

***The***  
***Pegasus Mission***

A Novel By David Wayne Conklin

The Pegasus Mission  
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To the memory of Kevin Marsee

**Author's note:** Regarding my unique writing style: To each his own, but one of the biggest distractions for me, reading books, has always been the obvious structuring of the story by the author simply to avoid repetition. For example, it is common for an author to drop the use of speech tags during long conversations between two people. The author does this to provide a change of pace, under the idea that designating who is speaking becomes redundant when it should be obvious. The problem is, in order to prevent the reader from getting lost, which I often do anyway, the author then has to be careful what words he places in the mouths of the two people speaking. This is only one example of several I could offer, so I decided to see if I could come up with a writing style that would require much less alteration, for the sole purpose of solving repetition, by the author. In other words, the characters could always say whatever they wanted to say, and both the narrative and the dialogue would hopefully structure themselves—repetition free—with minimal afterthought. In this I believe I have succeeded with a simple rule that I arrived at through trial and error: Something like a screenplay or TV script, all quotes are preceded by the name of the person speaking unless a question has just been asked and it is obvious to whom the question has been directed, or the quote was written in a conventional way.

# Contents

|    |                                 |     |
|----|---------------------------------|-----|
| 1  | The Discovery.....              | 1   |
| 2  | The Departure from Earth.....   | 25  |
| 3  | The Awakening.....              | 35  |
| 4  | The Controversial Decision..... | 55  |
| 5  | The Visitor.....                | XX  |
| 6  | Operation Killswitch.....       | XX  |
| 7  | The Marathon.....               | XXX |
| 8  | Contact.....                    | XXX |
| 9  | The Journey Home.....           | XXX |
| 10 | Landing of the Endeavour.....   | XXX |
| 11 | The Way Out.....                | XXX |
| 12 | The Late Greeting.....          | XXX |
| 13 | Terra Firma.....                | XXX |
| 14 | The Alien Planet.....           | XXX |
| 15 | The Fishing Trip.....           | XXX |

*If it were not for the last minute, nothing ever  
would get done!*

**Forward:** The following story takes place over a wide span of time, from the near past to the distant future. After a short introduction involving the distant future, the story reverts briefly to the middle of the 20th century. The story then picks up in the fall of the year 2076. The United States' National Aeronautics and Space Agency has been, for the last seventy years, tracking the source of electromagnetic radiation first picked up by the long-lost space probe, Voyager 1. As work continues on a manned mission to intercept the object before it reaches the inner solar system, a probe sent forth some ten years prior—along the same trajectory as Voyager 1—continues to monitor and photograph the object as it enters the outer fringe of the solar system. One aspect of the manned mission involves the refurbishing of one of NASA's long-since-retired space shuttle orbiters, the Endeavour, and the construction of an entirely new orbiter from warehoused space-shuttle parts and a new titanium frame. The new orbiter would be named the Pegasus after the winged horse of Greek mythology. The name was submitted by a young child who added, "The Space Shuttle looks so much like a horse in the front, how could you name it anything else?" The logic was unavoidable, and "Pegasus" it would be.





## ***1 The Discovery***

Friday, December 12th, 3012, the Institute of Space Archeology,  
Knoxville, Appalachia, Earth State 3  
(formerly known as Knoxville, Tennessee, United States of America)

Rare excitement was in the air this morning at the institute. The holograms that Geological Research Station, Titan 6 had sent back to Earth were more than enough to astonish the entire scientific world, let alone an organization dedicated to recovering relics of mankind's exploration of the solar system. The entire staff had gathered around the central holoprojector to see for themselves what the team at Titan 6 had discovered poking through a slurry of hydrocarbon mud on the surface of Saturn's greatest moon. It was the unmistakable shape of a stabilizer fin belonging to a late-20th-century space shuttle. It appeared to be somewhat bent and twisted, but the strip of black tile running up the front edge made everyone all but certain that it had to be from the Pegasus—the most famous space shuttle orbiter ever built. For there did not seem to be any certain part of the various probes or ships that had been lost to Titan since that could remotely resemble a space-shuttle-stabilizer fin.

The Pegasus had traveled, in the late 21st century, farther than any manned spacecraft would venture for another 200 years, and its flight would mark the end of an era, an era which the present-day historians often referred to as the “giant leap forward.” The story of how the Pegasus would

## 2 The Pegasus Mission

end up being buried on Titan below a tarry lake of methane slush—to be revealed nearly a thousand years later by the effects of evaporation and erosion—is one of tremendous courage and sacrifice. . . .

William Bradley was standing near the holographic projector conversing with one of the staff, when a visitor from the Titan Geological Research Center, Dr. Kesi Jozani, turned her attention away from the projection and walked towards him, her expression one of barely concealed elation.

Dr. Jozani; “That’s really it, isn’t it?”

“What else could it be?”

“I was reading about the Pegasus mission the other day. It’s just astounding what humanity achieved back then in the short course of two hundred years. I mean, before the transition. I never could have imagined it. And to think that a particularly smart person at that time had only the intelligence that the average physic has now.”

William; “Yes, this is truly a great discovery. I have already sent instructions to Titan Six—Droid Number One, to begin constructing a coffer at site sixteen twenty-five. I instructed him to divert all available resources to the site, so it should be completed in about two weeks.”

Dr. Jozani; “Great, as being one of the foremost experts on the geology of Titan, I don’t foresee any great difficulties. The artifact is lying on the gently sloping shoreline of Lake Nyos, where it must have eventually sank into the gradually melting mud at the bottom of the lake. As the lake has been evaporating and receding over the last millennia, the old lake bottom has been gradually eroding as well.”

William; “Do you think there is any danger to consider from Lake Nyos?”

“Oh no, there has not been an event there for some fifty years, and even then it did not amount to much. It did not raise the lake level anything significant. We, of course, still maintain a network of seismometers across the surface of Titan, but they have only registered a decrease in seismic activity since their inception. However, the ground temperature in the area

around Lake Nyos is still slightly above normal as compared to most of Titan.”

William; “Oh really?”

“Yes. Without any core samples of the immediate area as of yet, I am only guessing, of course, but I think it is a high probability that we are talking a fairly slushy mix of ammonia and water ice particulate matter wetted with liquid methane. So it might be possible to excavate with a minimum of heating.”

William; “If only we should be so lucky. I will take methane slush over rock-solid water and ammonia ice any day of the week.”

Wednesday, December 27th, 3012, Titan Research Station #6,  
Outpost Alpha

A gleaming cryo-alloy cofferdam had gone up ahead of schedule in just ten days at site 1625. Tons of hydrocarbon mud had been excavated over the course of the following three days to expose the ancient artifact.

Droid #1 was in the garage area at Outpost Alpha, preparing his rover for the trek from Outpost Alpha to site 1625, Outpost Alpha being the closest outpost to the site. His original plan was to drive directly from Titan 6 to site 1625, but he was forced to stop at the outpost when his rover began making an unusual noise.

Droid #3 opened the door from the living quarters to the garage area and heard an unusual melody emanating from Droid #1’s mechanical voice synthesizer. Although the usual method of communicating on Titan was by sound, especially over short distances, all of the robots on Titan were capable of sending images and speech to each other electromagnetically, without any extra external gear. Although the practice made some people a bit uneasy when in close company with the robots, it was an indispensable feature for deep space exploration. Droid #3 walked over to Droid #1, whose bottom part was sticking out from underneath the rear of the rover.

“Whatever are you whistling?”

## 4 The Pegasus Mission

“Oh, it’s a song called Penny Lane by the Beatles.”

Droid #3; “The who?”

“Not the *Who*, the *Beatles*. I’ve been doing some research on early space exploration and the twentieth century, and the tune just kind of stuck in my head.”

Droid#3; “Are you sure it’s not just spiders and cobwebs?”

“Are you going to help here or just stand there and look stupid? One of these days I’m kicking all Midas Droids off this moon and replacing them with A-five models. One of these days, Alice, one of these days!”

“Alice? Who is Alice? My official designation is Android TR-One-Five-Five-Five-Seven-Eight-Zero—”

“Never mind!”

Droid #3; “You do not have the authority to transfer androids to other stations. Anyway, I am a communications specialist. Mechanicals are usually Droid Number Five’s responsibility here at Outpost Alpha. I have double-checked and calibrated all of the communication systems on the rover, and I also tested the backup power reactor for you. What do you need help with?”

“Oh, nothing, I guess. Excuse my impatience, but the last few days have been rather hectic. I really didn’t need this. The rear transfer needs replaced in this vehicle, but it will get me to site one six two five—I think.”

Droid #3; “Sure you want to risk it? You could have a transport pick you up?”

“The logistics are a nightmare, but if the rover malfunctions, I will call for one. Problem is, we used up so much of our fuel supply in transporting stuff to one six two five that we only have enough fuel and oxygen to maybe get a transport to the site, and then what? We would have to transport the fuel from the refinery by rover to Lake Nyos because both of the transports would be out of fuel. If only the research center wasn’t so damn impatient.”

Droid #1 pushed himself out from under the rover and climbed into the driver’s seat, did some last minute system checks on the rover, then opened the hanger doors and drove away into the dim orange glow.

Driving across Titan was not particularly hazardous as long as one stayed on the high ground and used the auto-navigator, but the gently rolling terrain of water and ammonia ice, marked by the occasional crag or drainage channel, made for slow going. Droid #1, in an attempt to drown out the high-pitched whine of the rover's central turbine, activated his connection to the central computer and began reviewing files from the early 21st century. Images of two colossal towers falling to the ground were among the first to be imprinted on his central processor; of people running for their lives as they are being chased through the streets of New York City by clouds of debris. A reporter walks up to a gray, dust-covered man who is walking away from the scene sometime after the collapse. He is squinting and his eyes are red and sore from the dust.

"I was just two blocks east of the North Tower when it started to come down. Then this enormous cloud of debris came towards us. I found a subway entrance and made it down the steps just in the nick of time as the cloud rolled over my head. God must have been looking out for me today."

Among the next set of images he found was an image of one of his earliest ancestors, an upright walking robot the humans had named Asimov. A leading robotics scientist of the day was discussing some of the recent developments in artificial intelligence: "I do think we should use caution before we produce a machine that could have catastrophic results for humanity, both in the macro and micro realm."

Droid #1 was all too familiar with the repetitious theme of the aberrant machine taking over humanity, affected by some sort of pseudo aggression. It occurred throughout the early human's pop culture. Early humans during the age of the "giant leap," Droid#1 thought to himself, what a paradoxical and ambivalent society they were—such an instinctual need to believe in an afterlife and one's importance to a higher power, yet so enthralled by the notion that any superior being of their own creation would view them with utter contempt and try to destroy them. He was not quite as intelligent as an intel, but he did have many superior abilities over his human creators; and he has never considered exterminating the human race. Of course, his present human counterparts did not act like early humans, either. Eighty

kilometers and some four hours later, he arrived at Lake Nyos. He parked next to one of their two large transports, the other one being back at Titan 6—the main facility. Off to his right, out over the old lakebed of Lake Nyos, was the top of the cofferdam rising above the surrounding plain. A large power cable ran across the ground from the transport out to the site. Droid #7 stepped out from the transport with a set of snowshoes strung over his shoulder, walked up to the rover, and opened the door.

Droid #7; “How was the trip?”

“Almost hit a deer back on interstate twenty-one, but otherwise pretty uneventful.”

“Huh?”

“Never mind, read up on the twentieth century sometime.”

Droid #1 activated the rover’s transmitter. A small dish on top of the rover swung around and aimed itself at a satellite in orbit around Titan, which relayed a signal to Earth as well as the research station. Droid #1 began sending stereo images from his own sophisticated camera eyes to the rover’s transmitter.

“Titan six, are you receiving transmission?”

Droid #10 via satellite based communication link; “Yes, looks good.”

Droid #1; “TGRC this is Droid One of Titan Six, please be informed that I have arrived at site one six two five and I am proceeding to the artifact.”

Droid #1 grabbed some snowshoes under one arm and jumped down from the rover. Both androids then walked over to old shoreline of Lake Nyos. The old shoreline had now become a drainage area. The soft surface gradually sloped away at about a five-degree incline towards the east. The methane lake’s edge was now far beyond the coffer. The surface temperature was low enough to freeze any human solid in a few milliseconds in the thick heat-conducting air, but the androids gave it no thought; for this was their element. They attached the snowshoes to their footpads and made the ten-minute walk out to the catwalk, which extended over the edge of the coffer. A brisk morning wind was breaking up the methane fog over Lake Nyos and blowing wisps up and over the old lakebed. To the naked eye of any human, there was hardly enough light at

the surface of Titan to make out features. The robots, however, with their much more sensitive eyesight, could easily make their way around the occasional ice boulder or drainage channel. The humans wanted a crisp clear picture of the Pegasus, though, so lights had been added around the perimeter of the coffer. As they were walking towards the coffer, Droid #1 sent a transmission to Droid #5, who was in the transport.

“We are approaching the site, please engage the lighting.”

The pair stepped onto the catwalk but stopped short of peering into the wide nine-meter-deep pit.

Droid #1 to Droid #7 (out loud—not transmitted); “Looks like we’re live from Titan.”

Droid #7; “I thought we were androids.”

Droid #1 only sighed, then replied, “And to think that humans tried for one hundred years to perfect a sense of humor in their robots. It’s no wonder they have been regretting it ever since. Anyway, I want you to do most of the video transmitting. Just try and remember that you are sending a steady stream back to the inner solar system, as in—billions of people watching and so forth. So try and keep your eyes focused.”

Droid #7; “Stay focused, got it, you’re the boss.”

Droid #1; “And no funny business! Okay, I’m going to switch video transmission over to you on my mark. Ready? . . . Now.”

Droid #1 (transmitting speech); “Greetings from Titan. My designation is Droid Number One. I am the android in charge of the TGRC research facilities here on Titan. Beyond the wall of this coffer is an incredibly well preserved relic from humanity’s past. It is from an age when mankind was still primitive by intergalactic standards, but nonetheless achieved many great things. The flight of this ship, the Pegasus, is used to this very day to mark the end of one era in mankind’s history and the beginning of another.”

With that, Droid #1 and #7 walked out over the side of the coffer. Below lay the Pegasus, bathed in bright overhead lighting. She was sitting high and dry on a layer of solid water/ammonia ice bedrock. Her payload bay doors were severely crushed inwards just above where they hinged. Some heat tiles were missing here and there, and her once brilliant white upper

fuselage was now a dirty brown color, pigmented by the primordial ooze that tainted Titan's surface; but her overall superstructure appeared intact. Her forward fuselage, wings, and aft fuselage all appeared true to form.

Droid #1; "As you can see, the millennium of being trapped in the ice has taken its toll. We simply don't know what we will find on the other side of that hatch. If the crew compartment or the habitat module has been compromised, we might be confronted with a spacecraft full of tainted liquid methane. If it hasn't, we will have a glimpse inside the only complete surviving spacecraft from the age of the "giant leap forward."

