to the front of the ship as he could.

"Hey Jimbo, they're going to try to overtake us..."

"Like hell dey are! Tommy, git on de intercom in de basement, tell me which way dey comin'!"

Jimbo's grin had grown wide again, as had Julie's. She now practically had him in a full embrace, as he sat stoically at the controls with the occasional hoot or holler.

Miranda sat waiting for Tommy in the basement. He brushed by her to get the intercom, then looked out the back of the ship. He looked back momentarily to verify orientation, then spoke.

"Alright, Jimbo, one's accelerating at your eleven o'clock..."

Suddenly, the ship was no longer at eleven o'clock, but dead center behind the Inn. Said ship slowed down, as another tried to pursue

"two o'clock, Jimbo!"

They played this game for a while, till Mike radioed down to Tommy and Miranda.

"Alright, we're a safe distance from Earth! Time to trigger the gravity wave generator!"

Miranda looked at the ominous blue switch with slight apprehension. Here was the moment she'd been waiting for, but she still wasn't sure if it was going to work. If it didn't, they'd either all die, or get arrested and have to start from scratch much later in their lifetimes. Alison wouldn't get to go to deep space, she'd die before they had another chance. This was it, she thought. Time to make history.

Tommy looked at her warmly. He was also extremely excited about the occasion. Here they were, about to pave the way for the salvation of the entire human race. He suddenly remembered back to when he was talking to Miranda about this in the first place. His apprehension about going away from Earth into deep space, his fears, his decision... he realized there was no place he'd rather be right now.

Miranda saw it in his eyes and decided to take Alison's advice.

"Tommy, if we don't make it through this, this probably won't matter, but... I just wanted to let you know... I love you."

Tommy looked at Miranda, slightly yet joyously flustered.

"Y... You do? I was afraid after all these years you didn't. I love you too Miranda, I always have and always will!"

They embraced and kissed, as Miranda reached over to flip the switch...

## CHAPTER 29

The military ships watched in amazement as suddenly outer space looked like a reflection from a rippling pond. The ship was at the center of waves coming outwards from the ship, which quickly accelerated along one of them. The military ships quickly lost formation due to the gravitational pulses, and decided to break off the chase.

Suddenly, There was only the artificial gravity from the rotation of the ship. Julie and Jimbo shared wide grins of adrenaline and hope.

"God be praised..." said Julie

"Amen!" replied Jimbo.

Jimbo and Julie just looked at each other, realizing in their respective endorphin buzzes that Julie had managed to land in Jimbo's lap, and how absolutely natural it was. They smiled gently as they both looked forward at the swiftly passing stars

Sara was down in one of the rooms helping Alison back to her feet. Alison breathed hard a couple of times and checked to make sure she'd not broken any bones.

"Are you okay, Alison?"

"Yes, I'm fine Sara. Well, that was certainly fun..."

"Definitely! take a look out the window!"

The universe looked as it might through a giant fisheye lens, sideways. They were riding on a gravity wave which they could see extending outwards from where they were. Alison and Sara both calmly laughed at the spectacle, as Mike and Adina walked past the door towards the kitchen.

"So you'd figured out that's what we were doing?"

"Yeah, but you hid it very well. I was the only one in the department who figured it out, and that was after I'd decided to defect."

"And ocular implant you say?"

"Yeah," she looked as far to her left as she possibly could to show the small metallic object imbedded in the corner of her eye, "I blink and move my eyes around like you'd move your tongue."

"very nice... I just realized I've had no food since early this morning, you hungry?"

"Ravenous."

Mike went into the kitchen and started preparing some rudimentary food to tide them over till Alison cooked dinner a bit later.

Tommy and Miranda were still in the basement sharing their lovers' embrace and a long kiss. They went like that for several minutes, having pent up those feelings within themselves for so long. When they were done, Miranda leaned her head against Tommy's chest and looked out the window at the back of the ship. the cosmos raced by, as they had accelerated along a gravity wave faster than was ever conceivably possible, held intact by opposing forces of gravity and acceleration. She giggles with glee and then looked up at Tommy.

"Tommy, it worked!"

Tommy also stared out the back window in awe. They watched as Mars zipped by beneath them, holding each other close. Tommy radioed up to Jimbo.

"Hey Jimbo, how fast are we going?"

"Heh heh heh..."

Miranda grabbed the microphone from Tommy and threw it aside.

"Who cares? We've got time..."

She kissed him again, when a cheer from Mike alerted them to the presence of Mike and Adina, eating sandwiches and grinning from ear to ear. Miranda sighed and shook her head as Mike and Adina both laughed.

"Is there something about genetic modification that makes people insensitive?"

they replied, in unison

"Well, at least it's not just me anymore!"

More laughter from everyone, till Mike finally resumed seriousness.

"Well, we've got controls on the gravity wave generator up front. By my math, at our current ungodly speed, we should be getting near Jupiter in a few hours. Just enough time for a proper dinner. Of course, if you'd rather stay down here for a while, I'd be happy to bring dinner for you."

Tommy smiled.

"Oh Mike, you're so sweet!"

Mike chuckled, got up and left. Adina followed close behind, followed by Tommy and Miranda. Miranda had decided she wanted to see the view from the front of the ship.

They joined the rest of the crew who had found their way to the front of the ship. Sara looked ahead with a placid expression of release and freedom. Alison giddily watched the approach of the giant planet, her mouth half agape with awe. Julie hadn't managed to pull herself off of Jimbo's lap yet. Mike could see from the look in their eyes that Jimbo and Julie had figured out what he'd known for quite a while.

"Well, how about a last meal in the solar system?" asked Alison. Mike smiled

"You read my mind..."

Alison walked to the kitchen, followed by Tommy and Miranda. Mike smiled as he watched Jimbo and Julie walking off to the kitchen holding hands. Eventually everyone congregated in the kitchen, to one of Alison's wonderful home cooked meals. Dinner was surprisingly quiet, until Sara spoke up.

"So we made it, right?"

"Well, we have no more risk of getting busted. There's still a fair risk of dying, though. We'll see how it all turns out, right?" said Mike sardonically between mouthfuls of food. As soon as everyone was done eating, they silently migrated to the front of the ship, watching a gas giant with a big red dot coming closer and closer to the ship. Everyone breathed slowly and solemnly, hoping for the best but preparing for the worst. Mike stared at a heads up display inside of his glasses, as Jimbo eagerly poised

his hand over a switch on his control board, waiting for Mike's signal.

"Jimbo. Now."

Jimbo pressed the button, and the wave generator let out another mighty pulse. The entire cosmos wriggled around them, as Jimbo once again accelerated the ship to match speeds with the wave. As soon as they were on the wave, the cosmos started to fluctuate more and more violently. Everything in their field of vision was oscillating from where it was supposed to be, to a small spot right in front of them. Finally, through more and more grandiose oscillations, the cosmos winked out of existence in a small white dot. They were floating in the fourth dimension. Sara bit her lip, but Julie held her hand on Sara's shoulder

"Don't worry sis, we're in the home stretch..."

Miranda went to the nearest computer terminal and turned on the navigation system. She sighed with relief as she saw the wire frame plane which represented the surface of space-time appear. A hum from the Waring field generators filled the station, as Miranda watched the screen with anticipation. This was crunch time; if they didn't start moving through the fourth dimension, they were stuck their forever. If they did, then they were home free, Miranda watched the screen and listened to the hum of the Waring field generators as they generated a fourth dimensional gravitational field around the bubble of space time. Suddenly, she saw something that made her cheer. Everyone else came over to take a look.

The ship moved forward along the surface of space-time, as space-time came up in places to meet it. Everyone cheered unanimously, as Miranda posed the question.

"Alright, where to we want to go?"

Adina hooked into the computer with her glasses, hacked the program, and made sure to mark where Earth was.

"In case we want to go back."

"Good call."

nobody knew exactly what they were talking about. Wasn't the first, and definitely wouldn't be the last time.

There were welts in the wire frame all across the screen. Each one was a different star, some were black holes, some of the real small ones were asteroids or planets. So many choices... when finally Julie recognized a constellation.

"Hey Miranda... you thinking what I'm thinking?"

Miranda laughed at the memory and headed straight for Orion's belt. Outside the ship was still the pitch dark of a microcosmic universe pinched off from the rest of space-time, but on the screen the rest of the universe slowly crept towards the ship as the ship slowly crept towards it.

suddenly a white spot appeared outside the ship. It grew and shrank, grew and shrank, till finally it grew large enough to engulf them. The white spot spread out into individual stars, and a large blue one to their left. In front of them lay a swirling blue and green planet, much like Earth except with no familiar continents.

The station was dead silent. the Waring field generators had all been turned off, as had the main engines. the silence was broken by a bleat from a billy-goat, followed by a brief, spontaneous chuckle from Miranda.

"Heh..."

Slowly but surely, everyone on board started laughing. They'd made it. They'd proven the technology worked, and now they could go anywhere in the cosmos they pleased.

"Anybody know how much objective time passed while we were traveling?" asked Sara.

"Anybody care?" replied Julie as she hugged her sister close.

The whole group embraced, except for Jimbo, sitting at the prow of the ship. Julie, followed by Mike, went up to talk to him.

"What's wrong, Jimbo?"

Mike suddenly saw it as Jimbo stammered, wide eyed. The shape Jimbo had been seeing continuously was now solid, even the same color as the totem he'd gotten from the voodoo priestess. A gigantic brown truncated pyramid floated towards them, a slight blue glow emanating from the side not facing them. Mike spoke, as calmly as he could,

"Gee Jimbo, I though I was just kidding..."

