

The Callisto Symphony

The Callisto Symphony

By Andrew Cullen

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“There is perhaps no better a demonstration of the folly of human conceits than this distant image of our tiny world.”

-- Carl Sagan in Time magazine, January 1995, describing the Pale Blue Dot image of Earth taken by the Voyager 1 spacecraft 6 billion kilometers away in 1990.

Chapter 1

George awoke to the incessant beeping of his alarm clock, which he had named “Molly,” just as he had done every day of his life that he could remember. He popped out of bed and proceeded to begin a heavy stretching regiment, today focusing primarily on his lower body. Each day of the month, Kang, his Yoga and wellness instructor, had him focusing on a particular area of the body, which taken together with proper breathing would build strength and improve his health and mind. George had little reason to doubt Kang, especially since Kang was among his favorite instructors, at least among the male ones.

Kang’s face appeared on the screen opposite George’s bed.

“Focus your breathing in between each stretch; pull tightly at the end of each stretch and then breathe out,” Kang said.

George had heard this same routine on the 23rd day of May every year of his life. Kang only had 365 days of programming in the system, and nothing new was being added. It was one of the only courses in George’s life aboard Hendrix that wasn’t being updated with fresh content on a regular basis. And George was curious if this was really all there was to know about health and wellness.

Following his exercise, George moved to the next room where he grabbed some fruit from a basket and sat down at a small table in the only chair. As he bit into a banana he began to plot out his day.

To deemphasize the monotony of his daily schedule, he would always look for what would be different this day, compared to any other. Yesterday, he worked on PACE, his secret hacking project, which has become almost a daily staple for him when he can sneak it in without the Grand Master or one of the instructors catching him. It was his secret release, and he had high hopes for its success. As he planned his schedule for the day, he was going to try to sneak in some PACE time in the late afternoon.

Today, he would start with the grain, fruit and vegetable harvest from the hydroponic plants growing in his Grow Room. This harvest would come just in time as his current supply was beginning to get low. Because he is steadfastly focused on achieving the utmost efficiency at all times, George has learned how to time the growing to correlate almost exactly with his consumption on almost a quarterly basis.

This way he will never overeat, and he will maintain a perfect balance in his body between fruits, vegetables, grains and fat, the last of which was the most difficult element to administer in his diet. He would also never waste food because aboard Hendrix, he knew this was his lifeblood. His only other lifeblood was his connection to the Grand Master and his focus and eventual success in his mission, the Callisto Symphony.

Following the day's harvest, George would do class for two hours, eat lunch, exercise again, read for two hours, and then try to sneak in PACE time in lieu of his regularly scheduled ship inspection. He knew that he could hook into MANOOLA later for his scheduled performance download and deceive the system by having BIM do the scheduled ship inspection.

BIM has been with George for almost seven years. George had built him from scrap pieces of wires from the Work Room, electronics pieces that malfunctioned, old robotic equipment from his early years aboard the ship and his own ingenuity as he learned and read about electrical engineering and computer programming.

BIM stood about three feet tall and walked on four legs. He was designed to look like a creature that George had once seen run by in the background when Miss Palencia, his favorite instructor, was teaching him English courses back in 2008. The image of this creature never left George's memory, and while the exact details of the hairy four legged creature were beginning to fade with time, there was something about seeing that creature that connected with George. It

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was the only other living being he had seen outside of the Grand Master and his instructors. Surely it will never be forgotten.

BIM did a better job listening than he did talking, although sometimes he would say something that impressed George. George was still working on the programming of BIM's analytical processing code, but had become sidetracked with his PACE project which currently commanded all of his free time. BIM would just have to be as is for a while, and George was okay with that.

BIM was helpful around the spacecraft though. George had specifically built him to handle and manage tasks that he found to be less than desirable, and there were plenty of them. BIM would help him later with the harvest. He could fix small mechanical issues around the spacecraft and was particularly valuable in diagnosing technical issues and alerting George to potential problems before they fully manifested themselves. He was also a great co-captain in piloting the ship and was excellent at crunching data.

George first boarded Hendrix in December of 1991 when he was still an infant. The name BIM was derived as a variant of IBM, which was the word that was on all of the robots and electronic components throughout the Hendrix spacecraft. When George was growing up, all he knew aboard the ship were the words IBM. They were, quite literally, the center of his universe and BIM was a tribute to these past memories.

BIM was George's best and only friend. Sure he felt connections to his instructors since they had been with him for so many years, but he lacked true interaction and challenge from them. BIM provided that challenge, both in terms of his mechanical build which George knew would continue for many years into the future, and also because BIM was like George. They shared experiences.

Four years ago, an event occurred that may have been the end for Hendrix and George if it were not for BIM. George first thought this

was the Callisto Symphony event that the Grand Master had warned of, but it turned out to be a cataclysmic event of a slightly different, and less threatening, nature.

Among George's most time intensive studies, and the one he enjoyed the most, was his study of Astronomy with Professor Maule. Professor Maule was a short, skinny man who intrigued George more than any of his other professors. All of Professor Maule's videos were filmed with blackness and stars in the background, and George was always fascinated with the thought of where the Professor lived to be able to have such a unique and beautiful background. Most of the instructor videos had classroom seats and benches in the background. After years of watching these videos and analyzing every piece of them, George could never understand these starscaped backgrounds. Where was the Professor?

But George could never ask. His communication was one way which was the motivation for his development and naming of the PACE project which stood for Prohibiting All Communication Everywhere – how could he communicate out to someone, not just have people communicate to him inside Hendrix?

About ten years ago, Professor Maule shared with George news of a comet entering the solar system. This comet was to come very close to the sun and many of the planets inside the system, closer than other similar comets had in the past. Professor Maule told George that this event would lead to a greater understanding of the Callisto Symphony and a full observance was the greatest advancement his studies would see in the foreseeable future.