The two robots made their way down a series of metal stairs to the bottom of the pit. Droid #1 walked over to the port side hatch of the shuttle and continued talking. "I don't want to get anyone's hopes up, but I want to point out, before I open the hatch, that this shuttle—the last space shuttle orbiter of its type to be built—was also the toughest space shuttle orbiter ever built. The areas you see that have collapsed are not structural. Many structural components of this shuttle were fabricated from titanium alloy—the wings for example. The habitat module extended from the forward crew compartment almost to the large stabilizer fin you can see extending from the rear. It was cylindrical, and stronger than the bay doors. So the situation might not be as hopeless as it looks." Droid #1 raised his mechanical arm and pulled the recessed hatch lever for the side hatch.

### *The Meeting*

1,060 years earlier, July 14, 1952, 9:30am, the Whitehouse Oval Office

Anonymous voice; "Mister President."

Harry S. Truman; "So, we meet again."

Voice; "Have you made any progress towards my request?"



“Request? I would call it more of a demand at the very least. But yes, I have a few more pieces for you.”

Voice; “As it stands, ninety-five point eight percent of the vehicle has been recovered.”

Truman; “I have made it clear to my subordinates that I want every piece of that spaceship accounted for. But like I told you, Twining had to break it up and scatter it about, and someone down the line has misplaced it. So I really do not know more than you do about the whereabouts of those fragments.”

Voice; “I know you don’t, Mister Truman, I just want you to do everything in your power to locate the missing fragments. Concerning your weapons programs: I know you are making progress towards a functioning fusion weapon. I just want to make it clear to you again that space is my domain. I control it and I will defend my installations. Even though the situation worries me, I will not interfere with your affairs and I expect the same treatment in return.”

Truman; “Understood. Are you sure that another ‘incident’ will not harm our relations? Like I said in our last meeting, if I were to give the order to our armed services not to fire on any unidentified aircraft, I would surely be accused of protecting foreign espionage.”

Voice; “I fully realize your dilemma, Mister Truman. The possibility of another craft, or pieces, falling into human hands is very remote for technical reasons that I cannot discuss with you. So, I am not highly concerned about your military capabilities. Goodbye, Mister President. Your test instruments will function again as soon as I am gone, and I hope you get feeling better.”

President Harry S. Truman shouted, “He’s gone, did you get anything?”

A man wearing white lab coat materialized a few moments later. “No, everything went completely dead or was rendered useless—the Geiger counter, the cameras, the frequency scanner, the spectrometer . . . notta.”

The President picked up his phone and dialed zero. “Mary Ann, could you get me Twining on the phone please?”

“Yes, Mister Truman.”

Truman; “General Twining, this is the President. We just had another visit.”

General Nathan Twining; “What did he say?”

“Pretty much the same thing he said before.”

Twining; “Did you get any readings?”

“Hell no, he knew about everything and shut it off somehow. We didn’t get spit. He even knew I was coming down with the bug.”

Twining; “Sorry to hear that, Mister President, hope you shake it off soon.”

Truman; “That’s what he said, as a matter of fact.”

Twining; “He’s searching for those fragments, you know. He has mounted an all out assault to try and retrieve those remaining pieces. There’s strange lights and so forth buzzing all around Washington and everywhere else for that matter—playing cat and mouse games with our military. It is no easy task trying to dispel public opinion that there are no little green men from Mars exercising free rein over our air space. Did he threaten any retaliation if we don’t cough them up?”

“No, no, he only reiterated to me that he would only strike back in self defense.”

Twining; “Are you really going to take his word? His kind could be planning some sort of all out invasion for all we know. I still think you should be in your bunker right now.”

“Thank you for your concern, General, but I am not going to do anything to unnecessarily aggravate the situation.”

Twining; “I think we should at least mount an all out effort to locate their base of operations. As God is my witness, I think we could have the technology in the next ten years to find it. Whether it’s at the North Pole or the Godforsaken dark side of the Moon, we’ll find it.”

Truman; “General Twining, the American people elected me to make decisions for the security of the United States. I have brought this country from a world war to a new era of prosperity. I do not believe this entity, or whatever you wish to call him, is a threat to our national security. You have

not seen what I have seen. Yes, he does have the capability to render our entire military complex functionless at the drop of a hat. But he has been around here for centuries. Why would he wait until now to attack us? Try and use some common sense on this matter, General, and just drop it.”

“With all do respect Mister President, we didn’t have nuclear weapons until now.”

Truman; “Twining, understand this, he has seen it all before—many times. Our weapons are of no consequence to him. Or they may be of consequence, but I assure you, he can deal with them. The enormous amount of money you want to spend on exploring under the North Pole or trying to shoot a rocket at the Moon could be better spent. I am quite certain of that.”

Twining; “Yes, Mister President. I will continue searching for those fragments. All I know still is that they were at the Pentagon as of October fifteenth, nineteen forty-eight. There was a lapse in security around lot number twenty-three that day, so it could have been anybody, I suppose, but I will keep trying.”

Truman; “Not good enough, General, I want names of everyone that was in the Pentagon that day, starting with the most likely to the least likely to have had access to those fragments.”

Twining; “Yes sir, Mister President. May I ask what you plan to do with the list?”

“No, you may not. Goodbye, General.”

Twining; “Goodbye, Mister President.”

Truman hung up the phone, which immediately rang again. “Yes.”

Mary Ann; “Mister President, I have a call from General MacArthur.”

Truman; “Please inform Mister MacArthur that I am busy at the moment watering my petunias.”

Mary Ann; “Yes, Mister President.”

Truman again hung up the phone and switched on the intercom. “Rose, could you cancel everything today? I am just not feeling up to it.”

“Yes, Mister President, no problem.”

## *The Enigma*

Nov 10th, 2076, near Tucson, Arizona

Professor Mark Benalgio was sitting in his study when the phone rang. It was the familiar voice of an old colleague.

“Mark, Dave Higgins, JPL.”

The Professor; “Dave, how are you?”

“Doing fine, and you?”

“Great, enjoying my retirement to the fullest.”

Dave; “Glad to hear it, but why don’t you move out of that desert for Christ sake?”

“Wouldn’t want to live anywhere else.”

Dave; “Whatever cooks your bacon, I guess. Listen, I know you want kick back and eat Bon Bons, Professor, but we got some new images back from Scout Two, and man . . . you gotta see this.”

The Professor; “Can you send them to me?”

“No, they have classified them, for now. Of course, there is a lot more data to go with it. Whatever that thing is, Mark, it definitely could be the source of some of that UV radiation picked up by Voyager One; and now, we have positively fixed it as the source of those low-energy cosmic rays picked up by Scout One.”

The Professor; “Has the object reached the heiopause yet?”

“It is just beyond the heliopause. Aside from the images, I have some more info that’s going to blow your mind, but perhaps I should stop there. You should come out here, Professor, we could really use your expertise at a time like this.”

The Professor; “That sounded prodigious. Well, Dave, I’ll take a look at what you’ve got, but I really don’t want to get—”

Dave; “I know, Mark. Again, I don’t want to say too much over the phone, but this could turn into a national security issue; or maybe ‘planet security’ issue might be more fitting. How are the grandkids, by the way?”

“Ornery. Or in other words, fine, I suppose. Sherry just turned seven and Justin is five.”

Dave; “Wow, they grow up fast. Oh yea, almost forgot to mention: We also got a picture back from Scout One of the object—from a drastically different angle, of course—but I must admit, the resolution is poor at that range.

The Professor; “I’m simply amazed that you’re still able to receive any signal at all from that probe. My gosh, that little probe is so far out there it has nearly caught up with Voyager One. Well, you’ve certainly got my curiosity up. You know, when they asked me to be a scientific consultant for the Scout One mission all those years ago, I didn’t know it was going to be a lifetime thing.”

Dave; “That’s what happens when you pick quality over quantity.”

The Professor; “So true, I bought a sonic coffee brewer last year that just blew up on me—damn Mongolian junk—but those probes are going to outlive us all. How does Monday sound?”

“Sounds good, see you when you get here, Professor.”

Jan 26th, Marshall Space Flight Center, Huntsville, Alabama

Structural design engineer Karen Sandridge was sitting at her desk. Various blueprints for the forward fuselage of the space shuttle Pegasus covered her desk and a three-dimensional rendition of the crew compartment filled her holographic viewer. Pete Hartmann, a member of the engineering team at Ingersoll Space Systems, came walking up.

Karen; “Hey, Pete, what’s up? How are things going out at ISS?”

“Same old stuff—for the most part. I don’t think we will be using the flight chairs from the Atlantis for the Pegasus after all; just another area where we could save a few pounds. So what’s the scoop on the Endeavour? I was told to see you.”

“We decided to add a four-way internal airlock to the Endeavour. So while you are here, might as well go over how we are going to incorporate that into the existing frame structure of the Endeavour.”

Pete; “Wait a minute, I thought we were supposed to be looking for ways to *save* weight. If they are going to equip the Endeavour for a possible landing on the ring, they had better figure out how to save weight as opposed to adding it. We are going to end up with one nimble space shuttle and one elephant.”

Karen; “Well, we are going to shave off the extra weight by fabricating the new airlock using a titanium honeycomb, as opposed to aluminum.”

Pete; “More titanium? It’s like we are constructing the largest jet fighters ever made, as opposed to space shuttles. By the way, did you hear the latest scoop about the ring?”

“Yea, I heard something about that on the news last night. They think the ring has something called a singularity at its center, whatever that is. Jack Klein, the director of shuttle engineering, is coming up from Houston next week for another big meeting. I’ll let you know what I find out.”

Pete; “A singularity is a black hole.”

Karen; “Here we go again. If it isn’t a monkey face on Mars or asteroids crashing into the Earth, it’s something else.”

Pete; “That was from Mark Benaglio, he was a scientific advisor for the Scout missions.”

Karen; “Well, I’ll have to believe it when I see it. If there was indeed a black hole thirty kilometers wide at the edge of the solar system, we wouldn’t be sitting here right now. I’m no physicist, but I know that much. Anyhow, Pete, I’ve got a number of things to go over with you. . . .”

Feb 2nd, Marshall Space Flight Center,  
Huntsville, Alabama

The entire engineering staff had gathered in the briefing room, when the NASA administrator stepped up to the mic.

“Good morning everyone, hope everyone has their eyes open. If you don’t, they will be shortly, I assure you. We have John Sikes with us today. For those of you who may not know, John is the chief propulsion engineer at JPL. And we also have Professor Mark Benalgio, who helped design several of the scientific instruments for both Scout one and two. They’re going to tell you about some recent information gathered by Scout Two. After they are through speaking, Jack will explain the modifications we’ve ordered to the Endeavour, and after that, I have a few things to say myself . . . Professor?”

“Thanks, Don, good morning. Six years ago, Scout One picked up a ‘blast’ of cosmic rays an area of the heliopause approximately sixteen billion kilometers from the Sun. I know that anyone involved in the design of spacecraft must know something about the effects of solar radiation, but for those of you who are not nuclear physicists: Cosmic rays are atomic particles that have been accelerated to very high speeds, some approaching the speed of light. The theory is that the most powerful cosmic rays are generated by the tremendous force of supernova explosions. The energy levels of the cosmic rays picked up by Scout were somewhere in between those produced by the Sun, and the much more energetic ‘galactic rays.’ The term cosmic ray is a bit of a misnomer because they are really particles with mass, and they are affected by interstellar gravity. This makes it impossible to identify the source when they originate from sources outside the solar system. Scout One, however, ran into a cloud of them—hydrogen ions to be specific—which, of course, led us to the discovery of the ring. Last November, I got a phone call from Dave Higgins at JPL and subsequently learned that while Scout two was approaching the ring and monitoring the rays, the particles suddenly stopped and were replaced by particles with a lower energy level. The following photograph was taken by Scout Two as it approached and flew past the ring at a distance of only two hundred kilometers. Could someone get the lights please?”

The projected image showed what looked to be a colossal doughnut shaped void in the middle of space with a bright area at its center.

The Professor continued, “This image is the untouched image sent back by Scout Two as it was approaching the ring. This ring shaped object that is blocking the starlight, whatever it is, is approximately thirty-two kilometers in diameter. And yes, those are stars you are seeing between the circle and the glowing area at the center. One of the most incredible things we have discovered so far is a substantial gravitational lens effect on starlight passing near the object. We’ve calculated the necessary mass to produce such an effect as being slightly less than that of Earth’s moon. Our theories thus far include a solid mass of some super heavy element to even the highly theoretical *micro singularity*. In any case, the gravity so close to the object is, of course, much higher than what you would find on the surface of the Moon. The structure, probably in the shape of a ring torus, must be unimaginably strong to withstand such force, unless that is—it happens to be spinning at a very high rate. Even then, the gravity difference between the inside of the ring—the surface closest to the gravity source, and the outside—the surface farthest from the gravity source, would be extreme. Okay, I hope you are all still with me because it only gets better. The ring is currently about twelve billion kilometers from the Sun and is headed towards the inner solar system at nearly nine hundred thousand kilometers per hour. And it is slowing.”

The mere mention of such a velocity brought a gasp from the audience, followed by a dull murmur as the last words from the Professor began to sink in; everyone there knowing full well that it was simply impossible for any natural object to defy Newton’s first law of motion, and change speed in the middle of empty space.

The Professor brought up the next image. It was a graphic depiction of a flight path from the outer solar system to Saturn and from Saturn to Earth.

“Our best calculations show that the ring will probably cross paths with Saturn. At its present rate of deceleration, it will reach Saturn in about two years and nine months, at which time it will have slowed to orbital velocity. The second trajectory you see is a hypothetical path the ring could take if it were to reduce, or temporarily cease, its current rate of deceleration and perhaps use Saturn’s gravity to change its trajectory towards Earth. I want



to make it clear that we have no evidence at all that it is doing anything of the sort. Again, the chart is completely hypothetical. But if it did, we think it could reach Earth in as little as two years and eleven months. Any questions? Yes.”

“Have you seen any features on the ring so far?”

“No, but you have to keep in mind that the light way out there is very, very faint. And, of course, if the ring is spinning, which we think it is, there is no hope of getting a clear picture of any surface features. Any more? . . . Okay, I will turn this over to John.”

“As you know, about five years ago, the President and a number of other world leaders, along with some of the world’s top scientists, held a summit to discuss the ring and decide how to deal with the situation. It was decided that, providing enough financing, the technology exists to send a manned mission to intercept the ring before it gets close to the Earth. The original plan involved the resurrection of at least two space shuttle orbiters, and then strapping those orbiters, in orbit, to a highly experimental nuclear rocket. As I am sure you are all aware, there has been some controversy about using a century old design for the landing vehicle, but even if we could have designed and built an entirely new spacecraft in such time, we would only have been reinventing the wheel. The Space Shuttle orbiter’s general design fits all of the requirements, and the astronauts notwithstanding, I am sure you will all agree that it would be nice to recover some hardware after such a historic space mission. The top speed of the spacecraft will be about sixty-seven kilometers per second, or two hundred and forty-one thousand kilometers per hour, with the potential top speed for the design being much higher. For safety considerations, namely impacts with micrometeoroids, we have chosen sixty-seven kilometers per second. From the time the spacecraft leaves orbit until it catches up to the ring will be about fifteen months. A follow-up mission will be launched as soon as it can be assembled in orbit. Here is the catch: The launch window for intercepting the ring before it gets to Saturn is just eighteen months away. And we have all agreed that trying to attempt any landing on the ring while it is in orbit around Saturn—if that is indeed where it is headed—is out of the question,

at least for now. Perhaps if the time comes and we are very confident in our calculations . . . Now, if it doesn't slow down as much as we think it will and bypasses Saturn, we might be talking a mission taking place a little closer to home. You might be asking yourself the question: How are we going to land a space shuttle on an object that is decelerating? Well, it would be much better, of course, if the object were not decelerating at all; but if you do the math, the rate is very slow—slow enough to make a landing possible. Our calculations show that if the object maintains its current rate of deceleration, there is a certain point where the object will have to make some kind of 'decision' dependent on what it intends to do. As it becomes more and more affected by Saturn's gravity, it might increase its deceleration to achieve a high orbit. Or we might just get lucky, and the object will cease decelerating."