Before too long, the entire crew had made their way up to the front of the ship, watching in awe as the unidentified object hovered closer to them. A broken radio signal, surprisingly in broken english, came through the radio.

"Welcome one-eye pilot, man with a dozen minds, boy who builds things, woman with hair of fire and half painted woman. We been expectin' you!"

Jimbo sat up with alarm as he recognized the accent. Mike and Adina ran to the video phone to recalibrate it for radio.

"Mike, what are you doing?" asked Tommy.

"The interference we're hearing is a visual signal. I think we can pick it up."

Mike and Adina's collective genius had changed the videophone to an audiovisual radio transceiver in a matter of minutes, when they were greeted by surprised looking beings on the other side. They were squat, with a sharply sloped brows, abnormally large lips, huge moles all over their faces, and were completely bald. Jimbo started jumping up and down in excitement.

"I knew it! I dun knew it!" and then a stream of completely incomprehensible babble.

"We gots members o' our species livin' on de Earth, an' we been 'spectin' you. Welcome to de ranks o' de space farin' races. Dis is the next step in cultural evolution for any culture, an' we glad an' honored to welcome you to de future."

The entire crew gently and confusedly smiled at each other.

"Well, if anyone would know, it would be a space faring... fellow space faring... race. I guess this really is the key to human survival."

The Alien looked at Mike and replied to him,

"Yep, our planet was like yours 2000 year ago. You saved your race by comin' to de stars."



"Now hold on," said Julie, a little indignant, "How long have you had people on our planet?"

"Hundreds o' years, child"

"And why couldn't you directly come and help us out?"

"What kind of destruction would be caused if your ship and its technology fell into de wrong hands?"

Julie looked on, hushed.

"We cordially invite all o' you to come to de planet Iwa, and partake o' de hospitality o' our people."

The crew looked around amongst eachother, till Adina shrugged and looked to the video screen.

"We would be most honored."

The Iwans on the screen smiled.

"Follow us to de spaceport. We built a dockin' ring for de first human spaceship."

The spectacle was breathtaking. A space station larger than some countries of Earth, bustling with all sorts of shapes and sizes of ships. Large polygonal beasts, smooth almost organic looking crafts, and Jimbo's giant metal bumblebee, monted atop the Port starboard Inn. They steadily pulled the station into orbit, then boarded Jimbo's space plane to head towards the mammoth station. Mike had at first considered modifying Jimbo's videophone to talk to the aliens during the short trip, but decided to wait until they got on board the station, and later on the planet.

As they floated towards the station, more and more ships gathered around them. through the windows of some, the crew could see stranger denizens of the universe than the Iwans. All shapes and sizes, all with ships that were lightly armed if at all. Eventually, they were part of a parade it seemed. The rest of the universe seemed very eager to greet the humans.

Upon egressing the spaceplane into the station, the entire crew was most cordially greeted by an Iwan with slightly greying hair in its ears and a green tripedal being with tentacles around its mouth. The Iwan spoke, in a deeper voice and with perfect English,

"On behalf of all the society of spacefaring peoples, we would like to welcome you as delegates of your race. May you live in peaceful and tranquil progress as a species and as individuals."

The crew of the Port Starboard Inn all smiled with a deep sense of accomplishment, like new mothers. They had just given birth to the next epoch of human history.

## POSTFACE

The gravitational ripples which heralded the return of the Port Starboard Inn were noticeable on Earth, but nobody paid all too much attention. The skies were black with bomb clouds, and wars were being fought between space and Earth. Ships were launching things at each other in space, and perhaps most to everyone on board the Inn's surprise, there were unclothed humans firing weapons at ships.

The Inn had parked far enough away from the fighting to be involved, but they were still close enough to watch. Jimbo clutched the small stone from planet Iwa that he'd gotten from his brother, Sara held her pet briwin, a small catlike creature, and Mike and Adina watched with fascination as the mutant humanoids duked it out.

"Mike, isn't it creepy that all their chief scholars told us this sort of thing would happen?"

"Sure is, but it doesn't surprise me. Those people are brilliant. So this would be the results of GXP-421C?"

"Yep, humanoids bred for the sole purpose of surviving in outer space for extended periods of time with no space suits. They were theoretically going to be developed just to do station work, but everyone knew they end up as soldiers."

"Well, can't wait for their revolt at being thought of as non-humans in a human world. Let's see what's on the news!"

Mike and Adina both started probing their resources from a terminal, so that everyone could see over their shoulders what was going on. Very little objective time had passed since they were away; only the expected time dilation as they accelerated from Earth and the year they spent with the Iwans. As Mike had predicted, blame for a small random terrorist attack was misplaced, causing war to break out among countries with too many weapons for their own good. People were in the news feeds, screaming about how condensed the planet it is, how they're glad that there's a war on, so that maybe there would be less people. so many people calling for escape, as the crew of the Port Starboard Inn smiled. they had the answer. Now only how to present it.

"Well, Adina, I'm pretty sure they're not really looking for us anymore..."

"Nah, they think we died. 'Committed suicide against the side of Jupiter' it says here."

"Ha. I think we can show them. Who's up for a trip down to Earth? I see our old homes are fairly clear of smoke."

Jimbo smiled and started prepping his space plane for departure. Adina and Mike were definitely going down. Tommy agreed, and before long everyone agreed to go down to Earth to spread their technologies gained from the Iwans and offer a way out. The Iwans had offered to house some humans for a while on their planet, they could start bringing people by small groups if need be. The salvation of humanity was a daunting task, but a necessary one. Mike smiled.

"Alison, you got a white robe that would fit me in here?"

Adina looked at him with furrowed eyebrows.

"Surely you jest. Are you going to go try and do the whole white robe messiah thing?"

"But of course."

"Mike, why?" asked Tommy.

"Because it would be funny my friend. Because it would be funny."

THE END

## EPILOGUE

It's easy to imagine a world like this. A place where everyone is connected and has all sorts of cool nifty gadgets. A place where technology and art can freely fuse into the great inseparable mass of beauty which it should be. A place which despite it's overcrowding, still holds the hope of an escape. It's easy to imagine, because it is the world we live in.

We have a degree of interpersonal connectedness only dreamed of in the past, and our technologies let us grow closer and closer together if we want to. We already travel into near earth space routinely. Technology and art grow closer together. silicon germanium semiconductors exist, which can operate at switching speeds of up to 117 GHz. Organic diodes exist, and have already been incorporated into small displays. Carbon nanotubes exist, which can store hydrogen safely. Hydrogen powered cars exist, which have water vapor for exhaust. These technologies all exist, but need the entrepreneurs of our age, the entrepreneurs of this turn of the century to do the research and build the space stations to produce all these wonders which are expensive and nearly impossible to make on Earth. The future is upon us like a wad of clay on a cosmic potter's wheel. You are the hands. Make something beautiful.

APPENDICES

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Technological research and projections ----- 194

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Cultural explorations and projections ----- 209

APPENDIX C:  
False Starts\* ----- 212

\* This section was included to illustrate some of the birth of some of the ideas in the novel, as well as other brief pictures of life in space outside the context of the specific story we've told.

Gregory Stuart Pettigrew 9/1/2002/AD

## The Tower of Babel

And they said: Come, let us make a city and a tower,  
the top whereof may reach to heaven. Genesis 11:4

The Tower of Babel is one of the most compelling tales of the book of Genesis, perhaps even the Bible as a whole. It has many interpretations, all of them relevant to today's issues. The story is a simple one: Man, in his hubris, decides to build a tower to reach the heavens, and God comes down to smite him.

The first interpretation that comes to mind is a direct implication of the evils of technology. Certainly all the power man has gained to create pales in comparison to his need to destroy. One atomic bomb can decimate a city. Several countries have nuclear arsenals enough to destroy the world in its entirety. And two passenger jets, well placed, can disrupt billions of lives forever.

It is only through communication, despite our alien tongues, that we have been able to build these things. We have overcome the flaw used to destroy our first attempt at assaulting the heavens, but what may stop our further attempts?

Perhaps this is also an apt metaphor for our modern attempts at Space Exploration. It has proved unfeasible for one nation to explore the cosmos, and we must find allies among foreign lands with which to build our space stations. In order for us to reach the heavens, we must work together.

Lastly, the story of the Tower may be interpreted as a condemnation, of all things, of religion. After all, it is through man's combined efforts to reach the heavens that he is smote. The men of this great city choose to make names for themselves by elevating their stature to that of God. Perhaps it is an attempt to control God that is being warned against. In our constructions and machinations of Religion, time and again the words of God have come out of the mouths of men, and over the millennia, millions of deaths have resulted.

Our modern views of Religion support this. Religion is generally considered to be a personal matter. It is only through direct communication with God (or through supernatural intermediaries as in Catholicism) that religion can be served, unharmed by man.

The Tower of Babel can be interpreted in many ways, all of which are important to modern society. Indeed, the whole of the Bible offers ideas relevant to issues we have faced in the past, present, and even into the future [1].

## Cosmic Catastrophe

The Universe is very large. It contains many things, both large and small, that threaten the Earth. These are but a few of them.

### 1. Debris

With all the space launches we have done, and a seemingly unending continuation thereof, debris in Earth orbit will be an ever-increasing problem. We have already had close calls. Recently, a space shuttle was hit by a fleck of paint. This would be a collision of no consequence on Earth, but in orbit, both the shuttle and the paint were traveling very fast towards each other when they collided. Some of the space shuttle's ablative heat-absorbent tiles ricocheted off, causing NASA scientists to wonder if it could even land. The International Space Station is protected by a layer of Kevlar (the same material used in bulletproof vests). This poses the only significant danger to mankind [2].