When the comet approached the solar system, Professor Maule helped George assemble a number of experiments around the celestial belt near the planet Saturn, close to where Hendrix was stationed at the time. The Professor wanted George to help them get a closer look at the comet upon its approach to determine its size, molecular makeup, and provide a close account of its projected trajectory as it entered the

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gravitational pull of the solar system. Of particular interest was the observance of any changes in the comet's trajectory as it rounded Jupiter's strong gravitational pull and any changes resulting from it entering an increasingly warm environment on its approach toward the sun.

In the cargo bays in the back of Hendrix, George possessed three satellites that were to be used for the Callisto Symphony, but now his plans had to be changed slightly to account for this new comet that would be travelling so close to him.

Professor Maule spent two months working with George to update the software, and upgrade the electronics on one of the satellites. Since George was only 13 years old at the time, it was a hard, arduous process during which he learned a great deal about rocket propulsion, solar panel design, and he got his first look at an outbound communications device, which the satellite housed to communicate back to Professor Maule.

This work was so important that the Grand Master halted all of George's other classes so he could focus on prepping this satellite for orbit around the outer rings of Saturn.

At one point George began to speculate, that the Grand Master, along with his professors lived on the planet Saturn, and their interest in this comet and its vicinity to the planet stemmed from their own fears of a collision with the planet directly or even a nearby moon. He couldn't be sure. But as a young kid, who was incredibly well educated nonetheless, he didn't ask too many questions and proceeded as directed.

Following the two months of nonstop work on the satellite, the Professor concluded it was ready for launch. The three bays where the satellites were stored also included three launch bays adjacent to each one, and while George was young and growing, his perfect physique

enabled him to physically move the satellite into the launch bay and he was able to successfully deploy a launch into space.

Upon launch, the Professor, along with the Grand Master, was able to take control of the satellite. George used his monitoring equipment and computer programs to keep an eye on it. The satellite was moved into position and for years orbited Saturn. George never received any of the data from the satellite but he did learn two important things.

First, it was possible for him to communicate back to the humans that were communicating to him. And second, that the equipment for such communication was already aboard Hendrix and to some extent, it was already assembled. He just wasn't supposed to touch it unless directed to do so.

That was a long time ago, and a lot has happened since. The most recent cataclysmic event that occurred four years ago involved flares from the sun that were taking on irregular trajectories as they travelled through the solar system.

George's surveillance equipment provided a map of the solar system and he could see other satellites and objects orbiting different properties throughout the entire system. This led to a number of questions that he would spend years trying to answer. He constantly wondered what else was out there and would often times spend his nights analyzing the data and maps detailing the atmosphere all around him, while gazing out through the windows of the space craft.

Four years ago one of the sun's solar flares was intercepted by a small object George had picked up on his radar. The collision resulted in the object disappearing from radar while the sun flare that hit it continued on its path through the solar system.

George never knew what that object was. The Grand Master at the time showed a level of worry that George had never seen in him before since he was usually a calm, very calculated and composed man.

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Following the collision, the Grand Master came on the video screen to tell George that there were some cosmic activities underway that remained unexplained. He instructed George to begin a nightly scan of the solar system using his GAMMA scope to observe anything that might be out of the ordinary. George began these nightly scans at that time, and has conducted them every night since.

Five days after he began his nightly scans, he noticed multiple beams of what looked like similar sun flares, and they were travelling very quickly. Upon closer examination he noticed a cluster of meteorites in the direct path of the sun flares, and they were only about 450,000 miles from where Hendrix was currently stationed.

He stayed up during his bedtime to watch as they approached and he was able to witness the collision through his GAMMA scope. It seemed so small through the scope, but his training had taught him, it was likely much larger. His updates through his surveillance map combined with his observations through the GAMMA scope soon alerted him to the fact that the now disjointed meteor cluster was spreading out into the solar system and travelling toward Hendrix. And they were travelling fast.

Given the wide coverage and high volume of meteors, George didn't know how to avoid impact. He could thrust Hendrix away from them, but it might not be enough movement fast enough.

He quickly skimmed one of the Astronomy workbooks from his library and laid out a chart of the projected path of the meteors. He knew the gravitational pull of different planets could adversely affect his calculations and move both Hendrix and the meteors on varying paths that may or may not be favorable. So he had to be careful and move everything in a perfect order to avoid collision.

As he scrambled to lay out the courses for the objects and for Hendrix, he realized that BIM could do it faster. BIM could download the data and near instantly do the calculations. And accuracy would be

guaranteed. George just had to connect BIM to his computer, download the maps, let BIM do the calculation, then re-download them to his computer and output the results on the map.

He connected BIM and began the process. There wasn't enough time for George to track every little piece of the debris field heading his way, but he was able to chart the larger of the objects, along with the remnants of the sun flares. BIM made the calculations and when he viewed the results back on his computer, George could clearly see the action he must take. The larger debris was heading for him. He could thrust out of the way of the larger debris, catch a bit of the gravitational pull of nearby Saturn and at the very least move into the path of the smaller debris. It could still hit Hendrix, and the amount of damage he would sustain was incalculable. But it was his only chance.

He put both thrusters on high and navigated to port to directly face Saturn. From the observance window in his bedroom he could see the light and objects in the distance. They looked tiny but he knew they were travelling at a high velocity.

With both thrusters on, he gave the ship full power as it roared through the dark abyss. He was underway for a few minutes when he noticed the power start to give. He hadn't fully charged his batteries since he didn't anticipate needing this much power so fast. This was a lesson to be learned. The ship slowly started to wind down. The electronics flashed on and off. He saw the beams of light move closer and closer to each side of the spacecraft.

A bright flash nearly blinded him from the bedroom observatory window, and the electronics went dead. The ship lights went out. The only light he saw was coming from the windows as the solar flares made their way by. It was completely quiet. His heart raced as he braced for impact. BIM was next to him and George bent down to clench him, anticipating impact at any moment.