"Can you explain again why we are going with a pulse rocket as opposed to more 'solid state' design?"

"As you know already, NASA has always been interested in faster rockets. But since the warp drive remains a premise of science fiction TV shows, and taking into account the time factor, we have decided a pulse system is the most viable. Due to a series of breakthroughs in inertial confinement fusion over the last several decades using ultraviolet lasers and indirect ignition methods, not only has complete ignition been achieved, but the number of beams needed has been reduced to only nine. This is a great leap over the multiple beams needed in the direct ignition approach. We have incorporated this technology into a design that will include elements of both the old Project Daedalus designs, by the British Interplanetary Society, and the old Orion Project." This comment brought a brief chuckling from the audience. "Now don't laugh, it is still the only design we have, at present, that utilizes true nuclear fusion, and therefore is going to give us the thrust, efficiency, and safety margin that we need to pull this particular mission off. The rocket includes a pusher plate that also doubles as an ignition chamber. So, to answer your question—no, we do not have an operational nuclear rocket. And if we did, most of the people in this room would probably have been involved in building it."

“How much radioactive material will need to be transported into orbit for this project?”

“Very little fissionable material will be needed for this mission, that is the beauty of microburst fusion technology. The ‘fuel’ for the rocket is essentially composed of small BB-sized grains of tritium and deuterium encased in a tiny metal cylinder. The grains are superheated and compressed by an indirect method in which the lasers are used to heat the metal cylinder itself causing the release of X-rays. This is immediately followed—and when I say immediately followed, I mean immediately, as in, a couple billionths of a second—by a direct method where the lasers are used again to hit the resulting plasma. This compression, along with the ultra-high temperatures, is, of course, what initiates a fusion reaction.”

“So what kind of energy return are you getting at present?”

“The energy returns we are getting are very good compared with all past attempts, but don’t get your hopes up just yet that we have somehow solved the world’s energy needs. At present, the deuterium, tritium targets we’re using are very expensive to make, and the technology, of course, requires a continuous stream of them to produce a constant energy source. One of the goals of the final design, then, is to allow the largest explosions possible according to existing technology; which will, of course, mean larger, fewer, and therefore cheaper, targets. The ratio of thrust produced over the final weight of the spacecraft will make for a very efficient rocket, however. Any more questions?”

“You talk about the object as though you are certain it is intelligently controlled. What makes you so sure?”

“That’s a good question, I suppose there is always the slight possibility that the ring was formed naturally by a process that we simply can’t comprehend at this time, and its behavior is also a physical process beyond our understanding. And it is true that all of our attempts to communicate with it have only been met with silence. So I guess to answer your question: We are not absolutely certain that it *is* artificial. It’s been the almost unanimous conclusion by the world’s top scientists, though, that we should at least try to find out just what it is, and do it as soon as possible.”

After John was through speaking, Jack Klein, head of the shuttle engineering team, approached the podium to explain some of the design changes that were recently made to the Endeavour. After nervously shuffling some papers, and a couple quick nods towards the audience, he began to speak.

“About . . . a week ago, I received a message from John . . . that an engineer at JPL had come up with a way to modify the original shuttle reaction control system thrusters for short duration bursts some fifty percent more powerful than the original design while using the same hydrazine fuel. The original design, of course, only allowed a minimum one-second burn at thirty-eight hundred newtons. Five long years ago, when a professor and a group of students at Cal Tech decided to crunch the numbers, they determined that a shuttle orbiter of normal weight, fully laden with a habitat module and extra shielding, might very well run into trouble if any landing attempt on the ring was made. That discovery, of course, is what prompted the construction of a more lightweight and nimble space shuttle.”

“Are you saying that the Endeavour will be capable of landing on the ring with the new thrusters?”

“Yes, in theory, the shutt—”

“Wasn’t that the whole reason for building the Pegasus—to have a shuttle nimble enough to use the original thrusters?”

“Back when the decision was made,” Jack stammered, “to build the Pegasus, we did not think we could design a system within the shuttle’s design perimeters that could do much better, performance wise, than the original RCS. Weighing the cost factor of designing and fabricating a complete new system, or making a lighter shuttle; the latter seemed the most logical solution. But please, before you go announcing to anyone that NASA wasted twenty billion on a new shuttle superstructure, the Pegasus is still the better-suited shuttle for the task.”

The Administrator retook the mic. “Man, they sure did make that Mars shot look easy, didn’t they?” The room was virtually silent.

“I know this all might sound like an impossible task to accomplish in just eighteen months, but look at it this way: Our newest orbiter, the

Pegasus, is out at Palmdale and is undergoing a final systems check in the same facility used by Rockwell some eighty years ago. We have a large space station to work from in orbit, and we have one rocket docked at the station that is perhaps six months away from completion. One more thing before we close: We haven't made a final decision, of course, but we will probably send a crew of five on the mission. This will include two career astronauts and three highly trained civilians; an astrophysicist—for obvious reasons, a linguist—preferably with skills in other areas, and an aerospace engineer, who's job it will be to familiarize themselves with every aspect of the rocket and shuttle's systems, with a focus on the mechanical systems. If anyone would like to get their name in, they need to do it within the next two weeks. Everyone have a good lunch.”

Karen Sandridge got up from her seat and walked over to the Professor. “Professor, my name is Karen Sandridge, I'm on the shuttle design team.”

The Professor; “Did your dad used to work at Houston?”

“That was him.”

The Professor; “Well I'll be—”

Karen; “I don't remember it, of course, and you probably don't either, but my dad told me about taking me into work once when you just happened to be there.”

The Professor; “I do remember, believe it or not. My gosh that was thirty . . .”

Karen interrupted. “So, are you going?”

“Am I going where?”

“On the Pegasus, of course.”

The Professor; “Oh my no, I'm too old. I've got grandkids. They would never pick me.”

Karen; “John Glenn made a shuttle trip once when he was seventy seven.” You're a spring chicken then for a shuttle astronaut.”

“Well, John Glenn was full of the stuff, I mean . . . the right stuff. Besides, John Glenn's little excursion was a picnic compared to this trip.”

Karen; “Do you want to go?”

The Professor evaded the question; grabbed his coat and briefcase. “What are you doing for lunch, anything? I’ll tell you about the first time I got hired on by NASA. I was fresh out of UCLA and green as a pickle. I got a call from . . .”

May 12th, Columbus, Ohio, not far from the Ohio State  
University campus

Linguist Marty Bennish was out on her daily jog, when her cell phone beeped. “Hello?”

“Yes, I’m calling for Professor Marty Bennish.”

“Speaking.”

“Marty, this is Don Heinmiller, I’m with the National Aeronautics and Space Administration. Your name came across my desk as a candidate for the upcoming mission specialist position, and I was wondering if that would be anything that would interest you.”

Marty; “You mean the linguist you’re looking for to go on that nuclear rocket?”

“Yes, that’s it.”

Marty; “How did you get my name? I didn’t send you anything.”

“Well—”

Marty; “Forget I asked, it doesn’t matter. Um, I’ll have to think about that, I guess.”

Don; “I understand you also have some medical training.”

Marty; “Yes well, I have a nursing degree, and I was a staff nurse at the OSU medical center for the several years before I took a teaching position with the Department of Linguistics.”

Don; “That’s impressive, you must have spent half your life in school.”

Marty; “At least, a lot more I think!”

Don; “And you are single, I understand.”

Marty; “Yes.”

Don; “Anyone serious?”

“Not really. You’re not asking me out are you?”

“No, no, I’m married myself. I also hear you have a propensity to engage in what some would consider ‘slightly dangerous’ sporting activities.”

Marty; “Well, I certainly don’t have a death wish, but yea, I guess I have jumped out of airplanes a few times, climbed Mount Rainier, and did a bungee jump into a canyon out in BC. Who have you been talking to, anyway?”

“Wow, is there anything you haven’t done?”

“Well, I um—” Marty chuckled at her loss for words.

Don; “We’re not trying to kid anyone, this mission might very well be the most dangerous space mission anyone has ever undertaken. I’m going to give you my number, I want you to sleep on it and if you are interested I want you to get back to me tomorrow so we can schedule an interview.”

Marty; “Okay, I’ll do that.”

August 15th, Johnson Space Center astronaut training facility,  
Houston, Texas

“Come on, Professor, you can do it.”

“Easy for you to say.”

The Professor was panting away on a treadmill, attempting to pass the physical exam, with Karen and Marty rooting him on, when the manager in charge of astronaut training walked into the exam room with two men. “Karen, Marty, Professor, I would like you to meet Colonel Frank Hysell, U.S. Air Force, and Captain Mack Rivas, U.S. Marine Corps. Discounting any unforeseen circumstances, they will be piloting the Pegasus. Providing you are among the final candidates, of course, Frank here will be your flight commander, and Mack here will be your pilot.” Karen tried to look surprised. Everyone exchanged handshakes, including the Professor in mid-stride. “Both of these gentlemen are experienced pilots and, between them, have already piloted numerous shuttle flight simulations. We want all of you to work together during the next phase of your training, so you can get to know each other, test your compatibility, and well—get used to working

together. Not that I am telling you anything you don't already know, of course, but the five astronauts who do end up on the Pegasus will all be living together for "a while."

Frank to Karen; "I hear you designed the new superstructure for the Pegasus."

Karen; "Um, I worked with the contractor engineers on the final design, yes."

Frank; "Is it true that the original designs for the shuttle called for titanium wings?"

"You know your history. Yes, back about a hundred years ago. The design was changed due to cost factors."

Mack to Marty; "So you teach at OSU, huh? Buckeyes are having a pretty good season, aren't they?"

The Professor's stamina gave out and he stepped off the treadmill with the heart monitor patches still on his chest, intentionally cut several di-dos, and plopped into a large padded chair. "Can anyone tell me why we have to be so physically fit when there is no gravity in space?" the Professor said while trying to catch his breath. Mack cut in.

"Actually, it can be more physically demanding than you might think, Professor. But really, I think they just do this to see how much you really want the job." The Professor's eyebrows reached a record height.

"Everyone has been telling me I should go on this mission! I didn't pull any one's arm to—" The others, however, only seemed to find amusement in the Professor's indignation.

Marty; "Okay, Professor, We'll get out of the nurses way here and let you back to your tests."

The Professor; "Thank you so much."

As the group walked away, Frank whispered in Karen's ear. "It was you, wasn't it?"

"I'm as surprised as you are. I mean, I'm just a NASA engineer, not the Administrator. How much clout do you think I have? Anyway, there are other people around here that know we dated at one time." She was lying through her teeth, of course.



## ***2 The Departure from Earth***

August 9th, 2078 (nearly one year later), the International Space Port

The fusion rocket was enormous. At over twice the length of the Pegasus, and with a diameter over twice the width of the Pegasus's mid-fuselage, it made the shuttle look small in comparison. The rocket was assembled in orbit involving launches by all of the world's space agencies and space companies. The Pegasus was not strapped nearly as close to the rocket as shuttles once were to their main fuel tank. Instead, the shuttle and a counterweight were connected to the rocket with an extended frame that branched from either side of the rocket in a Y pattern; the Y pattern having been incorporated to push the shuttle as far forward as possible from the radioactive exhaust of the rocket. The Pegasus was also facing the business end of the rocket, going tail first into the void.

A semi-flexible tube large enough for space suited astronaut to crawl through extended from the hatch under the mid-deck of the Pegasus to the forward section of the rocket, then from the opposite side of the rocket out to the counterweight. The counterweight itself was essentially the recycled main fuel tank used to lift the Pegasus into orbit; now converted to hold containers of food and supplies. Every so often, as the supplies were used up, the same containers would be filled with dehydrated waist products and returned to the counterweight to keep the system in balance. The better the balance—the less precious rocket fuel would be needed for stability.

Altogether, three fusion rockets would be built, including one on the ground for testing the rocket's mechanicals with conventional explosives. It would later be mated with a shuttle (by umbilical only) as a reference vehicle. NASA, realizing that they needed every operational shuttle for possible missions, retook the Atlantis from the Smithsonian for this job and refitted her systems to match the Pegasus and Endeavour.

A second rocket was completely assembled in space, and would propel the Pegasus. A third was also being assembled in space to be mated with the refitted space shuttle Endeavour as a follow-up vehicle. The three-shuttle/rocket assemblies were respectively christened the ISS Chaffee, ISS Grissom, and ISS White after the crew of Apollo 1.

The Grissom's fusion rocket also had two heated solid fuel boosters strapped along its length much like the shuttle's main fuel tank, the purpose of which to propel the Grissom beyond escape velocity and away from the Earth before firing the nuclear rocket, at which point they would be jettisoned. The sensation for the crew of the boosters firing was much like liftoff from Cape Canaveral. However, when the fusion rocket initially fired, the experience was somewhat different: A gentle one-third-gravity push sent them along their way.

To further escape the slight levels of neutron radiation that reached the Pegasus, only two crew members stayed in the front section of the Pegasus during acceleration at any given time, their job being to monitor the fusion rocket at the rocket control station. They would then rotate with the other crewmembers about once every hour and retreat to the rear of the habitat module.

About five and one half hours later, the Grissom reached her top speed, on a direct course for Saturn, and the nuclear rocket was shut down. The entire assembly was then put into a spin along the axis of the rocket, which gave the crew about one third gee for the remainder of their trip until (when and if) they detached from the rocket and attempted to land on the ring.

The interior of the shuttle, primarily the habitat module, had been designed to accommodate the shifting gravity. For during their trip, the top of the space shuttle had become the floor. And if they did successfully touch

down on the ring, the actual bottom of the shuttle would again become the floor.

The Pegasus had also been stripped of her three main engines, after reaching orbit, and her entire aft fuselage revamped for additional hydrazine fuel tanks to supply her smaller maneuvering rockets. The unpressurized extra space also contained reserve oxygen and nitrogen tanks for the crew, two launchable repair robots that were capable of making external inspection and repairs if necessary, and other miscellaneous spare items. Protecting all this was a tapered tail fairing very similar in appearance, with the exception of not covering the shuttle's rear-mounted OMS (orbital maneuvering system) engines, to the one used for shuttle piggyback transports. Inside this was an additional fifty-centimeter-thick many-layered meteoroid shield; the first layer being a simple panel of aluminum, beneath which was a many-layered sandwich with alternating layers of foam, Kevlar, and carbon fiber. Along with the end cap, it was the Pegasus's only defense against a micrometeoroid strike. A perfectly circular version of the Pegasus's meteoroid shield was housed inside the highly tapered nose of the nuclear rocket.