### 2. Meteors and Asteroids

Larger orbiting objects begin to pose an actual danger to those of us on Earth. The Tunguska event in 1908 and even the death of the dinosaurs have generally been attributed to these objects. But how likely is another collision? If you consider the fact that several times a year, the Earth travels through fields of dust leftover by comets (thus creating meteor showers), it is clear that this happens all the time. Yet, an asteroid the size of an office building would be vaporized by friction before it hit the ground. A larger body, one capable of doing damage, is far less likely, but still a very real possibility. The recently developed Torino Scale [3] (meant to be used like the Richter Scale) is now the standard for gauging the likelihood of damage for a given asteroid. To date, no object ever detected has warranted a rating greater than 1. "The chance of collision is extremely unlikely, about the same as a random object of the same size striking the Earth within the next few decades." After examination, no object currently known warrants a rating other than 0 "The likelihood of a collision is zero, or well below the chance that a random object of the same size will strike the Earth within the next few decades. This designation also applies to any small object that, in the event of a collision, is unlikely to reach the Earth's surface intact."

Unfortunately, short of the sort of defense system capable of shooting down ICBMs that the Scientific Community has continually refuted the feasibility of, there is little we can do about this threat except speculate in films like Deep Impact and Armageddon.

### 3. Even larger celestial bodies

Fortunately, their great size and regular orbit makes an

unforeseen collision with comets or anything extraordinarily large impossible. Whether or not we can mount a sufficient defense is another matter. Something of that magnitude would require a vast nuclear arsenal unleashed upon it to do any damage, and the resulting cloud of radioactive debris may cause more damage than the comet in question.

#### 4. The Sun

What if the sun went out? What if the sun exploded? How likely are any of these things? The stellar life cycle is fairly well mapped out, and scientists are confident that the sun will continue to function normally for a further six billion years. Scientists, however, are sometimes wrong.

If the sun went out, the combined energy of the reaction at the Earth's core and all the sources of manmade energy could not remotely sustain the human population. Famine, Plague, and other disasters would set in in a matter of days as the entire planet would be plunged into unending winter. And were the sun to explode, we would survive without it for a mere 8 minutes before the sky blackened and the remnants collided.

Damage to our ecosystem by the sun need not come from such cataclysmic events. Were the sun's energy to dip below its normal cycle, disaster could strike. There is little to no speculation, however, of when or how this might happen, though Geophysicists have mapped out various equations for dealing with this sort of Climatic change.

Unfortunately, the Earth is a very complex system, and minor changes in one thing are apt to cause global changes in another, so even these predictions might not hold in a prolonged period of altered solar activity.

In the time since this research was originally done, the Space Shuttle Columbia met an untimely end in reentry on February 1, 2003 AD. Current reports indicate that a similar incident as described above [4] may have occurred. NASA's Columbia Website [5] holds the most updated information.



## Gaviotas

The Colombian llanos is one of the most inhospitable regions on Earth. It rains almost constantly, yet the ground is so acidic and nutrient poor that the only plant life is worthless scrub. Guahibo Indians and Cattle Ranchers wander the wastes for enough food to survive. But something is developing in the llanos, something surprising, innovative, and desperately needed. Gaviotas.

Gaviotas was founded in the early sixties as a village intended to survive through constant innovation. It has attracted the best and brightest that Colombia and even the world has to offer. The early Gaviotans had 2 main issues: power and water. Both of these were solved in ways no one had ever thought of before.

The Gaviotas hand-pumped well design works by using a piston to force water up a pipe, but unlike other designs, it is the pipe itself that moves, and not the piston. Using lightweight PVC, the Gaviotan pump can reach six times deeper than conventional wells, and is so light, even a child can operate it. Indeed, the Gaviotan engineers have hooked them up to swings and teeter-totters - clean water powered by children playing.

The Gaviotans also built windmills. After surveying over 70 designs, they made their own - lighter, cheaper, and more energy-efficient than any the world had seen before. They were so successful that the town built a factory to produce them and made quite a profit from their production.

Alternative Energy in Gaviotas does not end with windmills. All of their houses are outfitted with solar-heated water, quite a feat considering that the sun only weakly shines through the tropical haze. The town's cooking facility has an array of solar-heated cooking oil tanks for use in their zero-cost pressure cookers.

The people of Gaviotas also know when conventional thinking leads to poorer results. When looking for energy-efficient solar cells, they were presented with the most energy-efficient solar cell to date from a British Company. It contained a thin wafer of a copper compound that had to have a width in a very precise nanometer range. The Gaviotans removed the wafer completely and, in their dirty, gritty, hands-on engineering facilities, created solar cells of their own that were far more powerful.

Rather than use photovoltaics for their electric generation, they instead used the heat from their ultra-powerful solar cells to power a turbine, generating more energy from the sun - and 100% free.

Gaviotan construction relies on more than the sun, however. Alternating layers of corrugated aluminum create air pathways for wind to cool their hospital, and tunnels from the mountains bring in fresh cold air to cool the buildings even further, in the same

manner as the Pyramids and ancient Mosques.

The Gaviotan Hospital itself is a source of innovation. It was there that it was realized that soil itself is not needed for plant development - it is merely its use for holding up the body of the plant and storing nutrients that soil is used, and thus Hydroponics were born. Also capsaicin, the chemical found in hot peppers, was proved here to be useful medicinally. Capsaicin can induce an immune response, repairing damage otherwise ignored, soothing pain, and even closing wounds caused by leprosy.

Their section of the llanos is no longer the barren wasteland it once was. Caribbean Pines imported from Honduras thrive in the acidic soil, and their shade and decay have prompted the return of flora and fauna not thought to have been in this region for millennia. Not only are these pines a source of shade and clean air, they are now the chief source of income in Gaviotas. The resin the trees produce to defend against insects is used in the production of a variety of items from paints to musical instruments. Not only that, but the Gaviotan philosophy of NOT cutting back other plants and NOT spraying with insecticides has caused the growth rate of the tree to treble that of competing manufacturers, and resin production rate to double.

Recent Colombian Health Care policy has forced Gaviotas to close its Hospital, but in its place is being produced pure clean water available to all the citizens of the Amazon as well as the development of what will no doubt become the leading Biopharmacological Research Laboratory in the World.

Gaviotas is a source of inspiration and innovation in all fields of technology and its way of life should be used as a model for all ventures exploring other regions of the Earth and Cosmos [6].

## Transportation and Space

One of the first industries to be changed by an increased presence is space will be transportation. There are currently two systems for travel in space. The first, traditional rocketry, requires bulky solid fuel in huge storage tanks. The second, a recently proven prototype fires a single xenon atom whenever a trajectory adjustment is needed. A probe with this drive left Earth with 81.5 kilograms of fuel, which is enough for 20 months of constant acceleration. The engine provides about 10 times the specific impulse (ratio of thrust to propellant used) of chemical propulsion [7].

There is one flaw with the ion drive, and that is the simple fact that it will be useless in an atmosphere. Thus transportation will no doubt be separated into two categories, atmospheric and interplanetary. Indeed, even terrestrial travel will be changed by the increased use of rockets. Why take an airplane that will allow you to cross the world in 18 hours when a suborbital ballistic missile will get you there in 3 or 4?

Ultimately, the quadruple-redundant systems that NASA uses will be replaced by normal corporate standards of safety. Ricketty yet ultimately reliable craft will rise to make space travel cheaper, and no doubt taxi and freight shipping services will take up a good deal of space.

## Food and Space

People need to eat. Food will have to travel with us as we explore the cosmos. And unless we plan on importing everything to our space stations, we will have to make some up there. And why not? Space has many advantages to food production that earth does not. Sunshine 24 hours a day. No gravity to endlessly struggle against. No hurricanes, tornadoes, or locusts.

Huge weightless greenhouses hydroponically growing fruits and vegetables can occupy vast portions of space. Recycling centers can turn human waste back into fertilizer. Meat will be harder to produce in space. Animals have far too much of their bodies that will be of no use to us in a spaceborn environment, not to mention that many of the ailments that make space uncomfortable for humans will do the same to the animals. Animals will have to be engineered to be better suited for our needs, like the featherless chickens developed last year in Israel [8].

## The Industrial Ramifications of Space Exploration

The era of Corporations began in the 15-1600s when Adventurous souls wanting to conquer the new world banded together so that they could afford the expedition. Governments sent teams out to explore, conquer, and empty the new frontiers of Earth, but it was profit-seeking businessmen that would occupy and truly transform it.

The exploration of Space will follow similar lines, much to the chagrin and dismay of modern thinking. Transcontinental Railroads could not have been built with modern safety standards. The warfare and theft and slavery of the past may be anathema or even unconscionable now, but in the trackless wastes and frontiers of space, there will be little to enforce our way of thinking.

Space Exploration is already showing signs of following a similar pattern to other periods of exploration. While the Space Programs of the U.S.S.R. and U.S.A. have sent many brave men and women into space, learning how to launch rockets and latter shuttlecraft into orbit and beyond, ipure scientific investigationî has, historically, only taken any science only so far.

It will be up to transnational conglomerates to truly begin exploring the outer reaches of our Solar System and beyond. I say transnational, because the term multinational only implies a certain level of clout. Space Exploration would require clout on a global scale ñ a corporation with virtually no home countries or boundaries. They would be verging on the feared Megacorporations of Science Fiction.

It is only such a powerful company that could manage the billions of dollars of initial investment required to make it past the atmosphere. Even the existing technology will be insufficient ñ a space shuttle cannot launch on even a cloudy day ñ Corporate technology will have to be much more robust as to meet deadlines.