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But it never came. Slowly the lights outside began to dim and they eventually faded into the black of space. His ship remained dark, and he would need two days of repairs to reboot Hendrix's electronics. Upon finally getting everything up and running the Grand Master immediately appeared on his video screen.

“George, are you there?”

George said ‘yes’ even though he knew no one would hear him.

The Grand Master looked away from the video and mumbled something off the screen.

“Can you see him? Is he on radar?”

The Grand Master peered into the video screen.

“George, I know you’re there. Hook into MANOOLA and let me see your vitals.”

George felt a sense of relief, but also a rush of independence. He paused for a minute, and then decided to do a brief workout routine while he was off the grid. He then walked over to MANOOLA, placed the sensors on his body, connected it to the ship's computer, hit the green transmit button and then turned off the screen.

Chapter 2

Harvest day was always a fun one for George. He took great pride in his creations and remained fascinated with what he could grow aboard the ship. His diet of primarily fruits and vegetables contributed to his perfect physique. Now it was time to harvest his creations from the past few months.

His Grow Room consisted of 10 rows of plants all organized by maturity to ensure a proper consumption mix for all days of the year. It is a bright room with the light being provided by the solar shields that cover one whole portion of the exterior of the ship.

The primarily fruits and vegetables that George grows are carrots, which are his favorite, beets, second favorite; radishes, lettuce, artichokes, squash, spinach, tomatoes, bananas and then the occasional watermelon as a special treat. Aboard the spacecraft was a large bin full of rice that was just about half full now, and George would mix the rice with the vegetables for a majority of his meals. He would grow beans too with black beans being his favorite, along with lima beans and peanuts.

Water was by far the most difficult aspect to manage, not only for the Grow Room, but for the ship overall. Installed in the ship was a simple water recycling system that served him quite well for many years. In the early years, he had stored enough clean water to take care of his simple needs, but as his body began to grow his nourishment needs grew accordingly, and when he was eleven years old, a special instructor, Mr. Manion, spent a month teaching young George how to update his recycling and purification system. It had been running smoothly ever since, and George learned even more about electrical engineering in the process, skills that have become ever more important as he engages in his PACE project.

Mr. Manion also taught George about water conservation aboard the ship. One example is how George was able to warm up his rice in

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Panasonic, a warming mechanism which had a simple door that opened, he would put the rice in, and 45 seconds later it would be warm and soft. He was able to do this without using water.

When it came to watering the plants George would monitor the progress ever so carefully, being sure to never use more water than necessary. He learned that as the plants grow, starving them of water makes their roots dig deeper in the soil, and then at the point where he started to see them strain he would provide the water they needed.

His composting system was second to none. There was never any food waste. Everything went back into the soil to keep it rich and full of life.

BIM also helped with the growing process. He was able to log the growing schedule of the rows of fruits and vegetables and then compare that to George's eating habits, to ensure the proper balance of consumption versus replenishing. So as harvest began, the first person George looked to was BIM.

"BIM, time on carrots?"

"92 days. They are optimal," BIM replied instantly.

"Beets?"

"54 days. They are optimal."

"Tomatoes?"

"68 days. They are not optimal."

"Squash?"

"45 days. They are optimal."

They continued through the entire garden. Nearly half of what was planted was ready to be harvested.

“Oh, and BIM, the watermelon?”

“91 days. They are not optimal.”

“That’s too bad,” thought George. He knew what he would be eating for a while now.

George grabbed a small shovel and a pair of scissors and began trimming the plants and placed the vegetables in a small basket. It took 30 minutes to clean the plants, and then he dumped some fresh compost into the soil and raked it together. He would download BIM’s food inventory later to determine what needed to be replanted and in what quantities. This harvest he projected would last approximately 30 days, at which point the other half of the plantings would be ready, and then the cycle would turn itself over once again.

He stored the vegetables in Admiral, which was a large door that opened up in the kitchen that maintained a cool temperature. Admiral helped prolong the freshness and George was grateful that he only had to do a harvest once every month or so. His meal schedule was tied directly to the longevity of each item, and BIM would keep record of everything. Occasionally, he would be forced to eat the same combination of vegetables and fruits for several days, and he always reserved the option to sneak a fresh pick in from the grow room.

After placing all the food in Admiral, he looked at the time and realized he was slightly ahead of schedule, giving him 15 minutes before classes began. Efficiency was everything, and he would always use the extra time to either chip away at the afternoon activities or work on the PACE project. Today George decided to use the 15 minutes to complete some of his afternoon reading, thereby freeing up even more time in the afternoon to work on PACE given that BIM would complete the ship inspection for him. By his calculations, he could gain a full 1.5 hours of free PACE time in the afternoon if all went according to plan.

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George's reading consisted entirely of academic and science books. His reading was structured on a quarterly basis focusing on four key areas of study that mirrored the lessons he would participate in with the instructors: Astronomy, Physics, Engineering and Mathematics. In addition, he had single courses occasionally, such as his wellness course with Kang every morning, and his English course with Miss Palencia. He also had a psychology class with Mrs. Epstein, which was his least favorite.

The Grand Master would hold his instruction on an irregular schedule. When the Grand Master was ready to speak, red lights would flash, the overhead lights in each room would dim and an alarm would sound throughout the spacecraft. For his regularly scheduled courses, a simple green light would flash once indicating it was time to begin.

Right now, George was studying Physics, in particular relativistic quantum mechanics, particle physics, quantum field theory, supersymmetry and invariants and condensed matter physics. As such, he pulled out a book covering Bose-Einstein Condensation and Superfluidity and dug in. Meanwhile, BIM uploaded the harvest data and began computing the daily food schedule for the days to come.