Two small solid-fuel boosters were affixed to either side of the Pegasus's fuselage, one above each wing, for future use. Their fuel would remain "frozen" most of the trip and warmed to an operational temperature as needed. The boosters were also fabricated with a compartmental design to allow some control over burn time. Enough extra fuel for two refills was stored in four separate tubes attached to the exterior of the fusion rocket, where they could be easily jettisoned in case of accidental ignition. Two radiant panels also extended outwards from either side of the fuselage just above the boosters to dump extra heat from the Pegasus if necessary. This allowed the payload bay doors to remain shut at all times and therefore provide extra shielding to the habitat module. The fusion rocket also had its own radiant panels stretching nearly the entire length of her hull. They were critical to cool the mechanicals and pusher plate during firing.

Because the Pegasus was to embark on such a deep space mission, the necessary evil of the RTG or radioisotope thermoelectric generator was

employed; two in the Pegasus, and two in the fusion rocket to provide ship's power.

The nuclear rocket performed flawlessly and smoothly, creating a seamless thrust from a three-second firing mode and a three-second release mode to slowly, but surely, make the Pegasus the fastest manned spacecraft for many generations to come.

## *The Landing*

Nov 7th, 2079 (fifteen months later), 1pm GMT, about 6,500,000 kilometers beyond the orbit of Saturn

The Grissom had been trailing Saturn for several days at a set distance, matching Saturn's orbital speed around the sun at a little over 34,000 kilometers per hour. The ring was approaching Saturn at a slightly different angle. Viewed from above the Sun's elliptical plane, both ships would be seen as approaching Saturn from the right, moving in the direction of Saturn's counter-clockwise orbit around the Sun. The ring would only appear as a sliver, however, at such an angle, as the toroid did not travel on edge like a Frisbee, rather it moved through space along its axis of rotation. Viewed from the planet Saturn, the ring would be a counter-clockwise spinning circle, which meant the Pegasus would be arriving from the right and entering orbit at the ring's 12 o'clock position.

After many months of adhering to a rotating schedule of three in hibernation and two out, the entire crew was once again in action. Professor Benalgio had been off his shift since 8am but was paying very close attention to the ring. The Professor was sitting at the dining table directly across from the galley of the Pegasus, the galley being located in the first compartment of the habitat module, just aft of the mid-deck. The table often doubled as a desk or workstation. The Grissom was spinning, so the Professor's sitting position was, of course, inverted as compared to the

cockpit flight chairs. The table extended from the starboard wall of the habitat module, just under a fairly large circular viewing port about sixty centimeters wide. It was the only window in the Pegasus aft of the crew compartment, and did little to lessen the claustrophobia invoked by such a long space voyage, but the crew all agreed that it was better than no windows at all. A laptop computer terminal was sitting on the table, along with a heap of the Professor's handwritten notes and graphs. No less than a half dozen networked terminals were scattered around the Pegasus, including the one in the dining area; all of them linked to the transceivers located on the flight deck. Karen popped in from the mid-deck, walked over to the galley, which was separated from the dining area by nothing more than a narrow and offset central isle that extended all the way aft, and made herself a lunch consisting of rehydrated egg salad and several slices of fresh tomato. She then walked over and sat down opposite the Professor, borrowed a sheet of paper from the Professor, and began drawing a caricature of Frank. After finishing her lunch, she reached up, pinned the drawing to a corkboard decorating the forward wall, and then walked aft. About five minutes later, the Professor noticed Frank walking over to the galley.

The Professor; "I think this is it, Frank."

Frank jerked his head nervously, saying. "What, what's it?"

"I've double checked the data, and it's conclusive; the ring has stopped decelerating."

Frank; "I thought we probably had a few more days." As Frank was speaking, he noticed Karen's drawing. There was the Professor—all forehead and bottom lip, Mack—with and his lucky Mets cap and ear to ear grin, Marty—with completely overblown dimples and eyelashes, and now himself—with seemingly more nose than face.

The Professor continued. "Well, like I said before, none of us know for sure what the ring is planning to do. We could be talking a flyby. In any case, I think we should take advantage of the opportunity as quickly as possible before it gets any closer to Saturn, and Saturn's gravity begins to have more effect."

Frank; “Hey, isn’t making cartoons of the flight commander against the rulebook? C’mon, my nose isn’t really that big is it? I’m sorry, Professor, what were you saying? Oh, yea.” Frank started to walk aft towards the sleeping quarters, but then second thought his action and reached for the wall-mounted intercom instead. “Attention please, could everyone please report to the galley. I repeat, attention please, could everyone report to the galley. Mack, Marty, rise & shine, this is it, we’re going in.”

A few minutes later, Mack and Marty emerged bleary eyed from sound deadened silence of the sleeping quarters/hibernation room, located on the starboard side just aft of the dining area, and crossed the narrow hall into the latrine. Frank walked down the hall, past the sleeping quarters on his right, and arrived at the Advanced Life System. The Advanced Life System was a six-meter-long room also located on the starboard side about two point three meters wide at its widest point—the midway point between the floor and ceiling. The narrow space that was left on the port side—across the hall—included computer and equipment racks just aft of the latrine, and a science station extending the length of the ALS. The ALS was completely packed with plant life, with some of the plants being grown in soil, but most being grown hydroponically. It was a very important resource for converting CO<sub>2</sub> into oxygen, water purification, and also provided a source of fresh fruit and vegetables. The crew usually referred to the Advanced Life System as “the garden,” or the “ALS.” Frank opened the door to the airtight compartment and found Karen lost in a sea of green and grow lights.

Frank; “The rings coasting, we’re going for it.”

Karen; “I heard you, be there in a minute.”

The crew began their well-rehearsed routine: First, the Grissom was taken out of her spin. Then, the Grissom’s rocket was fired, putting her on an intercept course for the ring that would match the ring’s downrange speed plus its rotational speed at 57,924 kph. Only several hours later, after the Grissom attained the proper course and speed, the Pegasus separated from the fusion rocket, Archon 1.

“Remember what NASA said everyone, this is actually a lot easier than it looks.”

“NASA was lying.”

“Take it easy, Professor, it’s just like landing on the Moon.”

“First of all, you have never landed on the Moon, and secondly, the Moon wasn’t two point four kilometers wide and spinning five hundred and eighty times per minute.”

“I bet Mack here could take the computers off line and set this one in the cup all by himself.”

“Don’t even think about it, or I’m jumping ship.”

Mack looked at Frank and smiled. All of them knew perfectly well that no human could possibly perform the task that the computers aboard the Pegasus were about to do. The precision needed in both trajectory and speed was beyond anything required for an Earth re-entry. The orbital window that the shuttle had to pass through was scarcely larger than the shuttle itself. And then, worst of all, were the exaggerated inertial effects associated with such a rapidly spinning object to overcome. And if they made it into a stable orbit, a velocity change of only a little over six point four kilometers per hour would lower them from orbit to a complete stop. Even though radio signals from the Pegasus would take well over an hour to reach Earth, the eyes of the world were on the Pegasus as the ring, viewed on edge, grew larger in the forward camera.

The closer the Pegasus got to the ring, a thin stripe down the center line of their intended landing strip became more and more apparent. It was useless to the Pegasus’s computers as a landing crutch, but provided a reassuring visual reference that they were indeed centered correctly. As the Pegasus went into orbit a short distance above the ring, the stars instantly vanished from the shuttle windows. The Pegasus had just gone from traveling many tens of thousands of kilometers per hour in a straight line, to a tight curve with a radius of just over sixteen kilometers, while the crew felt virtually nothing. The forward RCS (reaction control system) thrusters began firing in spaced-out one-second bursts to slow the shuttle and tediously lower it towards the ring. To avoid any sort of sudden breaking, every wheel of her landing gear began to slowly spin, aided by direct-drive electric wheel motors. Frank covered the abort switch with his right palm

during the entire landing, ready to activate the abort sequence at the slightest indication that things might be going wrong, a sequence that simply involved firing the OMS thrusters.

The Pegasus may have been barely moving in respect to the surface of the ring, but if the navigational computers failed to do their job, the result could, and most certainly would, spell disaster. The Pegasus could easily drift into some odd angle that would make recovery almost impossible; the worst-case scenario, of course, being contact with the surface of the ring at an odd angle, causing the Pegasus to slide over the side of the ring and into the crushing gravity of the singularity. Even though the descent only took a matter of minutes, it seemed like an eternity for the crew. Everyone managed to keep a professional stance—except maybe the Professor, who looked so terrified that Karen, who was sitting next to him, reached over and grabbed his arm. As the Pegasus’s wheels contacted the ring, a noise began to build due to the rough landing surface. It was not long before friction brought them to a complete stop, and the crew felt point three gravities pressing them towards the bottom of the flight deck seats for the first time.

“Yea, that’s what I call a hole in one!” shouted Frank.

“Have we stopped, have we actually stopped yet? My God how did I ever get talked into doing this?”

“Yea, I did that. I mean, I could have done that,” Mack said.

“In your wildest dreams, perhaps,” Frank injected.

Karen offered up a long sigh of relief, before turning her attention to the Professor. “Are you all right, Professor?”

“Not really,” replied the Professor, while wiping beads of sweat from his forehead.

Marty’s voice came over their headsets from the mid-deck below. “People, I don’t think we’re in Kansas anymore.”

Frank; “Mission Control, this is Pegasus, we have landed and without incident.”

Frank decided to let the crew get some much-needed rest, and start fresh the next day. Frank and Karen performed most of the post flight checks, even though their shift had officially ended at 4pm and Mack and Marty’s



had begun. While the Professor was retiring to the sleeping quarters, Mack and Marty began quietly rearranging the galley to accommodate the new gravity pressing things towards the actual bottom of the shuttle, with the pay-off being a rather late breakfast. They would spend the rest of their shift rearranging the ALS, converting other parts of the interior, and retrieving a six-wheeled rover-type exploration robot from storage.

Nov 8th - Day 2, 1pm

Mack and Marty had gone to bed early, shortly after the Professor began his shift. Thusly, everyone was awake and eager to begin looking for a way into the ring. The motorized landing gear was engaged, and the Pegasus began to slowly move over the outside surface of the ring. Cameras under the orbiter were turned on to look for an entrance. After several kilometers, the Pegasus passed over a large pattern of concentric circles resembling a bull's-eye with a large center about one point two meters in diameter. For additional radiation shielding, an apparatus had been stowed aboard the Pegasus for connecting the bottom hatch with any docking port or entrance they might come across. The idea was to fit the apparatus under the shuttle with several space walks using the starboard side hatch to exit and enter the shuttle. All this would quickly prove unnecessary, however. As Mack centered the bottom hatch over the circular seam, the center of the circles immediately fell away into the ring, creating a tunnel that disappeared into darkness. The innermost of the concentric circles extended as a tube and quickly cemented itself to the hull of the Pegasus. Individually hinged ladder rungs dropped from recesses in the otherwise smooth walls of the tunnel. The crew could see no reason to wait, so they immediately went to work securing the explorer robot to a winch mounted in the top of the forward airlock. After everyone had migrated to the habitat module, the airlock hatches were secured, and the robot was lowered just far enough to use its mechanical arm to unlatch and open the inward opening bottom hatch. As the world was still celebrating their successful landing, the crewmembers of the Pegasus had already begun to explore an alien ship.

The crew was standing around Mack as he manipulated the robot from the robotics station located along the science station opposite the ALS. After the robot had been lowered some twelve plus meters, it finally encountered a solid surface. The surface directly under the robot included a circular patch of gray, somewhat lighter in color than the rest of the floor, that upon closer inspection was rough and resembled the hull surface. It was quickly noted that the circle was about the same diameter as the tunnel through which they had just sent the robot, and surmised to be the retracted core of the tunnel. The robot returned pictures of a round room that was gray, smooth, and featureless except for what appeared to be a single large doorway.

### ***3 The Awakening***

Day six, 2:45pm

A few minutes ago, she was a bird of prey soaring over an alien badlands in search of small rodent-like critters. Now she was a sea creature, a fish-like creature that was hiding in a crevice in an alien reef. Although the images were dim, she could see through its eyes. Numerous animals no human had ever seen before swam by; a creature resembling a squid; fish-like animals with compound eyes. Suddenly, something shot from the reef. It moved so quickly that she could not make out what it was until it had impaled one of the fish-like creatures, which immediately began floundering in obvious peril. It was a barbed spear-like object with a line of some sort attached. Something was literally reeling in the fish from a small cave in the side of the reef. My God, she thought, could this be a sea creature with the intelligence to form sophisticated tools? But as the fish was pulled closer and closer to the entrance of the cave, a lumbering and hideous shape emerged. It was by far one of the most alien and confusing looking animals she had seen so far. It seemed to move on a pad much like a sea slug. However, the rest of its body was more like a giant hermit crab. Its front appeared tough and armored while its hindquarters appeared soft. Karen could not detect any sort of appendages. The spear and line was actually the creature's tongue, not a carefully fashioned tool. Karen

terminated the projection in a bit of disgust by reaching up and tugging at the projection hat, which promptly removed itself. She documented what she had just seen by making a quick pencil sketch, and decided to try again. She noticed a large docile appearing land animal in the menu with the physique of something like a large ground sloth. Ah, no protruding incisors, and no sharp claws, she thought. Hopefully it was not being chased by some T-Rex animal, or witnessing its friend being eaten. The animal's emotional makeup wasn't what she expected, however. Karen was a bit confused; the animal looked harmless enough, yet this was a definite predator she had selected. This animal's brain was obviously more developed than the sea creature's. Its consciousness and awareness were much more substantial. She knew what it was like to be this creature. She knew what she had to do to survive—it was a matter of instinct and a lot of practice. First, she would find a watering hole. Then, she would move in a slow lumbering fashion, through the brush surrounding the pond, and graze on the leafy plants while waiting patiently for that unsuspecting creature to come along. If it was a group of animals, she would ignore it. It would have to be loner. Karen didn't normally like predators and usually avoided them. The creatures themselves typically held no remorse for what they had done, or hatred towards their hapless victims, they were just out for a quick meal. But the desire for tearing into and eating raw flesh was certainly repulsive to her own neo-cortex. Karen's curiosity, however, got the better of her with this particular animal. Karen's creature was approached by a small deer-like animal making its way towards the watering hole. The small deer-like animal did not seem particularly wary at all of Karen's creature. When the deer-like animal had wandered within about two meters of Karen's creature, Karen's creature lunged forward, opened her mouth, and shot an aerosol towards the animal that had every bit of the force and dispersion that one might expect from a can of spray paint. The aerosol enveloped the animal's face. It then took about five steps and began convulsing. Karen was both stunned and a little intrigued, but still did not care to see what came next. Karen reached up and, with her index finger, again terminated the mental projection before randomly choosing another creature. She was a bird again,

this time a smaller bird with much more social memories. There was also something else swimming around in those memories she had not experienced from any other life form. She was an adult bird, no question about it, yet she had recent memories of being cared for by something, or could it be . . . someone? Karen could not visualize it, but there was something familiar in this tiny bird's brain—something human-like. After about ten minutes had passed, she heard something off in the distance. It was the unmistakable sound of a bell being repeatedly struck. Karen almost lifted one of the ear cushions to see if the sound was coming from somewhere in the projection room, but knowing she would have to start the projection over, she kept the projection hat in place. She flittered down from her treetop perch and raced across an open meadow, joined by several other birds headed in the same direction. And then she saw it. The dim impressions of the bird's memory suddenly became clear. Karen reached up and pulled on the projection hat, which promptly removed itself, before she jumped down from the chair.