The first goal of any spacefaring corporation will be profit. It will do its best to ignore the safety of its crew unless profits go down or until the sociological descendants of astronauts unionize. This leads to the small problem of government in space. Undoubtedly, the U.N. will attempt to organize a legal body for ensuring some degree of rule of law. This will be impossible.

Similar situations arose constantly in our seafaring days. Piracy, theft, and complete disobedience of the laws enforced at home are hallmarks of some of our most famous explorers. Corporations will only pay lip service to regulations when those regulators are in hearing distance, which is a very small distance in space.

The only law that will rule in space will be controlled by the people who power your oxygen filters. You will be owned by the corporation you work for. The only pressure the U.N. will be able

to bring to bear will come in the form of terrestrial trade. Illicit rendezvous on Earth will be impossible. Tracking satellites already would detect any object of useful size landing, and the local authorities would be ready to seize all material upon failure to enter through proper ports.

Therefore, the corporations that Terran Governments catch wind of will be forced to disassociate (at least publicly) with their spacebound subsidiaries. This is no real problem (as space is a very large place), but it somewhat limits one's capabilities. The production of spacecraft is an obvious choice. The only true spacecraft ever built are the lunar landers (and, one might argue, space stations and satellites). The ability to move in space, without the necessity to survive in an atmosphere will fuel vast developments in space travel and asteroid mining. Also, the construction of landing craft for planets of other atmospheric varieties will come into use as the resources of those planets begin to be exploited.

And exploited is the right word. Strip mining and pollution will run unchecked through the explored regions of the cosmos until populations on settled worlds are large enough (and self-sufficient enough) to warrant Revolution. It is only after all the habitable planets in available space are occupied and self-ruling that Interplanetary Industry will have enough weight pulling it into check that standards of safety even remotely resembling today's will be enforced.

This mirrors, rather disturbingly, what occurred in transoceanic exploring, conquering, and settling. The colonies of all the seafaring empires all eventually seceded and formed their own governments. Lawlessness spread like wildfire in the early days of exploration, and only in the last century has it been (mostly) curtailed. And then there are pirates.

There will undoubtedly develop an Industry of Theft developing in space, its chief flaw is that space will be 3-Dimensional, and navigation a snap. Intercept courses will be difficult to plot without vastly superior computers, but theft in space will very likely be very profitable, even if all you steal is oxygen and fuel.

There is good news. There will be some small opportunity for the independent self-reliant businessman of the future. Space is big, and valuable asteroids will have to be found, catalogued, and their locations sold to the highest bidder. The propensity for theft is even more advantageous here. One need only have a high-powered telescope and better cryptographic systems to find and steal all the best resources the Universe has to offer.

The exploration of space will mirror the exploration of the seas, which followed along similar lines to the initial conquerors of landmasses. The most efficient method of profit has always been exploitation, and contemporary squeamishness aside, this has always been modus operandi. The future of space is both bright and grim, not black or white but shades of grey.

There are several different types of businesses which can flourish in outer space. We've already discussed medical research, and that in and of itself is a lucrative business. We've not even hit the tip of the iceberg on production of new drugs, however anything with a crystalline form can be made purer in micro-gravity.

To make crystals, you need to have a solution of the crystallizing mineral and a solvent. The solution is heated up so that more of the mineral will dissolve in it, and when it is cooled, the solution becomes supersaturated. The crystals that can no longer be contained in the solution clump together and form crystals.

When they do this, there is an interesting effect caused in part by gravity called a buoyancy driven convection current. Far from the crystal, the solution is homogeneous. Near the crystal, however, molecules of the solvent and the solute are constantly separating whenever the mineral molecules are added to the crystal. The lone solvent molecule is now a lot less dense, and as a result floats up to the top of the solution.

This flow of solvent towards the top of the surface is what can cause deformities in a crystal. As the flow passes over a newly attached molecule in the crystal lattice, it can re-dissolve the molecule, or it can move it with minor atomic forces, making it no longer line up perfectly.

Another gravity induced flaw in crystals is called sedimentation. What happens there is that micro-crystals form within the solution, that cannot be supported by the fluid in which they are grown. As a result, they sink, and when they pile up in the bottom of the solution, the small crystals grow into each other, forming warped bonds between crystals and lots of imperfections within the crystals. All the crystalline junk in the bottom of the growing tank is just that; junk. It can be re-dissolved later, and the industrious scientist can endure the whole laborious process again.

Micro-gravity, however, removes both of these problems. If there is no down, sediment cant fall there, so there is no crystalline waste at the bottom of a container. Likewise, convection currents aren't going to float to the top of the solution brushing past the crystal, because in zero gravity, there is no top to float to.

Crystal researcher Larry DeLucas has been working for fourteen years on the development of insulin crystals in micro-gravity, most recently the development of Humalog, an insulin analog that has a very quick effect, so it can be used by diabetics right after meals to normalize glucose levels [9]. He invented and perfected the crystal growing process used in space now.

Crystals produced on Earth are usually flawed because of gravity-induced movements within the liquid, crystal-growing medium, but in space, the liquid is motionless, which greatly slows the growth of some protein crystals. The more slowly you grow crystals, the fewer the flaws in their structure.

Larry DeLucas

Currently, the crystals grown in space are used as blueprints for earth grown crystals, as what the scientists are aiming to produce. Scientists look at the crystals grown in space, and can compare batches of earth grown crystals to these space grown crystals. Also, with very pure organic crystals, scientists can very clearly see the structure of the crystals to determine precise composition. For example, a p-hydroxybenzamide-insulin (BZN) growing chamber was sent into orbit on board a space shuttle mission. When the experiment returned to Earth, the crystal surprised scientists, because the BZN additive had actually attached itself in pairs to an insulin molecule. It never did this on earth because the forces that would bond the BZN additive to the insulin were much weaker than gravity or the buoyancy induced current. In space, however, this research was possible and allowed scientists to see the full potentials for the BZN additive. While there aren't really any uses for BZN insulin in the near future, there is a distinct possibility for other crystals to form in micro-gravity which could be extraordinarily useful. If a pharmaceutical company were to found a small factory in space, they could produce substances that cannot be made on earth, either for research or actual commercial use.

It is also important to note that many bodily proteins are also crystalline in structure, such as cholesterol and a few amino acids, not to mention DNA itself. Viral research continues here on Earth, but there are many new boundaries to be discovered in space. New enzymes and proteins could be manufactured in space that aren't feasible within Earth's gravity, with the added benefit that if a deadly virus is generated or gets loose within a research facility in space, there is very little chance it will make it back to Earth. This also falls under the realm of pharmaceuticals.

Another important field which will prosper in outer space is material science in general. Crystals are useful for far more things than just medicine. Computers are growing closer and closer to functioning at the molecular level, at which point the purity of chemicals used is absolutely essential. Researchers have found that the best semiconductor crystals we can make are an even mixture of silicon and germanium. Once it is solidified, this mixture is stable. While it is still being formed in a liquid, however, Germanium is three times as heavy as Silicon. This causes a lot of settling in the solution, meaning very little useable alloy. Of what little Silicon Germanium alloy is usable

chemically, most of that is flawed by defects caused by contact with the sides of the mixing container or other effects, all caused in general by gravity.

Silicon Germanium transistors have been able to operate at switching speeds of up to 117 GHz, where as current microcomputer processors have a top speed of just over 2 GHz. While very few people outside of military code crackers and scientists have much use for a processor that fast, you could use a smaller amount to make a slower processor that can be put inside of a pair of sunglasses or other personal item for wearable micro- and nano-computing. People have dreamt of those fields since long before the invention of electronic computers, and with the technology offered by manufacturing in space, it may now be a reality.

In micro-gravity, surface tension makes for some interesting industrially useful effects, as well. We've all seen the videos where the astronauts squeeze a little bit of juice out of their juice pouches, and it forms a little floating sphere. There are several industrial applications where perfect spheres are very useful, such as optics and any manufacture of spherical components, particularly ball bearings.

In the field of optics, lenses need to be ground down to precise shapes, often times pieces of spheres and ellipses. The grinding tools are a major capital investment for any optics company, as well as the skilled labor or massive computers to do the grinding. In space, physics allows for perfect glass spheres to be made, without any kind of grinding apparatus or skilled labor. A liquid dollop of glass of the right diameter needs to be formed, and allowed to cool. The surface tension keeps the glass bubble together, and internal friction as it cools will damp the oscillations down to nothing, so that by the time it solidifies it is a flawless glass sphere. The resulting sphere can then be cut by more standard means, such as diamond tooth saws, and used in precision optical devices, giving margins of error far smaller than anything hand made.

However, the cutting process for the spheres does make space manufacture less feasible. The optical company would still need cutting and grinding equipment to make the lenses fit into glasses or other tools. However, ball bearings do not need to be cut. They are perfectly useable as plain spheres, in fact for a ball bearing to be perfectly spherical is a great advantage, whereas on Earth, a ball bearing plant requires presses and rolling devices and all sorts of heavy machinery, a manufacturer of ball bearings based out of space would need nothing more than a good heater that can melt metal, and a nozzle that can measure volumes of high temperature substances. The manufacturing process is the same as for the lenses, excrete a perfectly measured dollop of molten metal, and let it harden. At that point, the ball bearings can be sealed into an atmospheric reentry container and sent back to



earth, to be sold by the earth based portion of the company as geometrically perfect ball bearings, at a fraction of the manufacturing costs. If space travel could be made significantly less expensive, then a ball bearing company would stand to make a superior quality product at a competitive price.