Out of the corner of his eye, George saw the green light flash in the corner of the room. It was time for class to begin, and Professor Miller showed up on the screen.

“Greetings George. I hope you are progressing in your studies.”

George by this point had realized that the greeting at the beginning of every course is the exact same 365 days in a row, and then it changes to a new greeting, with much of the same tone just different words for another 365 days. So when Professor Miller came on the screen George went ahead and mimicked him saying “Greetings George, I hope you are progressing in your studies,” while rolling his eyes.

Professor Miller was a strange looking man to George. Sure, he could only compare to the dozen or so humans he had ever seen in his life, but the two most intriguing to him were clearly Professor Miller and the Grand Master. Professor Miller was really skinny whereas the Grand Master was much larger. But Professor Miller had a wrinkled face, a mess of white hair that stood up on his head, and he pronounced words a little different than anyone else George had seen. He even began talking back to the screen using the same strange sounding words he heard used by Professor Miller.

Professor Miller continued, “Today you should be on book 372 covering the Bose-Einstein Theory of Condensation and Superfluidity.” ‘Theory’ was one of those words that Professor Miller said differently, and George again mocked him knowing the Professor couldn’t hear him while he continued his presentation of the material.

“Yes, Professor, I have the book covering the Bose-Einstein Theory of Condensation and Superfluidity.”

George shook his head thinking to himself “let’s get on with it.”

He had thought about using his course time to work on PACE since it was just a video playing and he could easily skip it. But he hadn’t fully figured out how the download of data on MANOOLA worked. Following the solar flare issue years ago, the Grand Master was able to receive the data from MANOOLA letting him know George was alright. This event has baffled him to this day, and he hoped that his PACE work would help explain how these systems worked, and how he might be able to manipulate them in the future.

George followed Professor Miller’s teaching with his course book. It always seemed like it took forever, and he was getting hungry. Lunch was right around the corner.

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Professor Miller finished up and concluded as he always does saying, “And remember George, there is nothing more important than the Callisto Symphony. We are counting on you. Good day.”

George used to think a lot more about the Callisto Symphony, but now that it had been mentioned so many times, and the Grand Master seemed reluctant to share many details, he would just let this line graze right past him. Someday he figured he would understand what this all meant.

Today’s lunch would not be too enjoyable even though he was really hungry. Dinner wouldn’t be much better. Because of today’s harvest timing, his vegetables and fruit were showing the signs of a few weeks of age. He loved eating when his food was fresh, and knew that tomorrow he would begin digging into the fresh batch he had acquired today.

He cut up squash, carrots and mixed in some lima beans. He had started to experiment several years ago with making different sauces to top the meal with, essentially draining the juices from various fruits and vegetables and mixing them together. Today he used the last of a sauce he made that was dark green and tasted mostly like spinach, but it helped liven up the same foods by bringing in a few different aromas and tastes.

Following his lunch, George began his afternoon exercise routine. He began as he always does with a lot of stretching and then moved on to lift some heavy boxes he had manufactured with spare parts to serve as weights for strength building. The boxes consisted of a set of metal pipes with a handle on the top and he could add or remove pipes as necessary to change the weight. He worked his arms, held the boxes over his head to work his shoulders and back, and then would squat up and down holding the boxes to work his leg muscles.

His exercise routines brought him immense joy; the feeling of his body working, the muscles stretching and absorbing the nutrients from the

food, and then growing stronger and bigger. He had manipulated the weight of the boxes and number of repetitions on different intervals to experiment with the results, and was now in a routine of high repetition and lower weight. Last year, he tried doubling the weight for six months, and he was surprised at how fast his muscles grew, and the amount of nourishment it seemed to require for him not to feel hungry all the time. It didn't feel good and so he brought the weight down by removing half of the pipes. This seemed to be where his body and mind felt most comfortable.

He finished his work out with breathing exercises Kang had taught him. 15 minutes of complete focus where he would identify the thoughts that were in his mind and slowly remove them one by one until he was in a state of complete calm, his mind empty. Sometimes he would stay like this for an additional 15 minutes, cutting into his reading time. And he would do so almost without knowing it since he was able to shut down his thoughts and enter a focused meditative state.

He enjoyed reading his coursework when he was relaxed and doing so after exercising accomplished just that. He opened his physics book and decided he would try to cover his current chapter, and then one additional one which would put him one day ahead of Professor Miller's instruction. He would then be able to focus on PACE even more tomorrow and the timing would be perfect since he would eat the fresh food from the garden he picked today, and his mind and body would be at their peak, ready for optimal performance.

He read quickly but absorbed all of the information. He had experimented with speed reading, using his left finger to scan the sentences because it seemed to help him increase his speed and understanding of the materials. But some of the physics lessons would slow him down given their intricate calculations and complex visual graphs.

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His Astronomy courses were the easiest ones to speed read. And he knew the quarter of Astronomy study was right around the corner. He planned to use the increased efficiency to focus even more on PACE in the next 60 to 90 days. The thought of having so much free time excited him. He knew he would have a breakthrough on PACE. It was just a matter of time.

Today, he would have 45 minutes of time to work on PACE. He told BIM to begin the ship inspection so he could start. BIM quickly moved to the various sections of the spacecraft and placed his arm inside a socket, using a coupling that George had manufactured explicitly for this purpose. BIM would download the status data on each inspection point and then upload it to MANOOLA, all without George having to do a thing.

George would of course view the data before it was transmitted, just to be sure everything was in order. But it had become so routine now, that he would sometimes just send it off without review. He figured if something was wrong on the ship, it would be evident enough to him. After all, he knew every corner of the spacecraft in perfect detail. It was all that he has ever known.

As BIM moved from station to station, George went into the main control center of the spacecraft to begin his PACE work.

Chapter 3

PACE was a two part project for George. The first part was deconstructing and then reconstructing MANOOLA to determine which parts of the system were responsible for inbound communication and which ones controlled outbound communication.