Karen located Flight Commander Frank Hysell in the observation lounge having a drink with the Professor.

“You will never guess what I discovered while in the projection chair—an intelligent being.”

Frank played nonchalant. “We all think your smart, Karen, you really don't need to rub it in.”

Karen; “Funny, Frank. No—seriously, I was enjoying a projection of this little songbird. It flew across an open area to a small courtyard, and there they were, these short little bipedal beings with dark red complexions, just standing there as one of them tossed out seed for the birds.”

The Professor; “The bird saw in color?”

“Yes,” said Karen. “Its color vision wasn't great, but I saw the beings very clearly. Some birds seem to possess a surprisingly bright awareness for their size.”

Frank looked at the Professor with a sarcastic expression. “Professor, Karen here is describing the first time a human has ever seen intelligent beings from another planet, and you’re more interested in a bird?”

“I take it you don’t believe all that UFO stuff?”

“That’s not the point I was trying to make.” Frank, then realizing the irony of the question, asked, “What do you mean believe in all that UFO stuff? We’re on a spaceship from another planet.” The Professor smiled. Frank felt a bit sorry for the Professor; since landing on the ring, they had been almost completely unable to learn anything about the ring. They could not even conduct metallurgic tests on the interior without being stopped by pesky little flying saucer robots that seemed to materialize from the ceilings.

Frank; “I’m going back to the projection room and see these little guys for myself.”

“Fine,” said the Professor. “Think I’ll finish my log book and maybe just stare out at the *wild blue yonder* a while.”

Karen; “Sure you don’t want to come with us, Professor?”

“No, thanks, really.”

Karen; “It’s really very interesting, Professor, lots of things to discover—thousands of life forms never seen before by man. It’s certainly a step above the virtual reality helmet, to say the least.”

The Professor was obviously a little annoyed a Karen’s persistence, but, as always, kept it concealed in a manner of polite nods and forced smiles. “I’m just not comfortable yet with putting something on my head that interacts directly with my cerebral cortex.”

Frank; “What he is saying is, he wants to wait and see what it does to our gray matter.”

The Professor; “Perhaps so, but I have to be optimistic, I suppose, if I ever want to get off this merry-go-round. Anyway, I’m here to try and figure out how this thing moves, not play around. Besides, after the roller coaster ride I had to endure just to get here, I’m really just not in the mood right now to take any more unnecessary chances.”

Frank; “As much as I like your amusement-park analogies, Professor, that was actually the smoothest landing I’ve ever done.”

The Professor; “Okay, so maybe I was speaking a bit metaphorically.”

Frank and Karen left. The Professor sank back in the couch; started to write in his logbook, but could not resist a short gaze out the observation window, which also doubled as the floor beneath his feet. The scene was just too captivating. About fourteen and one half kilometers away was a sight that every physicist on Earth would give his right arm to view so up close and personal. It was a swirling cloud of glowing plasma that hid the impossible—a micro-singularity with the mass of a small moon. The plasma cloud just outside the event horizon obscured the black hole itself, which was about the size of a grain of sand, in colorful bands of flickering haze. The scene reminded the Professor of some of the earliest blurry photos of the planet Jupiter. The ghostly aurora-like light dimly illuminated the inside surface of the ring, which consisted of a flattened mesh-like structure suspended above the hull the entire way around except—curiously enough—in front of the observation lounge. The Professor had no idea how it must work, but assumed it must have something to do with the lack of severe tidal forces and bone crushing gravity that should be affecting the inside surface of the ring. The scene was especially dramatic with the lights off in the lounge, allowing the flickering light to reflect off the dark yet highly polished walls and ceiling of the roughly twelve-meter-in-diameter, circular room. The room itself was featureless except for one small proximity-sensitive light switch, a little ways to the left of the lift door, and a small panel containing several lens-like protrusions to the right, which, as far as anyone could tell, did nothing. The Professor began to write:

Thursday, day six, 1500 hours: Again, I did not make much new progress today, as the “sentries,” as we have begun to call them, still will not let us explore the rest of the ship. It looks as though the explorer robot they disabled was hit by a high-voltage electric charge. Almost every integrated circuit in the unit was either burned out or depolarized. It is my opinion that the attack would not have been fatal to a human being; in fact, it would only compare to a nasty static shock. But one has to wonder what kind of other defenses they might have at their disposal. As for now, I can still only theorize as to how the ship might convert energy from the black

hole into a usable energy source. I set up an array of instruments in the observation lounge to see if there was any radiation entering the room from the direction of the singularity, but there is no radiation at all coming into the lounge. Even though the scene below the floor is very convincing (one can even walk from one side of the room to the other and see around the edge of the window opening, which appears to extend about one and a half meters or so past the window) I have come to the conclusion that it is very likely a complete illusion. For one thing, the floor appears to be ordinary glass, although I don't dare try scratching the surface for fear of bringing a sentry down on me. And it appears to the eye to be about thirty centimeters thick. However, upon shining low-energy light beams composed of various wavelengths at the floor, at various angles, and then attempting to measure the reflection and absorption characteristics with the spectrometer, I was not able to get any conclusive readings, as the light beams would scatter at a depth of only one centimeter. When one also considers the enormous pressure that such a pane of glass would have to endure, about two million pounds or so, the scene must certainly be a very sophisticated real-time hologram. The most convincing evidence, however, was when I pointed the spectrometer directly at the floor to simply record the spectrum of light coming from the singularity (or the image of the singularity—to be specific). Although the image of the singularity might look pretty much the same as it did from afar, the detailed spectrograph bears no similarity to any previous readings. Not only that, I also noticed wide fluctuations were occurring in the spectrum of the light given off by the image every time I walked to a different part of the room, which would suggest that my movements in the room were being somehow tracked, and phase information was being adjusted accordingly. I will have to set up a camera tomorrow and investigate this further. I haven't really told the crew about what I have found, but I think Karen is very suspicious. Why spoil the fun, I guess. I have come to rather enjoy staying in the projection room myself. The temperature is a quite comfortable 22 degrees. I'm sure it is no coincidence that that happens to be the exact temperature of the interior of the Pegasus when we landed. The gravity down here is very close to Earth-



like (good for these old bones) and the large padded chairs, which can be aligned to create a sofa, are super comfortable.

Since my instruments have proved useless from inside the ring, Commander Hysell and I are sending a proposal back to NASA to let us send one of the explorer robots over the side of the ring from the shuttle. That will give us an unhindered view of the singularity's invisible spectrum at close range and hopefully provide an answer as to the source of the particle radiation that must be emanating from the ships propulsion system.

On other matters, the crew took to playing around with the seemingly strange inertial effects on the ring yesterday by running from one side of the projection room to the other, as moving in the direction of the rings rotation at a velocity of only six point four kilometers per hour renders one completely weightless; until, of course, that motion is stopped. We have become accustomed, over the course of the mission, to feeling such effects from the spinning motion of the Grissom; however, the confined spaces made it difficult to exploit. I must admit to getting caught up in the foolishness myself. The giant leaps one can take are fun, but the contact with the wall at the other side of the room was most un-fun. And the Coriolus effect, which is negligible on Earth unless you happen to be a large storm system, is not negligible here. And one can actually experience lateral movement just by leaping into the air. The fun didn't last, though, as after a few minutes of us bouncing off the wall, a sentry dropped from the ceiling and scared the wits out of everyone with a very aggressive disposition.

Regarding the motion of the ring: We were wise to have made our move when we did. The ring has resumed its deceleration. The gravitational attraction of Saturn, however, is beginning to nullify any actual reduction in our forward velocity. It would seem that the ring does indeed intend to orbit Saturn after all. However, I am having trouble making sense out of its current trajectory. Whatever it intends to do, I'm sure we will find out soon enough.

Karen sat back in the projection chair. A holographic image instantly appeared in front of her. It was composed of twenty-five spherical images,

each about four centimeters in diameter. Each image was of a particular planet the ship had visited. Each one was also numbered with alien numerical symbols, which the team had quickly deciphered. She reached up and put her finger through planet eighteen. The planet images were replaced by two symbols. One led to information about the planet, such as its location. The other to the life forms the ring had recorded. Karen chose the life-form symbol. Taking the place of the two symbols were a hundred small numbered circles, each one representing one hundred life forms that had been sampled from that planet. She selected the first circle, which revealed one hundred small images. "Here it is, number eighty-three." The small image expanded revealing a more detailed image of a small bird-like creature with white and blue plumage. "Want the chair?"

"So how long were you with the bird until you saw this being?"

"About five minutes or so."

"How many pages are there for this planet?" Frank asked while rubbing his chin in a thoughtful manner.

"Only a hundred I think."

Frank; "Okay, at one hundred times one hundred, that's only ten thousand life forms."

Karen; "*Only* ten thousand?"

"Why don't we try this? We know already that the higher the life form, the more samples were taken of that particular life form, so let's assume that when it got to the intelligent life form, it sampled at least ten of them."

"I've got you, so I just scan the border images of each image page, as opposed to trying to visually digest images of ten thousand different animals."

Frank; "Precisely, I'll be back in a little bit to check on your progress. I am the flight commander after all; I have important duties to attend to."

"Hey!" Karen spouted, but cut herself off. She was going to remind Frank that he gave clearance to her and Marty to sit in the projection chair while on duty, but then caught on to Frank's game. Anyway, if she could find a sample of the being she saw in the projection, she would be the first

human to experience the thoughts, memories and emotions of an intelligent alien life form. What a report back to NASA that would be.

The high-speed lift deposited Frank one point two kilometers above the projection room into the small ladder room. Frank then made the long climb upward through the ring's thick outer hull. Even in the diminished gravity, it was an arduous climb; three meters to the ceiling of the ladder room, which was the inner surface of the ship's hull; another six meters through the hull; one point eight meters to the shuttle's bottom hatch; and another one point two meters to the mid-deck, at which point a fold down bridge had to be raised. After crawling through the hatch leading to the mid-deck, Frank reached back into the airlock and dropped the bridge back in place, before making yet another climb from the mid-deck up to the flight deck and grabbing the transceiver mic. "Mission Control, this is Flight Commander Frank Hysell of the Pegasus. I'm requesting permission to send an explorer over the side of the ring to get a better look. The plan calls for an EVA by mission specialist Sandridge and pilot Rivas to climb down onto the ring, attach the robot's winch to the forward landing gear or the connecting tube, and send it on its way. Anticipate using about a mile of line. Still awaiting your instructions on the sentries. Nothing further to report at this time."

The signal that Frank had just sent was, of course, much too weak to ever be picked up by Earth receivers. It would first be picked up by receivers located on Archon 1, which was on its own course to orbit Saturn, and relayed to Earth using Archon 1's large pointable dish antenna. The antenna, located towards the base of the rocket, moved along a track in the opposite direction of the rocket's spin—when the rocket was spinning—thus keeping the antenna pointed in the proper direction at all times. Frank looked towards the cockpit windows. Due to the rapid rotation of the ring, the stars were no longer the familiar points of light he was so used to seeing standing out from the blackness. There was one point of light visible, however, out the portside window. At the center of a dim bull's-eye of starlight that included one band that stood out from the rest—the Sun—was

the fuzzy disc of Saturn. It had grown twice as big since the last time he had bothered to look.

Pilot Mack “Evil” Rivas was awakened by a muted thud from somewhere outside the sleeping quarters. Marty and her morning exercise, he thought to himself. He looked at the time—3:15 pm, might as well get up. Mack opened door of the sleeping compartment and looked bleary eyed down the hall towards the rear of the habitat module.

“Sorry, Mack, didn’t mean to wake you up,” Marty shouted from the rear compartment.

Mack; “Sokay, I guess. Have you ate breakfast yet?”

“Yea, there’s a couple plate sized flap jacks waiting for you, just the way you like them.”

Mack; “Guess that will make up for noise and rabbleroxing.”

Marty went back to her arm curls. Rabbleroxing? she thought. How fitting. Marty then added, “I wasn’t rabbleroxing, I’m exercising—something you better be doing more of if you don’t want your bones to turn into peanut brittle.”

Mack went back into the sleeping compartment to grab a change of clothes, then walked aft in his underwear from the sleeping compartment, past the ALS on his left and the science station on his right, to the rear compartment of the habitat module, which served as a shop, an exercise room and first aid station, depending on the need. The walls were mostly storage lockers, and centered along the rear wall was a second airlock leading to the aft fuselage compartment. “You can’t get me down today, I have a great day ahead of endless routine and monotony. By the way, where did you get the fancy barbells?”

“Oh, um, couple large bolts that I removed from the counterweight before we separated. I think they were holding two sections of the counterweight together. I’m really not too fond of spring-loaded exercisers. I wanted to pump some real iron for a change, know what I mean?”

“I’m sure NASA will be pleased.”

Marty; “I’m kidding! The Professor made them for me by melting one of those lead weights that we use to help fine-tune the Grissom’s balance into a mold, and then dipping them in resin after they had solidified. Anyway, who used the door latch to the latrine to make himself a spoon because he was too lazy to machine one?”

“Hey, how long was it—a week—until anyone else made another spoon? But that’s the kind of gratitude a person gets around here, I guess.” Mack turned and walked back towards the head. Marty managed to shout one last comment before Mack shut the door.

“I must admit—this mission would have fallen apart a long time ago without your genius.”

Genius? Mack thought.

Frank Hysell crawled from the mid-deck into the galley of the habitat module. Marty had moved up to the forward compartment and was putting Mack’s breakfast on the table.

Frank; “That’s one thing that’s always easier in zero gee. Mack up yet?”

“Yea, thanks to me. He’s in the shower, I think.”

Frank; “I just popped in for a snack. Any of those cheese crackers left?”

“Sure, vending machine is down the second hallway to your left.”

Frank; “Smarty Marty.” Frank grabbed a splash proof coffee mug from the dishwasher and set it on the counter, then opened one of the food storage compartments in the galley and tried feeling around for the crackers between several large containers of dehydrated food products. Finally, in frustration, he grabbed the containers and set them out onto the floor. He eventually found the crackers and also grabbed a couple containers of fruit punch out of the fridge. “The Professor has requested a cup of coffee and a ‘steak,’ the word steak being his code word for cheese crackers.”

Marty gasped. “It’s his bed time!”

Frank; “I think he’s getting restless not being able to do much, you know.”

Marty; “Well, don’t give him the high test. There’s a sleep-aid in the first aid box, why don’t you slip one or two of those in some decaf?”

“Drug the Professor?”

“Frank, the man’s got to get more sleep, I already instructed him to stop drinking coffee at odd hours, but he won’t listen. I am really starting to wonder if it there isn’t something deeper going on.”

Frank; “What have I said about deception on board the Pegasus? I won’t tolerate it, it only erodes trust between the crew, which we need survive out here. . . . I’ll just go with the decaf and tell him it’s the good stuff.”

Marty only sighed and turned her back. “Since when are you running errands for the Professor?”