Of course, with all the new factories and the like being built in outer space, there will be people living up there. Enter the domestic sector. It will be absolutely necessary for people to grow food up in space, since it is quite unfeasible to send fresh food up on a routine basis. Any food that was sent up on a routine basis would be horrifically expensive. However, if some produce company decided to make a micro-gravity environment in space where they could grow vegetables and fruit trees, charging slightly less than earth imports, they could stand to make lots of money. Plants grown in low gravity, particularly fruits, might even be better than here on earth; if the tree doesn't need to use so many nutrients reinforcing its own trunk, it can use them to grow larger, more nutritious fruits. Also, in space, the plants have a more direct source of the sunlight needed for photosynthesis. If they could also maintain animals in micro-gravity which can provide organic fertilizer for the plants, they've got nutrients for the plants, pure unfiltered sunlight to help the plants grow. With efficient water recycling, the produce company based in space would have a superior product, at a superior price; they could make a fortune.

Also for people who do agriculture, there are many creature comforts from home that humans living in space would miss. With the structures evolving in space as put forth here, it would be much easier to make goods in space rather than to have them shipped up from earth. Someone could grow cotton in space, or harvest wool from sheep whose manure is feeding the plants to make clothing. While some humans on Earth would pay for the novelty of clothing manufactured in space made from space-sheep, clothing like we have on earth would be a psychological necessity for many people, to keep them from getting homesick.

When there is a reliable source of food, clothing and shelter in space, there is room for visitors. Since by this point space travel would be quite feasible and routine, tourism into space would be much like taking an exotic boat cruise is now. A hotel could set up its own small space station, with various luxuries that can be accommodated in space. There would be no swimming pool, but probably a soft cushioned in area where people can frolic in micro-gravity, and they could run a shuttle service to bring passengers to and from the space hotel. As the cost of space travel becomes closer to the cost of a car, there will be people to shell out the money to visit the space hotel. And of course, after the first luxury accommodations in space, the workers at all the space factories would get the idea that they could live somewhere better than their cramped little confines

within the factory stations, too. That is when some entrepreneurial landlord would get the idea to build something that mimics a space hotel, with rent that is exorbitant by earth standards, but with individual living spaces and a few creature comforts adapted for space. This might even be partially funded by the factory owners, since they can now use what was formerly living space for more production.

And as more and more entrepreneurs crowd space, prices will be driven down to reasonable levels by inter-business competition. By sticking with Earth based monetary system, at least from the beginning, people can make profits and better products from space. Then, later, after life in space has become an established fact of life, people can leave Earth for religious freedom or for other non-financial reasons and colonize the rest of the universe.

Still, the most profitable venture will be the people whose job it is to transport people and freight to and from the space stations. They will be the first ones into space to lay any sort of claim, they will be the ones to build the first factories in space, and probably the ones to build the first permanent residence, for the workers who build the factories and space stations. Until they get competition, they will have a pure monopoly on outer space, as long as they can drastically undercut the prices of the space programs of the major governments.

They can use not stripped down space shuttles, but rockets reminiscent of the Apollo program, except with reusable liquid stages, instead of solid rocket stages, with a crew capsule and a cargo container as the final stages. The cargo containers can be left in space, and designed beforehand to be connected together at the ends with rotating bearings, so that artificial gravity can be made relatively easily. These spaces can be rented to companies wishing to do research, or can be used as living spaces while the space factories are being built. This modular construction of a space station ensures that it can be functional no matter what size it is, whether one cargo container or 100 of them.

## A Theoretical Orbital Semiconductor Factory

The factory would be cylindrical in shape. At one end, there would be a large fresnel lens, with a concave lens toward the bottom of the focal length of the fresnel lens to turn the light back into a concentrated straight beam, which would heat a metallic container with the silicon germanium crystal growing fluid inside. The container would be made out of a thick metal that holds heat very well, and when, on various trips around the earth, the container and medium have heated up to an appropriate temperature, the silicon germanium alloy would be injected and stirred electromagnetically.

At this point the container would be moved. Alternately, the second lens would be moved, so the only light on the container is diffuse sunlight spread out beyond the focal point of the fresnel lens. As the solution slowly cools, the crystals form, completely free of the effects of sedimentation (the primary problem with silicon germanium crystal growth in gravity). Once these have cooled to a solid, the container with the purified crystal mass in it can be sent back to earth, where the material can be processed into very powerful computer processors.

The factory would be quite small; a very small portion of the manufacture of the semiconductors would go on there. There would be a small number of solar panels. The factory itself would be cylindrical so that there could be a slight artificial gravity inside of it caused by rotation. This would minimize health problems such as bone density loss and blood loss due to long term inhabitation of space. Since the container that the crystals are grown in would be separate from the factory itself, it would not be subject to the gravity.

There would be a small runabout ship docked at the factory at all times, mounted in the center of the space station, where docking and undocking would have the least potential for destabilizing the rotation of the factory. This would be the means of escape in case of an accident, as well as the means of picking up more raw material from space shuttles.

Large processors made with the silicon germanium alloy for military use or large scientific institution use could be easily sold for several thousand dollars a piece. What you would have is a desktop computer which is considerably more powerful than supercomputers that fill an entire room. Super computers made with an array of these processors would be capable of cracking almost any code via brute force within a reasonable amount of time, doing extraordinarily large numbers of operations per second.

Small personal computing uses would revolutionize the cellphone/palmtop market, making keychain computers and sunglasses with Thin Film Transistor (TFT) screens built into the lenses that function as wearable wireless computing. The possibilities are endless, and will easily be capitalized upon when the technology is available. Assuming that all of these devices can be sold for several hundred dollars apiece, and share the same markets with

cell phones and palmtop computers, a factory in space would be a feasible investment.

## Early Space Culture

Whenever the first semi-permanent inhabitants in self sustaining stations in space, they will have to adopt new ways of living. Everyone will live and work as a community, just as with any frontier outpost of civilization. As you look back through history, and see all colonies and frontier civilizations, they all developed a very distinct culture. Space will be no exception.

But in space, all the rules change a little bit. Most frontier inhabitants throughout history have been freedom seekers, looking to make a fresh start on life. These are people who dont feel much of a connection to any home, and are looking to find their own place out beyond the reaches of civilization as we know it. They are actually looking to form a new culture and a new way of living, because theyre sick of the old way. thats why theyre leaving it.

The space pioneers, however, are going to come from an entirely different stock. The only existent models for space exploration are either through corporate or government funding. Following either of these models, one arrives at the inescapable conclusion that the people living on that frontier are going to be personnel, employees. They are not looking for a fresh start, they are very much parts of the old culture, getting paid in bank accounts back on Earth to do their job in space. The primary goals of these inhabitants are to do their work and to survive.

They will be fairly well educated people. The old frontiers people were gold rushers and mountain men, wily characters looking to make their fortune by coloring outside the lines. More often than not, these frontier people got their education out in the wilderness, surviving on their own, living a rough life and roughing it out on the frontier. The workers in space will most likely have multiple college degrees, and will be dependable employees, rather than vigorous free spirits. They will be parts of corporate life, yet will be transcendent of it on a certain level.

Thus the culture they will bring up with them will be an interesting fusion to begin with. Imagine spending a year around nobody but your coworkers. They would bring their individual cultures up, to form a sort of miniature melting pot of Earth cultures, from the Midwest to Manhattan, from Britain to Bangladesh, whoever the qualified workers were. However, they would all be united under the corporate culture of whichever company they were working for. Additionally, with the safety feature of all the modules being connected together, there will be some crossover between those cultures as well. Considering that the inhabitants of such a space station would be working shifts of at least a year, there exists the environment for a completely new human culture to form, possibly unlike any other frontier culture

ever to form.

## Philosophy

The space modules will all have to be self sustaining, because it is not cost effective to continually ship up oxygen canisters and food. The food supply will be farmed and cultivated on board the space station. As such, the workers will all have to be farmers, as well. Down time is going to be in fairly short supply, as the workers have to tend to their food and air supply when they're not doing their factory or research work. This is going to be a rigorous, tough lifestyle, which lends itself to a philosophy of hard work and tending to your own survival and the survival of the group with your own hands.

One possible course is for this to lead to a sort of neo-existentialism. You act on your own behalf, and your actions are responsible for the survival of the group. You cannot rely on the group to provide for your needs, without also providing the amount needed for yourself. When the system works, and everybody does just a little more than their share as a matter of personal pride, then everybody survives. One person slacks off, and there is a shortage of food where everyone goes a little hungry.

Also, these workers would have an entirely different appreciation of what it means to take care of the environment. In space, there is a very limited amount of space to grow food and maintain the oxygen producing plants, and any destruction of that miniature environment means certain death. People living in space for an extended period of time is proof of the effectiveness of solar power as an alternate energy source.

This mindset of hard work is fairly foreign, at least in modern American culture. Here you work, and you get money. That money is used for buying *things*. Food, clothes, cars, everything that money buys is just a *thing*. Money has become our means of living. In space, people would also be earning money, but they would have to directly work for their own survival. The reason that Dude Ranch retreats exist is because this is a liberating feeling, however people who go on a one week retreat to a commune don't have nearly the depth of experience of somebody from a well-off background who has lived a subsistent lifestyle for a year. These are also people who know how to write, and have strong minds from years of education to quantify their feelings and beliefs.

When you take that philosophy of hard responsibility and working for your own survival, and couple it with the environmentalism that is slowly making a comeback, the two together make a fairly convincing package. This is a very tough love philosophy, where you care for your comrades and your environment, by being responsible for yourself and your actions.