George was always nervous when he started tinkering with MANOOLA because it was clear that certain parts of the system were designed to never be tampered with. The core of MANOOLA was a combination of body sensors and ship sensors, which were easily visible and these were what George used every day to create the data to be transferred.

The sensors ran into a box that George decided was the primary control box, or brain, of the system, responsible for aggregating all of the data and packaging it up in an easily transferrable file.

There was one thick blue cable protruding from this box that ran into a much larger, long black storage area, tucked under Hendrix's command control system, and this is where the problems began. This area had been bolted up solid and flush underneath the control pane but George was beginning to back out the bolts without stripping them away. He had one bolt to go and he knew that if he accomplished nothing else today, he was getting that bolt out and would then be able to have a look at the back side of MANOOLA where he knew some secrets had to be housed.

George had a number of tools aboard the spacecraft, but nothing designed to help with these bolts. It almost seemed intentional given the bolt's irregular design and odd shaped head. But by combining two small wrenches, George was able to construct his own tool, and while it was slow going, he finally started to see the threads of the final bolt as it came loose. He held his hand under the black storage cover that was now coming undone, gently placed it on the floor, repositioned his flashlight and glanced inside.

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There were a great deal more cords inside than George expected, but they were organized and grouped quite clearly. The colors didn't seem to make any sense, since they were red, blue, yellow and green all tied together. On the far left side he noticed a large black and red block that had what appeared to be battery terminal connections on one side, that were hooked back into the main MANOOLA system. "So the system had a back up battery," he thought. This explains how the Grand Master knew the ship was stable when the sun flares passed by several years ago. The battery backup would also mean that any interruption in the continuity of the signal would be unexplainable unless of course the battery wore down.

George followed the battery cables through the maze of cables so he knew which ones those were. The next batch of cables he followed connected to a small circuit board that was mounted on the far rear part of the storage area. There were three separate cables, all different colors that connected to the circuit. He noticed on the top left side of the circuit board there was a small antenna that stood up and a light underneath it that was blinking green.

The rest of the cables where simply a split from the main control box cord so George honed in on the circuit board, the antenna and the blinking light. He had not seen one of these antennas anywhere else on the ship and this one was far too small to transmit beyond the footprint of the ship. He figured there had to be another antenna receiving data from this circuit board that was much larger and capable of transmitting it back into the solar system.

The deconstruction of MANOOLA was only one of the aspects to PACE. The other work took place in the back bays of the space craft, where George knew outbound communications gear was likely housed – inside the remaining two satellites.

The Grand Master had made it quite clear that George was never supposed to enter the satellite bays, but ever since George had to release a satellite years ago, it has been one of his favorite places aboard

the ship since he knew that a plethora of information about the world beyond his ship was contained inside these satellites. And if the Grand Master didn't want George to go back there, it gave him even more motivation to explore.

The satellite bays consisted now of one empty chamber, two full chambers and a large bay adjacent to the satellite bays where George stored Exciter, his small manned spacecraft that he used to jet around the outside of Hendrix for his annual full ship inspection or when the ship detects an external problem that requires up close investigation. George would occasionally take Exciter out for a joy ride when he was bored. It gave him a chance to feel like he was truly outside the spacecraft, floating in the middle of outer space.

Exciter moved slow and was connected at all times to Hendrix for power and oxygen, so its joyride capability was somewhat limited. The idea of cutting Exciter loose always appealed to George but depending on where Hendrix was in its orbit, the strong and sometimes irregular gravitational pull of Jupiter always made navigating a challenge, even at times when he was connected to the ship.

As George stood there looking at satellite number two, whose communications equipment he was still in the process of disassembling, he decided to explore the outside of the spacecraft to see if he could locate the other antenna that was receiving signals from MANOOLA's circuit board.

George would always wear a pressurized suite while in Exciter, even though the cabin would be fully oxygenized, just in case something unexpected ever happened to the connecting manifold. After he was aboard, he initiated the power-up process, oxygen transfer began, and the lights on the control panel all lit up. George waited for the pressure chamber door to close and for the external door to open. He always backed in Exciter so he could pull straight out. It was another one of his efficiency tactics since he figured that in an emergency, he

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might need to pull out quickly and backing up Exciter was always a challenge.

Soon George pulled away from the external bay door. He moved slowly and the connecting manifold only allowed George to float fifteen feet away from spacecraft. While he was excited to look for the antenna, he decided to take a minute to enjoy the new environment.

Exciter offered many more windows than Hendrix so George took adequate time to absorb everything he saw in every direction. He would slowly spin Exciter in circles, on all different radii so that he could view the entire 360 degrees of the world around him. Jupiter loomed in the distance. He saw Jupiter's moons of Io and Europa but Ganymede and Callisto were out of view on the other side of the planet.

He fixated upon the moons as they hung in perfect still balance in the foreground of Jupiter, tiny little dots, just as Callisto appeared to him in previous Exciter trips. He couldn't help wonder about the Callisto Symphony. What was it about these moons that were so important? They appeared so gentle, so still. What did the Grand Master have planned? What was the importance of this mission?

There were flashing numbers on the control panel which read 24:00, letting him know that he had been on Exciter for 24 minutes. In that time he had hardly moved, but as the curiosity about the antenna grew inside him, he grabbed the joystick control and began to slowly hover around the sides of the spacecraft.

The outside of Hendrix appeared a little aged but everything seemed to be in good order. The once all white panels had become a dark speckled black in most places. He checked some of the vital connections on the outside panel near Hendrix's main control system, and everything appeared as it always had, with no visible external antenna. He spun around outside his bedroom window, the Grow Room, his small kitchen and main living room. He stopped to catch a

glimpse of BIM standing on the floor completely motionless. He had obviously completed his ship inspection, and now awaited the next orders from George.