“You said it was probably a good thing that the Professor is hanging out down there, so I told him he could stay put during his off time, and we would bring him his food.”

Marty; “It would be a good thing for all of us. If it wasn’t for that floor—”

Frank; “I know what you mean. Oh, and by the way, Karen was viewing a projection, and says she saw intelligent life.”

Marty; “No kidding? Well . . . about time.”

Frank proceeded to load the beverages in a carry pouch, then turned and headed for the hatch while mocking Marty’s remark to himself, then added, “You’ll probably be getting a transmission from NASA or Mission Control sometime during your shift, let me know what they say.” With that, Frank exited the habitat module, lifted the bridge, and climbed downward into the ring.

Frank took the high-speed lift a total of two point four kilometers (the entire thickness of the ring) down to the Professor. The Professor had finished his log entries and was watching a rerun on his laptop of an old sci-fi show called *Fringe* that he used to watch as a kid. Frank handed the Professor his coffee and a package of cheese crackers. “Your steak, sir.”

The Professor; “Hey, this is well done, I ordered medium rare.”

Frank; “You know what happens when you complain about the cooking around here.”

The Professor took a sip of coffee, none the wiser. “Thanks, Frank.” Frank got back in the lift, pressed the second button down of the three buttons in the elevator, and was on his way back to the projection room.

Meanwhile, back in the lounge, the Professor proceeded to crunch down the crackers that Frank had given him, making sure to expel some crumbs onto the glass floor. Right on cue, a small flying robot materialized from the ceiling and glided to the floor with only a slight whirring sound. So far, they had seen two types of robots: One type seemed to exist to guard the ring against intrusion or damage. The others were merely cleaners. Both resembled small forty-centimeter-in-diameter versions of the classic flying saucer folklore back on Earth, with a silver finish and various protruding lights and lenses. “Dusty,” shouted the Professor, “how are you today?” The robot responded with several friendly sounding beeps and whistles, vacuumed the crumbs, then extended a buffing wheel from its undercarriage and began to polish the floor in a more or less haphazard grid pattern. The Professor sat down in the oversized alien sofa and put his feet on the transparent oversized alien cocktail table to allow Dusty to do his work.

Frank entered the projection room, where Karen Sandridge was still busy searching. The projection room was only about half the size of the room they called the observation lounge, about six meters in diameter, although the ceiling in both was about three point six meters. The walls, floor and ceiling were, like the ladder room, a textured dull gray, and featureless. To the left and right of the lift door were two doorways about three meters tall facing each other. The door to the right—opposite the direction of the ring’s spin—was closed and would not open. It appeared to be a mechanically operated scissor door, as were all of the doors they had seen so far. The doorway to the left—in the direction of the ring’s spin—was open and led to a hallway about three point six meters high and four point six meters wide. The hallway appeared to have been pre-manufactured in sections with eight-centimeter ribs protruding between each section from

otherwise smooth light-gray walls. The hallway was obviously constructed inside a tube, with the walls being the tube itself. Lighting in the ceiling conformed somewhat to the curvature of the tube. A polished black floor about three point four meters wide covered the bottom. The hallway widened considerably about fifteen meters in except for the walkway, which stayed the same width and was flanked by railings. There was no lighting for the roughly six-meter stretch, which ended in another door that would not open. The widened part of the hallway was obviously transparent, and meant to be an observation area, although the interior of the ship outside the projection room remained pitch dark. The hallway was obviously in the middle of a large space that no doubt extended to the inside of the ship's hull. However, the crew had only limited success attempting to shine strobes out into the darkness. One thing they did learn was that the projection room was enclosed in a massive tubular structure of metal framework that extended from the inside of the ring's hull far above to the inside of the ring's hull far below. And it appeared to flare at both ends. Any attempt they had made to try and pry open the door at the end of the hallway, or the one to the right of the lift doors, had resulted in harassment from the sentries that seemed to materialize from the ceiling of the projection room. One attempt at using one of the explorer robots to drill a hole in the door resulted in the destruction of the robot. Across from the lift doors was a large padded and reclined chair, on which Karen was still seated. The projection hat hovered above Karen's head and bore an eerie resemblance to the alien arm at the end of the original 1953 *War of the Worlds* production. The only other feature was a roughly seven-centimeter-in-diameter pipe-like object that stuck out from the wall above the chair. It had two small pipettes extending from it about forty-five centimeters apart that rose vertically for about another forty-five centimeters. A light projected from the larger pipe and somehow created holographic images between the two pipettes.

Frank; "Any luck?"

"Not yet."

Frank; "Brought you a snack, want me to take over a while?"



“Be my guest.”

Frank handed Karen the drink and crackers. “So where are we?”

“About life form one thousand two hundred. Give or take a few.”

Frank; “Mind if I search a little while? Think I’ll start from the last page and work the other way.” Frank brought up the very last page. The page was entirely filled with tiny images of rather squat-looking, reddish colored bipeds. He put his finger through one of the images, which revealed a rather homely creature with long arms, very little neck, and a face only a mother bull dog could love.

“Damn you. How did you do that?”

“That’s them I take it?”

“I’ve never seen so many samples of the same creature.”

Frank; “The others are going to want to see this.”

4pm

Frank gathered the other three crewmen into the projection room. “Apparently, it sampled hundreds of these beings. They nearly fill up the last three pages.” Frank began to randomly select examples from the holographic projection.

The Professor; “Amazing.”

Mack; “Ugly little things.”

Marty; “So have you figured out how this thing works yet? The hologram, I mean.”

Karen; “Well, you see these little tubes on each side of the image. There are perforations along their length.” We have analyzed the air between the tubes where the image forms and found it to contain a non-toxic dust of microscopic salt crystals. Maybe the Professor should take it from here.”

The Professor; “Well, I’m not about to vandalize the place to try and find out more, but I studied this thing for hours yesterday, and this much I know: The crystals are all identical in shape and size. And they have an intricate shape that allows multiple refractions. The crystals are blown out

into a zone affected by high frequency sound waves beyond our range of hearing. The acoustic waves, which are apparently being emitted from behind the wall and ceiling, serve to hold the crystals in place and manipulate them with interference patterns. An image is then projected from this tubular structure towards the crystals to produce a quasi-holographic image for any subject sitting in the chair. I think we could easily reverse engineer the technology. Now just how the apparatus senses an interruption in the images, such as a finger passing through, I haven't got a clue."

Frank; "Couldn't have said it better myself."

Mack; "We know."

Frank; "I resent that. Anyway people, since Karen here is the one that found the creatures, I'm nominating her to make first contact; anyone have a problem with that?" The others shook their heads. "Okay then."

Karen reached up and pulled the projection hat down to just above her head. The projection hat was essentially composed of a round padded disc about fifteen centimeters in diameter that extended from the wall of the projection room with a long gooseneck. Multiple tiny goosenecks extended outwards from a small hub just above the disc, each one with small round pad at the end. When the disc was brought down against the top of a person's head, the tiny goosenecks would drop down like some type of living worm-like creatures. Two of the pads always covered the eyes, two covered the ears and the rest placed themselves at certain points on the skull. After pulling down the projection hat, Karen reached towards the hologram and selected a life form—an adult of the species. "I chose this one because of the nice outfit it is wearing, it must be one of the upper class of its society." She then reached up and pulled the hat down against her head, which activated the projection.

She was home at last after a long day at the office, or rather—he was; the life form she had chosen was definitely male. His name was Tinokov Lot of Dendra, and he was a banker on a planet called Thaita. The richness and familiarity of his thoughts and senses were unlike anything Karen had

experienced before, but Karen Sandridge could only ponder the experience on a very slight emotional level—too much of her brain was presently dedicated to being Tinokov Lot of Dendra to allow for much of her own thoughts. His sleek bubble topped vehicle had just driven itself off the expressway shuttle a few minutes before, and was coming to a stop in front of Tinokov’s residence. The top opened and he exited the vehicle, which promptly and almost silently drove itself away. He looked up at his house. It reminded Karen of some kind of heavily cantilevered concrete-and-glass Frank Lloyd Wright creation rather than the typical house back on Earth. Unusual looking trees towered above the house against a blue-green sky. Karen could tell by the shadows that there was direct sunlight coming from behind Tinokov. She hoped he would turn and feel the warmth on the skin of his cheek before he went inside—something she had not felt in a long time. He was walking towards the house, when the front door opened. A child came bounding out. It was his son, Trake. He had something like a large blue softball in his left hand. In his right hand was a stick with a cup shaped pocket at one end that looked a lot like a lacrosse racket. He shouted something to his father. Karen understood parts of the conversation; other parts were somewhat vague. He handed the ball to Tinokov and ran to the other side of the yard. Tinokov wound up and threw the ball. Trake swung the stick making a perfect catch. He ran back and forth a couple times as if dodging members of an imaginary opposing team, swung and released the ball back to Tinokov. “Very good,” shouted Tinokov. He wound up for another throw. Trake fell to the ground. “Come on, Trake, one more, then your dad’s going to have to change out of this suit. Trake was motionless. Tinokov’s mood turned to concern. He walked to where his son was lying. “Come on, Trake, you trying to fool your old dad?” His son appeared lifeless. He nudged Trake, but he would not respond; he was completely unconscious. Tinokov carried him into the house and laid him on a couch. “Saith, call a doctor; something has happened to Trake!” Tinokov’s wife, Saith, ran in from another room.

“What happened, Tinokov?”

“I don’t know, he just fainted.”

Saith ran over to a small console and punched a button. A whirring sound grew louder from somewhere in the house. A few moments later, a robot with a humanoid top half and oval bottom half resembling a mechanical Centaur of Greek mythology swiftly glided in. “I am Doctor Seban, what is the problem?”

Tinokov began to speak, when Saith also collapsed. The robot turned and placed a disc shaped object on her chest with one hand, and another on her forehead with the other hand. It then went over to Trake and did the same. “Mister Lot, we are sending an emergency unit to your location. I am not sure what is going on, but I would like you to please exit the premises immediately.”

“Absolutely not!” exclaimed Tinokov. Tinokov went over to Saith and began slapping her cheek. “Saith, wake up, Saith.”

Not even realizing it, Karen began verbalizing Tinokov. Frank and the others could not understand a word she was saying, but sensed the panic in her voice.

“Karen, are you okay?” Frank shouted. After a slight pause, Karen raised her hand and gave the “OK” sign.

Back in Tinokov’s life, Tinokov had run outside and was looking skyward for the ambulance to arrive. A sleek looking cylindrical vehicle swiftly and nearly silently appeared over Tinokov’s house and began to descend towards the roof. He took several steps back towards the house, before his own consciousness began to fade, and then he too collapsed like the others.

Back in the projection room, Karen screamed. Her body went stiff and began to convulse. Frank tore the projection hat from Karen’s head, which flailed about the projection room. Her body relaxed as Frank tried desperately to awake her, but she would not respond.

5pm

Karen eventually regained consciousness on the medical cot in the rear compartment of the habitat module. The other four were standing over her.

Frank; “Karen?”

She sat up a bit groggily and began looking around the habitat module as if exploring it for the first time. Marty grabbed her by the shoulders and tried to lower her, but she resisted and jumped off the cot.

Marty; “Karen, maybe you should take it easy. I’m not sure yet just what happened to you. Do you understand what I am saying?”

Karen only looked at Marty and proceeded down the hallway towards the forward hatch. Frank tried to grab her, but she managed to shove him off. She crawled through the forward hatch into the mid-deck, shut and latched the hatch behind her, and then, with a loop of wire tether that she had grabbed from inside the airlock, tied the hatch shut.

Frank; “She locked us out! We’ve got to get in there. Frank activated the wall-mounted intercom. “Karen, please unblock the hatch. Karen?”

Several minutes had passed, when they heard the hatch open. Before Frank could crawl back into the airlock, Karen had lifted the bridge and started downwards. Frank crawled into the airlock far enough to look down. “Where are you going? Why don’t you come back to the habitat module?” Karen looked up at Frank, but still said nothing, instead giving Frank a stern look he was not used to seeing. She continued down the ladder, and Frank followed her all the way down to the projection room. When she got to the projection room, she sat in the chair, activating the mid-air hologram. Frank became alarmed. “Karen, you’re not starting another projection, I won’t let you.” She selected the page from which she had chosen the intelligent life form. She then selected the image just above the image she had chosen before. It expanded into another adult of the species. She closed the image and chose another just below it. It expanded, only this time revealing a child of the species in a white shirt and gray shorts. Karen bellowed something Frank could not understand and then grabbed the projection hat and began pulling on it, apparently trying to remove it from its long gooseneck arm.

Frank tried to stop her and she let go of the projection hat, which was proving to tuff to break. She then walked over to the door to the right of the elevator and began throwing herself shoulder first against the impossibly strong pressure door. Frank tried to restrain her. “Karen, stop, what’s wrong with you?”

“I am not Karen,” she announced. “I am Tinokov Lot of Dendra, and I am going to destroy this abomination.”

Frank was momentarily speechless, then said, “Well, I’m Frank Hysell, flight commander of the Pegasus, and you had better stop what you are doing before you get us all in big trouble.”

Karen; “You don’t understand, this machine is an abomination, it did something to us. It took us.”

Frank; “Took you?”

“Yes, my family, my son Trake and my wife Saith; not our bodies, not physically—our minds. It took our minds!” For the first time since they landed, a bad feeling began to form in the pit of Frank’s stomach.

Frank; “Karen, I’m ordering you to return to the Pegasus now; if you don’t leave now, I will anesthetize you and carry you up.”

A sentry materialized from the ceiling and swiftly glided towards them. Contrary to the friendly sounds of its humble counterpart, the sentry was making a series of loud low-pitched aggressive sounds. Two slanted eye-like protrusions, above a pseudo-mouth equipped with two long needle-sharp “fangs,” gave the sentry a very menacing appearance. Frank and Karen ran for the lift. The sentry slowed, as Frank and Karen entered the lift, and stopped just short of the threshold as the lift doors closed.

## ***4 The Controversial Decision***

After Karen's return to the Pegasus, Marty tried to persuade Karen to return to the medical cot. After it became clear that Karen would have no part of it, Frank decided to postpone any further medical or psychological evaluation and called the crew to the galley, where Frank prepared a supper for Karen and himself. The Professor joined in as a late night snack. Mack and Marty joined the conversation with Karen and her new personality.

Frank; "Since we have a guest, of sorts, I harvested a few things from the garden and broke out some of the good stuff that NASA saw fit to send with us for various special occasions; never mind the complete lack of eating utensils."

Karen; "Yes, I vaguely remember; something about one of the assembly crew checking off the wrong item on his inventory list, and the assembly team getting in such a rush that no one ever noticed."

Frank; "So you remember that, but you say there are things you can't remember?"

"I want to say I am Tinokov Lot, but I have a lot of Karen's memories as well. There are a few vivid memories, yet many empty spaces in the past. I suppose there is only so much room to go around when two beings are sharing the same brain. It's a bit of an identity crises to be sure."

Frank took the lid off a pan of steaming beats and breathed it in. "Ahh, a nice change from that rehydrated junk."

The Professor; “Amen to that.”