So, you have former members of mainstream culture, who are now separate from it, and have been living a subsistence lifestyle, and yet have the intellect to write about it, as well as the time once they return to Earth. They will see the lifestyle of Earth, and see it as disgusting. Most will not spend all that money they have saved up from working. Instead, many of them will start writing and speaking publicly about their experiences. The media would gladly jump all over those returning from work in space, as a quick news story. This gives these people a window to fame, and with writings and public appearances, this new philosophy will spread.

The most likely audience for this new philosophy would be rebellious teenagers and college students. Having grown up in the system, all they've seen is money at work. They've also got a tendency to protest their parents and their parents ways, even if only out of plain contrariness. However, this rejection of a society based on money, and the rejection of a society that doesn't take care of its environment, would be very lucrative to a lot of protesting young adults. Even if they did not all strictly adhere to the philosophy, there would still be enough people interested in bucking the status quo that culture on earth would have to change as a result of the writings of a few philosophers, whose ideas came from the unique viewpoint of outer space.

While this philosophy would most likely be just an excuse for riotous teenagers at first, after a few years these writings would start to permeate mainstream culture. The philosophy will come at the crest of a wave like, as even now we know that we need to start taking better care of the environment. It just needs to be said from a respectable position, and in a strong enough manner, which can be provided from outer space. Before long, the doctrines of this neo-existentialist philosophy would be publicly debated and discussed in philosophy classes. More people would adopt this as a personal philosophy, including possibly some politicians and corporate leaders, looking for freedom in their mid life crises as well as public support. At this point, the philosophy could elicit major change in the people of Earth.

## MUSIC

As mentioned earlier, there is not going to be much downtime in space. This lifestyle can lead to feeling a down, lonely, and desiring to just relax or see loved ones. This loneliness was common among field workers in the deep south, and led to a music form known as field holler blues. This was literally the birth of blues music, back in the fields from somebody who had been working all day.

But once again, the people on board the space station are much different than the slaves of the deep south. They are, as mentioned before, highly intelligent people. The lyrics of the field hollers will be a lot more coherent and will have much more

meaning. Also, while the space workers are still working for the man, the man is not sitting on horseback with a whip in the space station. There is plenty of opportunity for political satire in the lyrics, as well as corporate satire, making fun of the companies they work for. There will be other musical influences in there other than blues, little bits of music from every culture that has people working on this station. The result is a strange blend of influences into a moody musical cauldron, with sharp witty improvisable lyrics, which can only be described as space folk music.

Most likely, there will be a satellite internet feed on the station, for employees to keep in touch with their respective companies and their families. When the space workers have more than enough to eat, with what little downtime left to them, some may well record some of their work songs, the space folk music, and encode it and send it to friends and family back on Earth. The music is going to be catchy, with witty lyrics. These will be used primarily as work songs, and so have the potential to stick within our heads. As these songs start to infiltrate American culture, getting thrown into terrestrial mixes and used as background in commercials, one of two things could happen.

First, When the workers come back from their year long tours in space, most of them will likely still remain friends. These people, if they enjoyed the music enough, may well rent out some studio time and record some of the songs. They can put this onto a CD and sell it, for their own personal money and enjoyment. It is a distinct possibility also that some of them might have record contracts waiting for them on Earth, most likely with minor labels, but still with enough distribution power that there could be a decent international market for these recordings.

The other possibility is that the companies may like some of the recorded work, and agree with a record company to send a producer to their employees, in exchange for a cut of the record royalties, assuming that they think it has a big enough market. This would allow a larger record company to be in on the action, with some major corporate backing, and even more distribution.

Culturally, music has a funny way of worming itself into things. It becomes commercial music, it becomes theme music, it becomes that phrase echoing in the back of our mind all day. This music becomes the stuff our culture is made of. It is difficult to quantify what sort of mass cultural effect the music will have on that level, but on a higher level, this genre of music will probably become the next big thing for protest songs and the like.



## SUBSTANTIALISM

John would always talk about how he went to work, same old route, same old noise. He was a lab technician at a major biomedical firm, doing lots of research into organic chemicals, protein synthesis and the like. Insulin derivatives mainly, with a little bit of experimental work on retroviruses. He was top of his field, in the highest esteem of all his employers, very precision results from everything he did. He worked really hard, but he hated it. After he moved up here, the people of Earth thought him to be bitter and cynical. All of us up here were glad that someone finally said something. Even better he was one of us who was not a crackpot or dreamer; that way he had more credibility back on earth, without which he probably couldn't have become so well known.

He used to drive down a major highway in his commute to work, and on the way he'd count advertisements. Everything he saw, billboards, bumper stickers, logos on cars, signs on the side of the road. Lowest he ever counted was one thousand twenty six. That was driving to work on a sunday to get in some overtime. I guess not too many of us really noticed it when we lived on Earth, but he did; I believe his term was intellectual pollution.

He went through life like the rest of us did. We grew up, went to school, learned to drink our milk and eat our hamburgers, and learned to admire the latest thing to come up. When I was a real young child, it was this little thing called Pokemon. Silliest little thing ever, cartoon kids would find these random strange creatures and teach them to fight each other, and they'd compete with other cartoon kids by exploiting these creatures. There was never any reason given for it.

But, oh, there was lots of merchandise. They even made a trading card game out of it, can you believe that? They'd destroy trees, grind them up into pulp, chemically treat the hell out of them, print pictures of strange monsters and a brief description, and sell them to us gullible kids and our gullible parents.

Believe it or not, that's how the world worked back then. It was entirely about things to sell and things to buy. You didn't work to grow your food like you do up here. You didn't even know what was in the food you ate. You worked jobs and received money, little pieces of green paper with pictures of dead presidents on them, that for some people became the sole meaning of life. You'd get these pieces of paper, and then you'd trade them for food, clothing, tading cards, or other stuff you just don't need.

But I'm getting away from the story. Point is, John started to see through all that before much of the rest of the planet did. He was starting on the path to being thoroughly disillusioned by all of it. He'd lived his life in pursuit of money, and always trying to get the better car, get the better house, get the better tan... and he was starting to feel something he couldn't explain. It wasn't really unhappiness, but it was kind of like it. John supposedly had no reason to be unhappy. He had a nice car, a nice house, everything a man from the early 21st century could possibly

want, yet he wasn't completely fulfilled.

Hey, stop snickering. this attitude was the entire culture we grew up in, and that's why things were so messed up at the time. Anyway, as I was saying...

John's company had decided to contract with Space Construction, Inc. to get a research facility up in space. The deal had been signed, the module was under construction, and it was time for the company to select people to go into space to work in the research facility. Their natural first choice was John, for a couple of reasons. First off, he was happily single, and starting to get a little old. I think he was around 40 at the time, or some ridiculously low age like that. Second, he was still a top lab technician. He had no real ties on Earth, and he could go into space to make way for a new up and coming lab technician back on Earth.

The deal they had worked out was that John would stay in the module with a team of 11 other top laboratory people. They'd receive orders from the main company via wireless internet feed, and perform experiments and send down the results the same way. The crew was to stay up there for a year, then come back when a new crew came up. The money John earned was going to be directly deposited into his bank account, so he'd have about 150,000 dollars waiting for him when he got back.

This sounded good to him alright. Not necessarily for the money, but because he felt that he needed a break from being on Earth. No morning commutes for a year, no TV, no radio, no intellectual pollution to bother him. He had his work, his coworkers, and peace and quiet.

So, as the module was being built, John and the other 11 workers started training to go up into space. You have to remember, at the time, people would sit around in front of computers and televisions all day. They'd sit behind desks at jobs, still staring at computers, getting paid money for sitting there and pushing numbers around, then they'd sit in their car and drive home, then they'd sit at the dinner table and eat, then they'd sit and watch TV. The average human from our culture wasn't physically fit enough for anything we do up here.

So the first thing they had to do was to go through an extensive exercise program. The space lab wasn't going to have any gravity, so that they could grow the organic crystals, and so they'd hang upside down for long periods of time to get used to having lots of blood rush to their heads.

Then they started getting the most important part of their training. They learned to garden with limited resources. John started to feel something, like an impending happiness, as he took care of the plants. They received instruction on zero gravity cooking, but didn't get to try it out until they got up here. But John felt a connection, something real, that he couldn't explain yet.

Meanwhile, there was a bunch of us grease monkeys up in space putting together the station. That was the hard work, like I told you, getting the oxygen in the module in the first place, getting

the plant systems established, and once they were in place, we had to stay there to provide carbon dioxide for them. That's when I met John.

He got off of the transport with a kind of glazed look in his eyes, from feeling sick from all the blood going to his head. He looked at me and smiled, and said 'You know, Earth's a lot prettier the farther away from it you are, isn't it?' I laughed and shook his hand, welcomed him to his new home. We became pretty fast friends after that, and I remember with joy when I watched him take to the plants. It was like he was being reborn into a new man or something like that. He had this look of happiness in his eyes when he was tending the plants, and this intense look of satisfaction when he had his first meal on board the station.

His first big shock was the fact that he was now working for his survival, not just for money. The rest of the lab people didn't take to this notion all too well, always whining and complaining about how they miss burritos and they miss hamburgers and they miss greasy pizzas. I think the thing they missed the most was chocolate bars, always heard people longing to have some of that. While it was difficult for everyone to truly get used to that sort of lifestyle, John and a few others genuinely enjoyed it.

The second big shock was the fragility of the ecosystem. There was an exact amount of algae growing on plates on the far side of the garden, like over there. If you lost a few square feet, then you'd start getting too much carbon dioxide in your system. If you had too much, well, it would just die off and produce waste. The cleanest way to do it all was to be exact, something that our culture of the time lacked.