The ship's main thrusters were around back and while George thought it was an unlikely place for the antenna he sought, he navigated Exciter in that direction. Hendrix possessed three huge thrusters, powered by large engines housed in Hendrix's engine room, alongside the battery vault that was constantly recharging through the solar panels that lined Hendrix's entire top side. George had extra solar panels stacked in the work room in the event that they lost their chargeability, which had not yet happened in his 23 years aboard the ship.

He didn't find any sign of the antenna he was looking for. Then again, he wasn't sure exactly what it would look like. But he knew that something had to be moving the information from the circuit board and short range antenna aboard the ship to a larger transponder capable of transmitting it to the Grand Master. He would just have to keep looking even though he felt he knew every square inch of the ship.

He glanced down at the time which now read 37:00. His PACE time was coming to an end, and he would need to quickly make his way back aboard Hendrix, get the info from BIM, take a quick look to make sure nothing stood out as being out of the ordinary, and then download the data to MANOOLA. He also had to reassemble the MANOOLA unit, which he figured he would do after the data transfer, so he could watch for any change in the blinking green light when the actual data was transferred.

He backed in Exciter fairly easily this time. When time was tight George prided himself as working better and more efficiently. He always had the next two steps planned in his head. As he walked across the satellite bay he peered over toward satellite two thinking to himself that even more answers had to be in there.

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As George approached his main control room, he shouted out to BIM in advanced as he frequently did upon entering a room. He liked to think he surprised BIM and that someone was there waiting for him.

“BIM, get over here.”

BIM marched over. His right front leg and back left leg always moved in harmony, and same for the other side. As a result, BIM didn't really walk but he marched in a stance that appeared stiff. When programming BIM, George tried desperately to remember how the creature had walked that he saw in the background of the video many years ago, but he was never able to understand how the four legs worked in unison. His programming took a while but it seemed to work and BIM rarely fell over. He was just a little slow and for someone who seeks the ultimate efficiency, it was one more thing that George knew he needed to do to advance BIM's capabilities.

BIM downloaded the data onto the control screen, and George asked him to go ahead and transmit it while he ducked under the panel to watch the open cables, circuits and antenna that he had exposed below.

When the data was transferring the light turned a solid green. George watched as it remained a solid green for 90 seconds, and then it went back to blinking regularly. Wherever this second antenna was it couldn't be far he thought as he loosely reassembled the cover to the cables, gently screwing in the bolts so it would be much easier to access next time.

It was time for dinner and as George finished under the control panel, he turned and walked toward the kitchen, calling BIM to follow him.

He had a productive day, and he learned a lot about how MANOOLA operated. One thing he had not taken the time to do was review the ship inspection data before BIM had uploaded it. As he walked towards the kitchen he failed to see a lone red light blinking on the

control panel among a cluster of controls. The label next to the red light read “Orbital Balance.”

Chapter 4

George spent that evening like he did most evenings. He would slowly reread some of the English coursework from Miss Palencia, in large part because it was lighter reading than his physics work but also because it made him think of Miss Palencia. He had seen only a handful of women in his lifetime, and because Mrs. Epstein, his psychology instructor, did not appeal to him at all, Miss Palencia was the center of his female world.

Miss Palencia was different. She was gentle in her words. She seemed to genuinely care about what she was teaching George. And she had a smile at the end of each video broadcast that would be the highlight of the day for him.

The English coursework was rooted in grammar and clearly edited vocabulary since many of the pages were torn out or missing, and certain phrases and words were blacked out. But the practice and learning of sentence structure was appealing to George since the phrases often contained hints to the world beyond.

Many of the phrases were about people, particularly in his signal word analysis work, that taught him to recognize word clues in sentences to learn their meaning. He read a few passages from his workbook:

“I have found Michael rather duplicitous at times; for example, he encouraged me to apply for the promotion but then he voted against me.”

“Unlike her sister, who enjoyed time alone, Sylvia preferred the camaraderie of her colleagues.”

“Fred was confident that he had performed well. Several people in the audience went even further and called his performance superlative.”

His mind would wonder with thoughts of people being together, joined together, doing things as a group. He pictured all of his instructors together teaching a large group of young kids, with all the desks filled.

But everything he had seen took place in a conference room. The only other setting he could conjure up in his imagination was the starry background that was often seen in Professor Maule's videos.

While his mind cycled through these thoughts, his eyes moved to the window and he glanced out into the blackness surrounding him. Some evenings George would use his Gamma Scope to scan through the solar system, hoping to see something that might alert him to where the Grand Master and his instructors were located. For many years he focused on his current solar system, but as he grew older, he began to notice the size, scale and beauty of surrounding solar systems, and he concluded that everyone he knew was much further away than he originally thought.

George also continued his stretching and breathing exercises in the evening, before he went to bed. He was about to begin when he noticed BIM standing in the corner of the room nearby. This evening he decided to pass on the exercises and the Gamma Scope in order to play with BIM.

Hide and seek was one of their favorite games. George would do most of the hiding, and then BIM would use his internal map of the ship to try to track him down. BIM's programming was such that he wouldn't pick up on patterns, which made the game less fun for George, but it also let him know another area of BIM's analytical thinking that needed a bit more work. He wanted BIM to have a stored memory of all experiences, not just information or data that BIM downloaded.

But to run around the ship, and find new hiding spots was still fun for George. Not as much fun as when he was younger, but outside of improving efficiency, creating new games was always a focus.

Every two to three years, George would begin to get terribly bored and lazy. He would go through the routine of his coursework without absorbing much, if any, of the material. He would half haphazardly conduct the ship inspection. Little or no time was spent looking

through the Gamma Scope, or tending to his other projects. He would sleep and if he wasn't asleep he would be laying around. His fruits and vegetables were barely tended to as his food consumption would slow down. His extensive knowledge would begin to diminish and his body would get thin. He would lie on the bed in the mornings listening to Kang walk through his exercises.