Frank to Karen; “In case you don’t remember, NASA, in order to cram as much food supplies into the tiniest space, resorted to dehydrating about ninety-five percent of our solid food reserve. And if that was not enough, they compressed it into freeze dried bricks.”

The Professor; “Some of it tastes like bricks.”

Frank uncovered another dish of fried chicken—minus any bones. “And in case you can’t remember what this is, this is real unprocessed meat, and it is considered a delicacy around these parts, so don’t get too used to it.” Frank then turned to more serious matters: “Karen, if you don’t want to talk about it right now, it’s okay, but I was wondering what it was that upset you so much down in the projection room.”

Karen took a moment to gather her thoughts and decided it was as good a time as any.

“The hologram of the child with the white shirt—”

Frank; “Yes?”

“That was my son.”

The Professor nearly choked.

Frank; “What upset you, the fact that you probably won’t see him again?”

Karen told them what had happened just before Tinokov’s last memory—of seeing Trake and his wife collapse before he too began to lose consciousness.

“The thing is,” said Karen, “when I looked into their eyes, I saw complete emptiness. They were breathing, but it was like their very soul was stripped from their body—as if they were dead.”

Except for Karen, each member of the crew shot a surreptitious glance toward the other three, all realizing the implications.

The Professor; “Karen, you’ve spent the most time of anyone here in the projection chair. Have you seen anything like this before?”

“No, not that I can recall. I’ve seen creatures eat other creatures, and I almost got eaten myself once, I mean the creature I was experiencing, of course; but never anything just up and lose consciousness.”



Frank took a deep breath and looked at his watch. “Wow, it’s almost eighteen thirty hours. Professor, it’s about time you gained a little rest energy, don’t you think? Your shift starts in five and one half hours.”

The Professor; “I’ll make it.”

Frank; “Mack and Marty, can you put in a little overtime so the Professor here can get a full nights sleep?”

Mack; “No problem.”

Frank; “By the way, does anyone know what NASA had to say?”

Mack; “They said they would have to discuss your request to send one of the robots over the side, and get back to us tomorrow.”

Frank; “Not surprising.”

Mack; “They suggested we try using the explorer’s cutting torch to cut through the door that we tried to drill through. I guess they think perhaps the vibration caused by the drill is what alerted the sentry. My bet is, it won’t fool them, and we’ll lose the guts of another robot.”

Karen; “Hand me a metal pipe and let me stay down there with the robot, I’ll make short work of those nasty little things.”

Frank rolled his eyes a bit. But he knew it was much more Tinokov than it was Karen speaking. “NASA has absolutely forbade us from doing anything inside the ring that might be construed as vandalism while any of us are inside the ring. However, maybe they will change their minds after they learn what happened to you, but I wouldn’t get my hopes up.”

Mack; “I have an idea.”

Frank; “I hate to ask.”

Mack; “I think with a little practice, I could learn to aim the cutting torch at moving objects. Those robot arms are very quick if need be. And I don’t care how tough and nasty those things act, I will bet they won’t hold up to several thousand degrees for long. I say we try and get rid of the pests first and worry about the door later.”

Frank; “I would have to clear it with NASA first, although I don’t know why they wouldn’t go for it. Either way, we risk losing more circuitry, and we only have so many spare parts.”

Marty; “We need a robot with the force.”

Frank; “Great idea, except I don’t think there were any robot Jedi nights—you had to be born a Jedi.

Mack; “This conversation has gone over my head.”

Frank; “You must be the only guy I know that never saw the original *Star Wars*—one of the greatest movies of the twentieth century. And the guy is an astronaut messing around on an alien spaceship—go figure.”

Mack; “I apologize for not being a sci-fi geek and an ancient history professor. I didn’t know it was a job requirement.”

Frank; “All right, we’ll talk about this tomorrow. Professor, get some sleep. Mack and Marty, the backup CO-two scrubbers haven’t been inspected in a while. Please give them a thorough inspection and make sure the system is working properly. If you get the time, see if you can figure out how to remove that our-time-verses-Earth-time clock display program from the main server so the computers only show Earth time. I hate to ask NASA how to do it because I’m sure they probably assigned a whole team of physicists and computer geeks just to create a little clock to remind us how much time were losing, but all it does is confuse me. And, oh yea, please clean and disinfect the latrine if you get the chance. Karen, please try and get some rest yourself and I will have Marty check in on you from time to time.”

Karen; “Could you please address me as Karen and Tinokov from now on? It’s sort of like you’re ignoring part of me when you only use one name.”

Frank; “Um, yea, I suppose. Did you hear that, everybody? From now on it’s Karen ‘and’ Tinokov. I suppose I should formally introduce everyone. Tinokov, this is Professor Benalgio, he is officially the only physics professor—retired or otherwise—I know of that has his own black hole for a pillow.”

As the Professor extended his hand, he felt misgivings about welcoming Karen’s new personality; as if welcoming Tinokov into their world would encourage Karen’s new personality to further replace the Karen that he once knew, but he couldn’t be rude. After all, what happened to Karen was in no way Tinokov’s fault.

Frank; “Mission specialist Marty Bennish NP. Marty is a linguistics professor and also has the most medical training of the crew, so you two will probably be seeing a lot of each other. Captain Mack Rivas. You can call him Evil for short—just a nickname he’s sort of acquired after a few daredevil stunts in a FA-sixty-five photon.”

Karen to Mack; “Why do I get the feeling, when I look at you, that you do not like my appearance? Did you at some point tell Karen that she was a homely person?”

“Umm, no. It’s—uh—complicated.”

Frank cut in for the save. “And me—Frank Hysell, I tell these other yo-yo, I mean—fine crewmembers—what to do.”

The Professor; “Such incredible tact. Nice meeting you Karen and Tinokov, I look forward to hearing more about your planet and culture tomorrow.” With that, the Professor left for the observation lounge. Mack and Marty headed for the mid-deck. Karen retired to the sleeping quarters. Frank hung out in the galley a while and tried to figure out how he was going to explain everything that just took place to NASA.

Frank finished his report just in time for the scheduled transmission at 11pm. Frank made his way up to the flight deck, handed the report to Mack, and asked Marty how Karen was doing.

“Sleeping like a baby at the moment,” Marty replied. She then reached down to her side and held up a palm computer displaying Karen’s vital signs. “All vital signs and brain activity appear normal.”

Frank; “Okay guys, see you at O eight hundred.” Frank headed directly for the sleeping quarters and retired.

Frank got up at 7:10am, and made his way to the galley where Karen was already up and eating breakfast.

“Karen and Tinokov,” he shouted, “how are you this morning?” Karen’s response was much less animated than her usual or “unusual” cheery-morning-self.

“I had the most unusual dreams, other than that, I’m fine. I had the most realistic dreams that my wife and son and I were living on a farm back on Dendra. At least I think it was only a dream. It seems more like a memory now that I am awake. Perhaps it is just my own memories combining with Karen’s. Anyway, there was this rather unusual Thatian, a vendor I guess you would say, that kept coming around, delivering supplies and striking up conversations. Did Karen ever live on a farm?”

“Not that I know of.”

Karen; “Weird.”

Frank; “Yea, that’s weird all right.” Frank’s attention quickly drifted to other matters. “Where is everyone? Mack and Marty are usually ready to turn in by now.”

“They’re up on the flight deck, they say they have some bad news they want to discuss with us after we’re through eating.”

Frank; “NASA probably didn’t like my robot-over-the-side idea.”

About twenty minutes later, the rest of the crew entered the galley and took seats.

Frank; “What’s up?”

“You’re not going to like this,” Mack said in a serious tone.

Frank sensed it was something besides the robot idea. “What kind of craziness do those pinheads want us to try now?”

Mack; “They want us to leave.”

Frank; “You’ve got to be kidding!”

Mack; “Fraid not, the director himself sent the message.”

Frank; “Why?”

Marty; “He said they have re-evaluated the danger level and think it best that we ‘evacuate’ from the ring.” Frank’s face began to change from pale astronaut to something more like California surfer.

Frank; “Re-evaluate the danger? This was practically a suicide mission from the start! Trust me, I will get to the bottom of this. They are going to have to give us a better reason than that.”

Mack; “Don’t forget Frank, we’re military and NASA technically falls under the Department of Defense.”

Frank; “And for every person that would call NASA a military operation, there is another that would emphatically state it is a civilian agency. As far as I am concerned, we are on a scientific investigative mission unless we have reason to believe the ring was sent to Earth with malicious intent. That is what I was told, anyhow.”

Mack; “You don’t think what happened to Karen was malicious, and what about those nasty little robots?”

The Professor spoke up. “I, for one, am with you every step of the way, Frank. I certainly didn’t spend fourteen months of my life out here in the boondocks to give up that easily.”

Marty; “We would never make it back to Earth on the Pegasus without killing each other, anyway.”

Mack; “The Professor asked them to elaborate on their reasoning at his O seven hundred transmission, so maybe you will find out more during your shift.”

The Pegasus received a transmission at about 12pm from the flight director. Frank played the transmission for the entire crew at about 4pm that evening.

“Good morning Pegasus, Karen, Frank. I will get straight to the point. The space flight administrators held a closed door meeting yesterday and decided the mission was turning out to be generally unproductive. And they could no longer justify the expense or the safety risk to you, the crew of the Pegasus. Therefore, you are being instructed to stop your investigation of the ring and begin preparations for departure in two days at fifteen hundred hours. I don’t know how you will take this Pegasus, but all I ask is to have faith in our administrators, they’re on your side. K.P. out.”

“Well, it’s settled,” said Frank, then he paused for a moment, sending the others into a brief panic. “We stay right here until they tell us what is really going on.” Everyone seemed relieved, except for Mack.

Mack; “Frank, are you sure this is the right thing to do? After all, we haven’t been able to explore even one percent of this ship. We have no idea how it works; where the cont—”

Marty interrupted. “We are cataloging hundreds of thousands of life forms from hundreds of planets we could only dream to have existed, and they have the nerve to say our mission has been unproductive. What kind of idiots do they take us for?”

The Professor; “They haven’t said anything about sending equipment over the side, we could possibly learn a lot from such a close-up look.”

Mack; “Can’t argue with that. But what if they did something drastic like—refuse to pay us for the mission?”

Frank; “As in—fire us? I suppose they could. They could probably try and court-martial you and me if they wanted . . . I can’t see them doing anything that drastic, though. Even withholding our pay or finding us in breach of contract would probably be bad for NASA politically. They most likely would just hand us our civvies and show us the door. Tell you what, we’ll all sleep on it and take a vote tomorrow.”

Mack; “Fair enough, I guess.”

Frank; “Come on Mack, like you were saying. So far, we’ve only seen a tiny fraction of this ship. There must be wondrous things to see. If only we could figure out how to defend ourselves against the sentries. I’m surprised that of all people, you would be the cautious one now.”

The Professor; “I would like to say something: Obviously we are not welcome by whoever built this ship to go beyond the projection room and observation lounge. Even if we find a way to defeat the sentries, it stands to reason there might be other defenses.”

Frank; “We’ll have to cross that bridge when we come to it.”

The Professor; “Also, it was friendly of the builders to allow visitors what access there is. Is it really ethical for us to ‘break in’ to someone else’s property?”

Frank; “That is a good point, Professor, but you know, after what happened to Karen . . . and Tinokov . . .” Frank shot Karen a quick glance and smiled, almost forgetting the new arrangement. “. . . that we can’t let the ship do to anyone on Earth what it did to Tinokov and his family. We have no way of knowing for sure if Tinokov’s memory was simply recorded or somehow ‘removed.’”

Mack; “Frank, I think there is something else to consider. What if NASA has come to the same conclusion?”

“I can’t understand why they would stop the mission now without giving us a chance. The ship is not due to rendezvous with the Earth for at least another year, assuming that is where it’s eventually headed. If they were planning something rash and destructive, common sense would say it should be as a last resort.”

#### Professor’s logbook

Monday, day ten on the ring, 1230 hours: At last, something to ponder, and what an incredible scientific opportunity it is. I am sure it will probably take many years to analyze and make sense of all the data, but just doing a quick overview of the data from the explorer robot we sent over the side has proved very interesting. At first glance, the radiation levels were well below what I expected, but it did record a nominal amount of charged particle strikes that were higher than what we observed from a distance. Indicating, of course, that there is a radiation belt of sorts surrounding the singularity. The way I see it, there are only two possible explanations: Either there are less particles escaping from the singularity’s grasp than theory predicts, or the particles are being removed in some fashion by the ring itself. In any event, although the ring possesses its own magnetic fields, the source of the strong magnetic field that encompasses the ship is definitely the singularity, but we figured as much. Since “in theory” a singularity cannot have a magnetic field of its own, it must be due to a large concentration of iron particles being swept along by the singularity’s rotation just outside the event horizon. Such a zone might account for the lack of particle radiation, but it doesn’t account, though, for the lower-than-predicted levels of high-energy electromagnetic radiation. Strangest of all, spectroscopic analysis shows the luminous cloud surrounding the singularity to be a veritable soup of hydrocarbon gases, which is probably sufficiently dense to absorb most of the electromagnetic radiation that might be coming from the iron

particles through ionization, and easily explains the eerie glowing cloud surrounding the singularity. Further evidence that the gasses, which include mainly methane, ethane and nitrogen, are being broken down is the presence of some water and carbon dioxide in the cloud. If that wasn't evidence enough, in addition to a very nominal amount of X-ray and gamma-ray hits, the explorer robot also recorded a nominal number of hydrogen, oxygen, and nitrogen ions as well as carbon isotopes. However, my best calculations show that the gases that are there should fully ionize about two years from now and begin to lose their insulating ability in only a year or so unless they are somehow replenished. The only way to know for sure is to release the detection equipment into the singularity, but the flight commander isn't too keen on the idea of losing any more hardware at the moment. It probably wouldn't last very long anyhow until being torn apart by the intense gravity, even accounting for the small size of the instrumentation. In any case, the lack of radiation from the singularity, at present, makes the cosmic rays picked up by Voyager 1 a bit puzzling. Obviously there could very well be an ion propulsion system of some sort along the forward facing surface of the toroid away from our location, as evident by the disappearance of the less powerful radiation when the ring temporarily ceased decelerating. I can only guess right now that the more powerful radiation was from the same source, only operating at a different energy level; and that these engines, which we currently can not see, are capable of operating at a much higher energy level than they are at present.

On other matters, NASA thinks we are leaving today, and we have made no preparations at all for leaving. We lost another control board for the explorer robots. At least this time the robot had been stripped of everything except what was necessary for operating the cutting torch. Mack tried out his tae kwondo robot idea only to have a single sentry finish it off in seconds. It would seem that even though the robot's cutting torch is hot enough to instantly cut through the toughest steel, the sentry was just too quick, and moved out of the way before the torch could do any significant damage. On a more positive note: Karen and I seem to have bonded more than ever since she acquired her extra personality. I think it's partly the fact



that Karen's added personality, Tinokov, and I are the only married personalities aboard the Pegasus. I don't think Karen's "condition" has helped her relationship with Frank, but that's really none of my business, I suppose. Just for the record: Everyone has voted to stay against the instructions from NASA, except for Mack Rivas.

The Professor closed his logbook and brought up the national news, which he had downloaded while on his shift.