Fortunately, these were laboratory people. Keeping exact tabs on things wasn't too much of a concern for John and his colleagues. They took to it a lot better than, say, those guys from the ball bearing company. That one's a riot, I'll tell you that story later.

At any rate, I kept in touch with John after I left. He had spunk. He was also extremely intense, and had this powerful way with words. Just looking into his eyes made you feel like he was looking through you. I'd hate to have him angry at me. But, when he was happy, I'm sure it must've been a spectacle. Just reading the ecstatic email he sent to me did it for me.

He told me about his epiphany. He realized that he wasn't happy on Earth at all. Things aren't the secret of happiness, money isn't the secret of happiness, and all the spiritualities and -isms in existence weren't the secret either. The secret was self sufficiency, he told me. When you can actually provide for your own well being, that is the greatest satisfaction you can possibly have. I didn't reply to that one, because I was busy, and the next I heard from him was the essay, actually entitled Intellectual Pollution.

I have never heard any attack on society so bitter and so fueled by disgust. Story has it that he called up one of his

closest friends back on Earth. The conversation went something like this:

JOHN: Hey Sam? You there?

SAM: John! hows it going?

JOHN: Actually, its never been better! I've started learning

to grow my own food, and...

SAM: You miss TV yet? There was a great show on the other night about hollywood actresses and their neuroses!

JOHN: No, Sam, I haven't missed TV, thats what I'm trying to tell you! For the first time in my life, I feel truly alive!

SAM: Ohhh, so who is it?

JOHN: ...what?

SAM: you know, which one of those lovely lab assistants have you started going after?

JOHN: Oh knock it off, will you just listen to me?

SAM: Well, what could you possibly be so happy about?

JOHN: I've learned a new way to live.

SAM: how do you mean?

JOHN: Just me and the garden, growing my own food and feeding myself, taking care of the things which provide for me, and just plain living!

SAM: ...and thats it?

JOHN: Yeah, it's so refreshing.

SAM: You do this aside from TV and the bar scene?

JOHN: This is so much better.

SAM: man, you are losing it! what about cars? what about having a big house?

JOHN: Who cares? I can provide for myself, and I've found that it feels good. You ought to try it.

SAM: Hell no man, I think Im going to go out to a bar. Once you get your priorities straight, give me a call?

JOHN: What the hell are you talking about, my priorities straight?

SAM: My friend, you cannot live without money. Money is how you survive, not by taking care of plants. Money allows you to meet women and reproduce, money allows you to get a fast car, money allows you to have things to eat. How can you all of a sudden pretend it means nothing? It may be unpleasant, but thats the way the world works, and thats the way it will always work.

JOHN: ...Sam...

SAM: So get your priorities straight man. Im taking off, see you around. <click>

That disgusts you as well? Well, me too. But, that was the general viewpoint. Even among his coworkers. John tried to communicate with them, and there were two people who were of his perception of things. The rest of them simply couldn't wait to get back to Earth and start 'living their lives' again.

And, as legend has it, John entered this deep brooding period. 'Why are humans like this?' He'd ask himself repeatedly. Then he finally came up with his theory. He said it best in the introduction of *Break Your Chains*. I can't really do it justice, but it was something like this:

We are the way we are because we've always been this way, as was once explained to me. I questioned: Why did we do this to ourselves in the first place? The simple truth of it is, we are stuck in an evolutionary rut. We are aggressive, opportunistic animals that still compete for survival, only now it doesn't involve violence, but stock portfolios, laws, corporate entities, and various other intellectual pollution. This is obvious if we open our eyes to look, but why don't we? Because we have always been this way. Since childhood we are taught to buy things, to watch TV and demand what we see in commercials from our parents. This is the American dream. A society that can get its gratification instantly, and then take it for granted and always complain about not having more. I have hated it all along, and I've been part of it. That's why I've hated myself all these years. As separate from it, I can love myself and consequently all of humanity again. It's time for us all to realize who we are, outside the context of society. It's time for us to respect one another, respect the environment, and turn our heads and hands to what is real. Stand up and break your chains!

During his deep brooding, he thought about the fragility of Earth. He realized that the Earth is nothing more than a really big version of what we've got here. It is a self-contained system, no real outside input other than sunlight, limited amount of resources... There was just a lot more of it, and consequentially a lot more room for error. During the past couple of centuries, people were getting closer and closer to that error point, and there were actually a lot of people on earth starting to get worried. Well, let me rephrase that. There was general worry among the general populace, but things were run by corporations, but I won't go there yet.

Anyway, before John had returned to Earth, in all his free time outside the responsibilities of work (he had to, because that's how he was allowed to be in space) and the responsibilities of maintaining survival for himself and his coworkers, he had written out the basic tenets of his philosophy.

'The individual's main responsibility is the individual' was the first thing he said. Basically, he meant that you were completely responsible to and for yourself. People on Earth would consistently engage in self-destructive habits, like smoking and drinking alcohol and promiscuous sex and all sorts of other things that weren't good for them. By being responsible to yourself, you allow for the survival and well-being of yourself.

'By being responsible to yourself, you automatically assume responsibility for the rest of your neighbors.' By this, he was talking about how being responsible to yourself includes growing

food, taking care of all the plants, not engaging in destructive practices, to yourself or others. It seems like a bit of a stretch, but you've got to figure; just about anything you do that could harm someone else has the definite potential of harming yourself, too.

'Produce, do not consume.' He was saying that if you just sit around and buy things, you are being detrimental to society, and the whole planet. In work, you should actually make things, actually produce goods and/or services to and for the people around you. This way you take care of yourself, by producing things for use of yourself, and as such you can produce for others and maintain your society.

Three basic tenets of a personal philosophy, a sort of hierarchical tree of concern, like a chain reaction; care for yourself, consequentially your neighbors, consequentially your environment. Seems obvious enough for us, but you have to understand, up here in space is the only place where a philosophy like this could have been seriously conceived. There was no environment on Earth that could demonstrate for anyone how truly fragile and important the environment, the community, and the individual really are. After living in the microcosm of the space station, John returned to Earth as an almost completely new man. The world's greeting wasn't too particularly pleasant for him.

The second crew for the research station came up in a space capsule, and all the old crew packed themselves up in it and returned to Earth. John reflected on his thoughts when coming to the space station in the first place; 'You know, Earth's a lot prettier the farther away from it you are, isn't it?' That thought was with him the whole return trip. He crashed down into the ocean off the east coast, near New York, and suddenly remembered why he had gone to space in the first place.

The shock was incredible. Hed been breathing clean air, eating fresh organic foods, been confined into a small tiny space for which he was responsible for keeping alive. Now, he was exiting a space capsule to the incredible dirt and smog that was the air of Earth. He was taken aboard a ship, to return back to the harbor, where there was a small swarm of helicopters floating around, buzzing like giant flies.

On his list of self destructive and detrimental habits, TV was always one of Johns most hated. He had been keeping it so far from his mind that he didnt think he'd be assaulted by TV news reporters upon his arrival.

Unfortunately, I dont think we have any digital records around of the live news interviews, though I'd love to see them again. If I recall, it went something like,

REPORTER: John Douglas, how does it feel to be one of the first people to live in space for an extended period of time?

JOHN: I think I'm starting to miss it already

REPORTER: Is it the micro gravity you'll miss?

JOHN: No, but space has some of the cleanest air imaginable.  
<other reporter mumbles>: but there is no air in

space...

JOHN: Precisely.

REPORTER: Mr. Douglas, How did you and the crew react to the President's heart attack?

JOHN: The President had a heart attack? Well whats he doing as President?

REPORTER: ...What?

JOHN: Well if he can't take care of himself well enough to avoid having a heart attack, then how can he take care of his cabinet members, much less the general public?

REPORTER: <snidely> Are you saying that physical fitness should be a requirement for holding the office of president?

JOHN: No, I'm saying that responsibility starts with yourself, then works outward to community and environment. If he can't be responsible for even such a 'little thing' as his own health, how can he be responsible for an entire nation?

And it went on like that for a while. Normally, the news agencies of the time would just show the parts that had the information they wanted to convey, to twist a story around into something interesting that got ratings. But, John was crafty enough to make sure that virtually every sentence contained evidence of the way he thought about the society in general; to air any of it and not look suspicious, they'd have to let John make his point.

What John managed to engineer was a means of getting his foot into the door of the public eye. He started giving public appearances, giving lectures, appearing on TV. Most people of the past who shared Johns viewpoint adamantly fought the system. John managed to use it entirely for his own advantage. He used it to help destroy itself.

Now, it's not actually so bad up here, but on Earth, children and their parents seldom got along. You see, up here the parents and the children have the common interest of staying alive. On Earth, the parents were caught up in making money to buy things and the kids were caught up in having fun. This led to a schism between kids and their parents, and kids would often protest, wearing ripped up clothing that they paid too much money for, dying their hair all sorts of different colors, that sort of thing. Anything they could find that would aggravate their parents was something they liked.

When John's philosophy got to be well known, kids were all over it. their parents were out in the real world, making money and not really paying any attention to the kids. The kids, starved for attention, started blatantly espousing the philosophy of substantialism. Even college students were requesting continuously for John to come lecture at their schools. It was only a matter of time before the movement gained enough inertia and enough people that they could affect changes in the world.

Back in the late 20th century, there was a protest of the World Trade Organization, where a lot of kids with open minds and

closed fists stood protesting the fact that corporations were destroying cultures in the name of money, and actually got some attention for it. There was a lot of literature thereafter about what the WTO was doing in other countries, and people started to take intellectual action.