Even when the Grand Master would come across the screen George was largely unresponsive during these bouts of downtime. He would listen but he wasn't engaged. He did hook into MANOOLA during this time, and after a few months of logging his inattentiveness, Mrs. Epstein would all of a sudden appear on the screen and his psychology coursework would begin.

He would ignore Mrs. Epstein for several days, but eventually the comfort of another human being, even one via a screen, started to become attractive and even desired. George would slowly become more engaged, and soon the Grand Master would appear with an important message that made George feel good.

“Congratulations George. You have made it to the Senior level. You are excelling fast, and your mission is on track. You are doing an excellent job. Continue on your coursework and remember we are counting on you.”

Combined with the teachings from Mrs. Epstein, this message from the Grand Master would gradually help renew his sense of purpose. He would get stronger, eat better and exercise more. He would work to engage his brain in intellectual challenges, and many of these involved the creation of new games.

This creation of new games is how the PACE project was born. It became a game for George. His focus on efficiency was a game.

Sometimes, immediately following a MANOOLA download on his status, George would grab the controls of Hendrix, remove the auto-

anchor which held his location, and freely use the joystick controls to spin Hendrix. His goal was to maintain a perfect course during the spin, something that was incredibly difficult to do without the autopilot.

Driving Exciter was a game. Building BIM was a game, and perhaps one of his favorites. It was certainly one of his most challenging.

He thought about all of this while hiding in a closet in the bedroom. He heard BIM moving outside in the adjacent rooms. BIM was opening cabinets so it was only a matter of time before he entered the bedroom and found George. George knew he could confuse BIM's search map if he could sneak around and hide in an area BIM had already cleared on his map.

He opened the door and tip toed out of the closet. Just that minute BIM entered the room but George was able to duck next to his bed and cut off BIM's line of sight, which he knew was limited to a small scanable area right in front of him. BIM moved over to the closet George had just exited and as he did so George dashed behind him, through the door and into the other room.

George knew it would take BIM a long time to recover and recalibrate the maps after missing him. He walked into the bedroom and stood in the middle of the room, giving up. It took BIM a moment, but he scanned toward George, it took a second to process, and then he walked toward George as quickly as he could. George felt a surge of warmth as BIM walked right up next to him. He moved to the bed, laid down with BIM standing on the floor next to him, and went to sleep.

He woke up the next day and began his workout with Kang. He was only 10 minutes into his workout when the lights suddenly dimmed and red lights flashed around the whole ship. It was the Grand Master.

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George's excitement built as it always did when the Grand Master signaled. He stood anxiously in front of the video screen.

The Grand Master appeared, and did not appear happy with a rather stern look on his face; but that wasn't too out of the ordinary. George would instantly look for clues as to the Grand Master's location - objects in the background, a window perhaps, or any elements that changed from time to time. Covering almost the entire background were shelves full of books. The left hand side of the screen was a blank wall. Not much to go on.

The Grand Master himself was wearing a collared white shirt, similar to one that George had that stood out in his wardrobe that consisted mostly of plain colored t-shirts and pants. George did notice that the Grand Master appeared slightly bigger than in his last video; his stomach and face were a bit larger, more full. And his trimmed beard, that was normally a dark black, had a sprinkling of white hair intermixed. His long hair pulled back into a ponytail behind his head also started to show signs of the white hair. The part of the beard around his mouth was also longer than the rest, which gave him a different appearance than in previous transmissions.

The Grand Master didn't waste any time.

"George, your satellite data shows you to be off course. Your orbital balance is being compromised by Jupiter's gravitational pull. I hope that you corrected this last evening when you noticed it on the control panel. I'm surprised you even transmitted the data without first correcting course. But perhaps you had to build your power supply in order to pull away."

"Regardless, if you wait too long you will be unable to recover and your entire mission will be jeopardized."

George was stunned. On the one day that he didn't check the MANOOLA data, something goes wrong. But it had been less than 24 hours, and he was sure he could correct his course.

“George, please update MANOOLA when this is complete. We will hold all classes until we hear from you. And remember we are counting on you.”

The transmission ended. George immediately headed for the control panel as BIM followed.

“BIM, you need to let me know these things. How could you have uploaded the data without telling me there was a high alert?”

BIM didn't answer.

George immediately began flicking switches on the main control board in order to determine his current location and compare that to his planned stationary position. It was instantly apparent that he was indeed slowly being pulled out of position. He was further away than he thought and the force against him was beginning to get stronger.

He started up the engines and all three thrusters, waited for them to warm up and then applied power against the gravitational pull. He was able to slow the rate at which he was being pulled off course but he wasn't able to fully counter the force. He continued to apply more power.

The engines roared and the ship began to shake.

“BIM, plug into the control panel and see if you can help me get on course.”

BIM moved slowly towards the console and plugged into the custom attachment George had engineered.

“Faster BIM.”

George was beginning to get a little worried. He had never encountered gravitational pull so strong that his ship was unable to break free.

The ship began to shake even more and George had applied as much power as the ship could take. He looked at his speed and noticed he was still being pulled, ever slightly. He was close to breaking free but wasn't there yet.

“Please see differences in gravitational force,” said BIM.

“What?”

BIM displayed a diagram on the screen that showed their current location surrounded by the various gravitational fields and their respective strength. George noticed that they were near the strongest of the nearby fields. In fact, this current field was behaving even more strongly than the numbers would indicate.

To his port side the pull was even stronger, but if he piloted Hendrix starboard he might eventually get to where the fields were slightly weaker giving him enough wiggle room to generate forward thrust. He would then have to be careful not to fall back into the stronger gravitational fields as he set the craft back into his mapped position.