"Good evening, this is NBC Nightly News for November sixteenth. I'm Louis Bouden. Our top story—the Pegasus; set to leave the ring today at approximately five pm eastern standard time. And a lot of people are not happy about NASA's decision to say the least and are demanding answers. Graig West is live at Cape Canaveral."

"Lou, I've been talking to a lot of people close to the mission here today, and there is a definite feeling of bewilderment at NASA's decision to recall the shuttle. So many people here have worked so hard—and indeed, so many people 'around the world' have worked so hard to make this mission happen—that they just can't believe NASA would do such a thing without very good reason. And that's just it, Lou, NASA, so far, has not come up with that 'good reason.' We found one NASA employee who was even willing to go on camera with her concerns."

"If you only knew how much overtime and attention to detail went into this mission. I know of some people who wore the same clothes for three days at a stretch to get that bird off the ground; ate their lunch with one hand and programmed flight coordinates with the other. I think I can speak for many people who genuinely feel we are not being told the whole story."

"Lou, that was shuttle technician Judy Warsaw. Obviously tempers, if not the temperature, are heating up down here in Florida. Graig West . . . Cape Canaveral, Florida."

"Thanks, Graig. I think all of us feel a bit 'out of the loop' right now. On to our next story . . ."

After the news, the Professor packed his laptop and made the journey from the lounge up to the habitat module. He walked over to the galley to warm up some cold coffee, but discovered the microwave to be missing. Giving up on the coffee, he stepped quietly past the sleeping quarters to the back of the habitat module, where Karen was hard at work on the next sentry weapon.

“Looks like NASA is really starting to take some flack.” Karen did not respond. “Karen and Tinokov, don’t work so hard, we’ll figure something out.”

Karen; “Words are cheap.”

The Professor; “I’m sorry I haven’t been more help, I’ve been analyzing the data from the robot.”

Karen; “Understood, I just wish there was someone else here that took it as personally as I do, but I know that’s not possible.”

The Professor; “So, Karen and Tinokov, you were a banker back on Thaita?”

“Yes.”

The Professor; “An engineer and a banker, sounds like a winning combination.”

Karen; “Luckily, I have plenty of mechanical inclination to go around. We were a bit more advanced on Thaita. We had long ago replaced our internal combustion vehicles with a much more efficient transportation system, but a few enthusiasts such as myself kept a few of them around for posterity. I was always pretty good at fixing things.”

The Professor; “Tell me something, did anyone on Thaita see the ring coming?”

“Oh yes, but not nearly as early as Earth did; you got lucky. I remember the first news bulletins about one of our large telescopes recording an odd streak in the sky. They at first thought it might have been a previously unknown asteroid. The last I remember about it, they had sent a ship to intercept the ring, and that’s all I know until I woke up on the Godforsaken thing. By the way, Professor, I believe there is one thing I do owe you a thank you for.”

The Professor; “Whatever is that?”

“For not saying I told you so . . . regarding the projection hat and all.”

The Professor; “I see, you remember my misgivings. But you know, if you didn’t have your accident, we might not have known just how harmful the ring actually was.”

Karen; “Good point, Professor.”

The Professor turned his attention to the strange looking apparatus Karen was working on. “Impressive looking device.”

Karen; “Hey, I’m not fooling around this time. Frank thinks that perhaps a beam of microwaves will offer something that the sentries can’t dodge so quickly. Hopefully the beam will then interact with their electronics. I figure there has to be a limit to how much energy they can take, so I’ve fashioned a microwave gun that could cook a turkey at forty meters.”

The Professor; “Great, how about a cold cup of coffee at about one and a half meters?”

“No problem there, if you want to breath it rather than drink it. As I was saying: This time, every square inch of the electronics are going to be fully shielded and well buffered—the circuit boards encased in a heavy copper box, and the wiring all double shielded coax.”

The Professor; “Built like a tank this time, huh?”

“Yes, you could say that, problem is—the sentries might be built like tanks themselves for all we know. I guess the best we can hope for is they are not completely electromagnetically sealed.”

The Professor; “Did you ever stop to think maybe we’re thinking a bit too technically?”

“What do you mean?”

“I mean, we know how to bate them, perhaps we could lure them to a specific point in the middle of the room and then—blammo!”

Karen; “I see where you’re going Professor, the ‘crude but effective’ approach. We have plenty of C-four that NASA sent with us, but without knowing what affect it might have on the integrity of the pressure vessel, I really don’t think it’s such a good idea. And, for all we know, there could be

a hundred more to take their place. It stands to reason that a ship this size has more defenses than one or two little robots.”

The Professor; “So, do we have any spare microwaves ovens?”

“I needed all the magnetrons I could find, so I had to sacrifice the microwave oven. You will just have to reheat your coffee with old-fashioned radiant heat. Sorry, Professor.”

The Professor; “If it works, I am sure you shall be forgiven. NASA never did like that microwave, anyhow.”

Day 11, 4pm

Karen had borrowed a spare one-point-eight-meter section of wire conduit from the Pegasus and made her way to the projection room, where she began poking around the three-point-six-meter-high ceiling. As she tested the ceiling around the area where the sentries had appeared from, she discovered the ceiling actually had two circular holes in it a bit larger than the diameter of the sentries. The holes had been disguised, possibly just for aesthetic reasons, by the same sort of technology used for the holographic projector. Only in this case, the high-frequency waves were being used to suspend particles with the same general color and shade as the room. Even though it seemed doubtful they could get the better of the sentries so easily, it was decided to try blocking the holes first, before using any more weapons, to simply see what would happen. First, Karen borrowed the front panels off two of the Pegasus’s many storage lockers. She then affixed each one to the end of a one-point-eight-meter section of conduit, which would be coupled to another one-point-eight-meter pipe in the projection room and wedged against the holes. Because the ring’s massive hull—which possessed its own magnetic field due to electric currents flowing through conductors imbedded within it—had proven a hindrance to any kind of radio transmission, a transceiver had been set up in the ladder room to communicate with the robot. The transceiver was then connected to the robot control panel in the Pegasus via a standard coax. For this particular

experiment, however, the transceiver would only be used to relay the video signals from two cameras set up in the projection room. One camera was set up in the projection room and pointed towards the door opposite the ring's spin. The other camera was set up down the hall a ways and pointed towards the door at the end of the hall—in the direction of the ring's spin.

After Mack and Karen had wedged the panels over the two holes in the projection room and had activated a makeshift thumper, they hastily retreated to the Pegasus. At first nothing happened. Then, about ten minutes later, the door down the hall—the one which they had tried to drill through only several days after they arrived—opened. The camera recorded nothing beyond the doorway but a continuation of the hallway leading off into the distance, before a single sentry glided through, zapped the thumper, then the cameras. Later, when the crew entered the projection room, the wedges were nowhere to be found.

#### Day 12, 2pm

Round three: Karen and Frank were in the projection room. They had just finished setting up the explorer and checking its communication link, when a sentry suddenly surprised both of them. It dropped from the ceiling swiftly and approached them sounding more angry than ever. Frank reached for something in one of his lower suit pockets and pulled out a small firearm. Frank aimed directly at the sentry and fired. However, the bullet veered away from the sentry without striking its surface and ricocheted off the inside of the projection room at least twice. The explosion stunned Karen, who was completely unaware that anyone of the crew was packing firearms. The sentry, after bouncing backwards slightly, hesitated a few moments before carrying on towards Karen, who was still somewhat dazed. "Karen, get in the elevator!" shouted Frank. Frank tried to buy them more time by picking up a large ratchet and throwing it the sentry. Similar to the bullet, the ratchet also bounced off the sentry without striking its surface.

The sentry then changed course and went for Frank. It contacted Frank in the right shoulder, and he immediately tensed up as if hit by a stun gun-like discharge and fell to the floor. Karen saw the explorer swing around and point the microwave gun directly at the sentry. It was Mack, who was witnessing the whole event from the robot control station aboard the Pegasus. Karen dove towards the other side of the room to get out of the way as Mack activated the microwave gun. However, the microwaves had no effect whatsoever, and the sentry accelerated towards Karen. She tried to turn and dodge the robot, but the robot was much too quick. As it contacted her shoulder, she felt a jolt and a sharp pain. Seconds later, she lost consciousness.

When Karen woke up, she was on the medical cot in the common area. Marty was standing over her.

Karen; "What happened?"

"You just got the shock of you life and injected with a morphine-like anesthetic, that's all. How do you feel?"

"Like I just got hit in the shoulder with a baseball bat. Why me all the time?"

"Well, guess what? Frank got it, too, this time."

"Is he okay?"

"Yea, you'll both live, I can't say the same for your microwave gun, though. Something about the magnetic tubes were shattered, or something like that, according to the Professor; maybe with sound waves or something."

Karen; "The magnetrons, just great. Just have to heat stuff the old fashioned way, I suppose. I believe we underestimated the sentries; they mounted a 'pre-emptive' attack this time. By the way, did you know Frank was carrying a handgun?"

"A what?" asked Marty, in dismay.

"When the sentry showed up, he took out a handgun and fired at it."

Frank woke up a few minutes later in the sleeping quarters. Marty and Karen walked in.

Marty; “Why didn’t you tell us you were carrying a firearm?”

“Why, I’m fine, thanks for asking.”

Marty; “You didn’t answer my question.”

Frank; “I am the flight commander, I don’t have to answer any question I don’t want to. Where is it anyhow?”

Marty; “I don’t know, there wasn’t any gun in the projection room when we found you.”

Frank; “Great, oh well.”

Karen; “You could have killed us both if you had blown a hole in the pressure vessel!”

Marty; “I suppose Mack has one, too. And what else did you bring along that we don’t know about?”

“They gave us the guns, you know—just in case.”

Marty; “In case what?”

“I don’t know. In case the ring was full of hostile aliens or the ring was some kind of doomsday weapon or something. I don’t see how it could be such a huge surprise to you. After all, they put two military pilots with close combat experience on the mission.”

Karen; “How could NASA possibly think you could take on a ship this large full of aliens with a handgun?”

“Okay, look, I’ll tell you everything if you will just go away. NASA gave us a code to send back to Earth in the event we thought the Earth was in danger. The guns were mainly to buy us enough time, if necessary, to get to the Pegasus and make the transmission—a failsafe so to speak.”

Karen; “Then what?”

“I don’t know anything about that and maybe they don’t either, you know?”

Day 13, 9am

Frank, Karen, and the Professor were on the flight deck awaiting the 9am transmission.

“Pegasus, I’m sure you’re doing everything you possibly can to effect repairs, but I would like you to know there are a lot of good people down here working very hard on resolving your malfunctions. Also, the Administrator just received a Presidential order to do everything we can to get you on your way home. As far as the E-five error message that keeps popping up: Jack wants you to check the continuity in the orange wire, in wire bundle three, all the way back to the main control panel. K.P. out.”

“Yea, we’ll get right on that,” said Frank, sarcastically.

The Professor; “Frank, do you think it might be time to rethink this? After all, it looks like we’ve pretty much run out of ideas to disable the sentries.”

“I’m not prepared to give up just yet, there must be something we haven’t tried yet.”

The Professor; “I don’t think we can afford to try much of anything else. We’ve only pillaged half the ship.”

A sudden shudder passed through the Pegasus.

“What the hell was that?” asked Frank. Karen immediately started down the ladder towards the habitat module, where Mack and Marty were sleeping. The Professor and Frank followed. They arrived to find both Marty and Mack peering out bleary eyed from the sleeping quarters.

“Whad you do?”

Karen; “Wasn’t us; thought maybe you had fallen out of bed.”

Frank; “Probably something to do with the ring. Let’s do a complete inspection just to make sure, however.” Frank walked over to the computer terminal located in the galley and began flicking through the live images from the various exterior cameras. The forward roof camera, which was mounted above the flight deck and pointed aft, showed a large circle of light sitting stationary above the habitat module. “Guys,” Frank shouted, “take a look at this.”

Mack; “What the? . . . Are you sure it’s not something wrong with the camera?”

Frank flipped through the other cameras. The port and starboard cameras did not show anything, but their field of view did not extend to the top of



the bay. However, the rear camera—mounted to the stabilizer fin and pointed forwards—showed the same ball of light. “I don’t know what the hell that is,” said Frank, “but does anyone want to stick their head out and find out?”

Mack; “Send out a robot.”

Frank; “What for? Just to get another ball of light picture from a different angle? I’ll do it. I could use the ‘fresh space’ anyway.”

10am

As the others watched, Marty from the flight deck monitor, Karen from the science station monitor, and Mack and the Professor from the galley; Frank climbed down the ladder from the airlock side hatch, located on the starboard side, and walked out onto the ring to look up at the Pegasus. “Yea, it’s for real all right. I don’t have a clue what it might be, but it’s really beautiful out here. The object is spherical and glowing, but not too bright to look at. It’s even illuminating parts of the Pegasus. It’s really . . . so much space out here.” Mack, being the only one of the crew to have previously ventured outside, chuckled in empathy.

Frank; “Incredible feeling I’ve been living in a sardine can for a year and a half.”

The scene above Frank’s head was a faint glow. As he looked through the space underneath the Pegasus, towards Saturn, the streaks gradually brightened into many distinct concentric circles. It reminded him of time exposure photographs he had seen of the North Star. At the center was, of course, the fuzzy yellowish glow of Saturn. “I’m going to try to climb up and see if I can get a closer look.” Frank disengaged the ladder and moved it over to the starboard wing. After climbing onto the wing, he pulled up the ladder, positioned it approximately mid-fuselage, and continued climbing up onto the bay doors. He made his way over to the seem where the bay doors met and slowly moved underneath the object, glanced at the

dosimeter on his suit just to be safe, then put his hand out towards the object.

Karen; “Be careful, Frank.”

Frank; “The outside appears smooth and artificial. I can feel a slight vibration. It’s about five feet above the bay doors and its not resting on anything. There doesn’t appear to be any damage to the Pegasus. No visible propulsion. I don’t know what—”

The sphere suddenly exploded into hundreds of smaller versions. The smaller baseball-size spheres began swirling around Frank and changing colors into shades of blue and red. Frank lost his balance and fell backwards onto the bay doors. The show went on for another twenty seconds or so, with the spheres settling into a spinning circle around Frank. A rainbow hew of colors spiraled around the circle irrespective of the direction or speed of the spheres, then, just as suddenly, individual spheres began to break from the formation and disperse. Frank was so dizzy from the experience, he could not even tell where they all went. And he was afraid to move a muscle for fear of sliding off the shuttle bay. It took him several seconds more to realize that Marty had been frantically calling him the entire time.

Frank; “I’m all right. I’m so dizzy I can hardly focus, just give me a minute until the world stops spinning.”

Mack; “I don’t think that’s possible, Frank.”

Frank; “Okay, poor choice of words.”

Back in the Pegasus, Frank was visibly shaken by the experience.

“I’ve never seen anything like that, it was like Las Vegas to the power of ten out there. And I swear when I touched it, it was a solid sphere.”

Karen; “Did you see where they went?”

“No, they just seemed to break formation and disappear. You have it all recorded don’t you?”

Later, after Frank had removed his suit, Karen played back the video from the roof camera. Slowing down the video, they could clearly see the spheres fly off, from the swirling formation, and then just disappear into the blackness of space.