Likewise, the substantialists would protest outside of banks and corporations and WTO meetings and the like. Only difference was that they were organized, each looking out for himself in a way that preserved everyone else, and there were a lot more of them.

I guess you could say that in the environmentalist movement, substantialism was the bucket of water that made the dam break. All of a sudden, votes were being swayed by active participants in world affairs. Intelligent protests were being brought before congress. People all over the world were sticking up for their rights and personal freedoms. And for the first time in a long while, they were actually winning.

There were other interesting side effects of this movement, too. Many people started turning to subsistence farming as their survival. they took responsibility in themselves, and did their work outside as motivators for change, and inside as food producers for themselves. This was a very hard lifestyle, and came to actually be quite romanticized.

Another thing you don't see up here is something called a mid-life crisis. Up here, nobody's got time for that silliness, and just about everyone is a substantialist by necessity, realizing that any deficiencies that one has can be fixed, and if they aren't life threatening, they aren't really a problem. But, due to the culture we lived in on earth, older men started to fear losing their manhood in the latter half of their lives.

These older people were searching for something romanticized, something to prove their toughness as human beings. Substantialism actually appealed to a fair number of these people, who also happened to be part of the voting majority. Between all these factors, the substantialists were a potent political faction. Many of the politicians noticed this, and started making laws and policies with a more substantialist bent on them.

These included the Forest Conservation Laws of 2052, when they subsidized the growing of hemp plants, and started making paper out of those, rather than trees. That and several other laws actually contributed rather heavily to the fact that Earth is still around today.

Well, John finally got tired of Earth and was one of the people who pitched in to build this station were on now. he kept on writing, though he mellowed in his old age. I think he also mellowed from the fact that he had actually managed to change the Earth, and help the culture of Earth grow into something better. He lived up here for several years, and finally died not too long ago, a strong, happy man. I still remember his last words...

Come to think of it, everything's prettier the farther away you are from it; isn't it?



December 4, 2002 AD

## Children

When I discovered my wife was pregnant, the first thing I did, before I called the Press or even for a "town meeting," I called the Company. I needed to know if they'd be willing to support a child up here. A child was, after all, the highest of luxuries up here. It would eat, and breathe, using up precious food and air, it would need to be taken care of, removing hours of labor every day from its parents and other caretakers. It would be years before the Company ever saw the child capable of lifting a finger to work and give back on its investment. And the child may not even survive up here in the fronteir of science and medicine, the Company may not even get back a dime of what it invested in the child.

Our minimum service contract had been fulfilled, and we had the money saved up to buy space for a return home if needed, but we had grown fond of the life here, and others had found it difficult to readjust to the wide open spaces filled with garbage, the free air that was unhealthy to breathe, the gravity that pulled so heavily on those just returning that, between strength training and depression, it was months before they could hold down a steady job.

I logged into my terminal and input the number sequence that would connect me to the vid on the Company Man's desk. There was the familiar white flash as the camera adjusted for ambient lighting, and there his face was, looming as always right in front of the camera like some high school Administrator, his suit and tie obscured by the angle. "Ah, good morning, Doctor Adams," he greeted in me, acting omniscient, though I knew the address and username were always displayed before an incoming call could be accepted, "Congratulations are in order. I'd ask you to join me in a cigar, but we can't allow any up there. No doubt it requires both skill and practice to get someone pregnant up there. I'm sure your son will appreciate that when he gets older."

"Um, thank you sir, but, how did you know?" I asked, bewildered, but already suspicious of our Chief of Medical, Frank Epstein.

"Births, Deaths, Contagious or Life-Threatening Diseases, and of course Pregnancies were all included in the release forms you signed when you joined this outfit. All of those things are far too expensive for us to even consider allowing you the luxury to think it over. The Press Conference is scheduled for just over an hour from now. I was about to call and get your authorization to release this information publicly."

"Oh... uh... sure." I pressed my thumb to the print scanner, attaching my name to whatever he was writing. I should have realized. As with everything else we do up here, the Company gets first pick of the good PR. I just hope they let us name him ourselves...



December 4, 2002 AD

### What a Scam

OK, it works like this. We have employees. Some employees are down here on Earth. Some are up there, in space. And we pay them. They work hard up there researching and producing our zero-g industrial diamonds and ball-bearings, we work hard down here selling them. We get paid, they get paid.

Here's where it gets interesting. What do you or I do when we get paid? We buy houses, cars, groceries. We pay the electric bill, the cell phone bill. We deposit the money in the bank and do as we please with it. They don't do that. They don't buy groceries, houses, or any of that crap. The corporation has already provided them with all the housing and power they'll need up there, and they grow their own food.

We still pay them, of course. But we pay them a lot less than other people in their field. Their top researcher only makes \$50,000 a year. That's \$50,000 a year that *he doesn't spend*. What does he do with it? He puts it in the bank. He puts it in our bank.

You remember that cute little bank the company set up for its employees? This is where it came from. We needed a way to pay them without actually losing the money. So we started our own little bank as an outgrowth of payroll. Even employees of other corps use it. Since everybody's paycheck is immediately deposited there, most don't bother moving it. I sure don't. And the people up there don't. Hardly any of them have thought to look into it. They just assume that the company is taking care of everything, that all their money is put into some tidy little package earning pretty good interest. Scientists are like that. They're too busy with their experiments to think about things that go on in the real world.

And it does make good interest - at least on paper. But have you ever considered just what a bank does with your money? It's not just sitting in a vault. That doesn't earn the bank money, so it doesn't earn you interest. It gets invested in Stocks, Bonds, anything that will turn a profit if you throw money at it, so long as it isn't too risky. So, on paper, we give them money and deposit it in the corporate bank, and, on paper, we pay them interest, which also gets deposited in the bank, which at this point accounts for 90% of the corporation's investment money.

There's just one problem. They're not ignoring it anymore. Enough of them have been keeping tabs on their money enough to realize that it's just sitting there accumulating interest for them - doing nothing. And we both know that that's not what people do with money. They spend it. The more they get, the more they spend. Most of our people up there have been working at it for almost 10 years. That's 500k+ for our Senior Research Scientist. Less than he'd make in a year down here, but he signed the contract, he must have thought he knew what he was doing.

Now we've started getting requests. They want beer. They want guitars. They want candy bars. They're willing to pay for the space these things take up on our launches, but we still have to pay for fuel. It's a lot less profitable shipping junk food into space than sitting on their cash. Projections indicate no end to the crap they'll want to send up there. We've even heard rumours that they want to have some sort of sports arena built and shipped up.

What this means is, loss for the company. If we end up sending even one additional flight up there due to these people spending their money, we're out a huge pile. We can't allow that. You know how we thrive; we find ways to make our existing projects more profitable. So we need to start squeezing them. We need to find ways to charge our employees more than our competitors. We'll need to start paying them *only* on paper, and use the "real" money to pay for the program.

Most importantly, though, we need to keep them from wising up. That's where you come in. You're our guy in charge of dealing with these people. You know them best. You need to keep them distracted. You need to find ways to keep more of their money in our pockets. Encourage that crap they call music. That wastes time and very little money.

We need to start screening out the applicants that are good with money. And probably those that are too good with computers. Anyone who'd have a chance to figure out what we're doing with these people's money. I'll see if I can arrange for a bank robbery.

## CONCLUSIONS

In the context of this IQP, we have examined many things of concern to Humanity and Space.

We have examined technology. There are many technologies discussed that will be of benefit to us through Space Exploration. Some, such as fuel cells, are under development today on Earth. With an increased presence in Space, these technologies will only develop further. Others, such as the Silicon Germanium Processors, will advance through leaps and bounds and become a viable market. There will be other new developments, like the radio, and television, the automobile, and the airplane, new tools that fundamentally change the way we live and work like we have hypothesized about the engineered beverages and personal computing technology.

We have examined culture. We hypothesized and examined the possible cultural paradigms that Space Exploration could bring. We looked at how previous exploration ventures developed, from the time of the Greeks to the age of Empires, and these possibilities were documented. We witnessed the capacity for exploitation of other people. We examined a more strictly business-oriented possibility. Lastly, we studied how analogues to previous colonial developments might happen in Space. Thus in the novel of this IQP, Space Exploration is first done with the same kind of wide-eyed wonder of the early days of colonization, but as time progressed, the extremist forces began to tear everything down just as they always have.

We have examined humanity. What does it mean to be a human now? What will it mean to be a human in the future? With the course of events unfolding in ways few could have anticipated, it is difficult at best to predict how people will see themselves in fifty years. However, with the life we anticipate further space pioneers living in, we can draw certain conclusions as to how they would react to their life, how those that appreciate that way of life might spread their word.

All of these are compelling topics that warrant examination. We had hoped to further examine material of space construction, the potential for backlash due to advances of cosmetic and enhancement technology, and other philosophies that may develop. Ultimately, however, it is the novel that has driven the pace and direction of this project, and it has pushed us in the direction it needed to go.

We have endeavoured to show a compelling view of the future, to provide a source of inspiration and ideas not for future generations, but for the present one. The technologies and feelings explored here are real, this future is within our grasp. We need simply try for it.

Space is the future. Without a continued presence in the heavens - without increases in our exploration of the cosmos - the human race will eventually die out. The advantages of space exploration now, as opposed to some distant time in the future, will allow us to spread our ideas, our ways, and our ecology to

new worlds. As the way of life in space advances, the technology that can only be researched, refined, and developed in space will improve our way of life on Earth immeasurably.

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