His practice turning Hendrix came into play here as he was easily able to turn to starboard while staying on plane and he kept the max force on the throttle. There was one area where the pull would be stronger, but once he got past that he should be fine. He watched as his drag coefficient increased and increased, and then it slowly began to get smaller. And smaller.

He stayed on his path and watched the map as the pull of the nearby gravitational fields gave way. His speed began to increase and soon he crossed a key threshold indicating that he was back in control of the ship. It was the slowest he had travelled, especially with the engines running so high, but he was getting where he needed to be. He

continued on the path an extra 60,000 miles to ensure he was out far enough to prevent this from happening again.

But because he had deviated so far out of position, his path out of the gravitational fields only put him in a safe zone. He estimated that he was still at least 185,000 miles away from his planned station point. To cover that distance, George calculated it would take him approximately two days since he would need to recharge following the day's events. Plus he estimated that he would have to recharge approximately half way through the journey to create enough power to make it all the way back.

Although he had a sense of relief having powered to a safe place, he knew he would have to plug into MANOOLA and that the Grand Master would be incredibly upset that he didn't recognize Hendrix was out of position earlier so that he could have done more to stay on course.

It would be apparent he had slept through the night and missed the alert. How would that be explained?

But he could correct it. There was a way out of this.

“BIM, power status?”

“16% of capacity.”

George knew that it would require a full 12 hour charge to get close to 100% of stored power. And then traveling at a max speed of 18,000 miles an hour would eat the power pretty quickly. Then a 12 hour recharge. This is all assuming the gravitational pull doesn't increase as he moves back near the stronger fields.

He started to estimate his travel calculations closer to six to seven days. The Grand Master would not be happy. He would get word of George's location this evening and George wasn't quite sure what would happen after that. Was he jeopardizing the Callisto Symphony?

Would seven days really make a difference? Even if everyone was counting on him?

There had to be another solution.

“BIM, start a full recharge.”

BIM was still plugged into the control panel and lights began to flicker on the console as he began to replenish the power supply. On the outside of Hendrix, the solar panels turned toward the sun where they would remain until the spacecraft was back underway.

George had an idea, a long shot, but something he could try. If only, he was further along with PACE.

“BIM, do you still have the calculations you downloaded from 2 days ago?”

The screen on the console showed the ship inspection data along with George’s vitals. The data showed the ship in the desired position, just as the Grand Master would expect. If they could transmit this data tonight, the Grand Master would think they had quickly recovered from the mispositioning and he would have no reason to think the incident had any adverse effect on George, Hendrix or the mission. It would allow them to essentially step back in time from a data reporting perspective. And in the meantime, George could work on actually getting the ship back.

While he didn’t know where the final transmission antenna was for MANOOLA on the ship, he did now know how the data travelled from the download on the control panel, through the cables under the console, on to the circuit board and out through the small transmitter with the blinking green light.

He never needed to manipulate the data previously, and now was starting to think that it was going to be relatively easy to do. He just had to hope that it worked.

He was only five hours into his day, with five more to go. He figured if he updated MANOOLA now, he may hear from the Grand Master again before evening and then he would know that everything had worked as planned. So he reviewed the data one last time, and noticed what appeared to be a time and date stamp on the top of the first screen of data. It read:

“2205MMXV1752”

George’s mathematics studies helped him immediately decode this time stamp.

He brought up the data from today just to be sure he had it right. It read:

“2405MMXV1205”

“Didn’t even need you for that one BIM.”

It was clear that the string was the day, the month, Roman numeral for the year and the time.

George was never quite clear what the year meant. For him 2015 was just a number like any other. He just assumed there must have been 2015 years. Without an understanding of history, which was never part of his studies, this number didn’t provide him any context. It was nothing more than a time stamp.

“BIM, please set the time stamp to ‘2405MMXV1752’ but use data from ‘2205MMXV1752.’ Moving forward on the data, keep the ship inspection data and radar data the same. Vary my vitals slightly each day by a factor of no more than 0.5%. Regarding the time stamp, progress the first two numbers one increment daily starting back over at 31 for this month and then move to standard calendar year for future months. Leave the rest alone, but randomize the last four numbers each day to fall somewhere in between 1650 and 1850.” This

would correlate with the time he regularly uploaded data to MANOOLA each day.

George slowly walked over to his living area and rested on the couch trying to play every possible scenario through in his head. What was he missing?

He felt every base was covered. It was time to give this a shot.

“BIM, send today’s data please.”

After it was transmitted the wait would begin. George planned to stay up all night waiting to hear from the Grand Master when he discovered something inconsistent with the reporting and George’s location.

With classes on hold, the power charging, and the data on its way to the Grand Master, George had time to relax and think about his situation. He looked out the window in the living area, and then sat up. The new position of Hendrix several hundred thousand miles away from his previous location offered a slightly different view of the surrounding stars and planets.

For the first time in his life, George felt freedom. No one knew where he was. He wasn’t completely clear from detection, but he was further along than he ever had been before. This is the biggest secret he had ever held, the most daring activity he had ever participated in; it was the first time he had truly broken the rules. He could feel the intensity throughout his entire body. But this was only the beginning to the numerous deep secrets that would become a part of George’s life in the days to come.

Chapter 5

George knew he could hear from the Grand Master at any time, but as early evening approached he figured the chances of hearing from him that day were growing slim. The Grand Master typically contacted George in the morning, and pretty soon George concluded that was likely what he planned to do the following morning.

Before retiring for the evening, George wanted to take a look through the Gamma Scope since he was at a new vantage point. The Grand Master along with Professor Maule had been very adamant for years about him maintaining the proper position of his spacecraft. That was why Hendrix was equipped with an “anchor thrust” that would automatically turn on and gently blast enough thrust in the appropriate direction to keep the craft in the exact location.

George assumed the importance of holding his exact position had something to do with the balance necessary for the Callisto Symphony, whenever that time should come, but now that balance was going to be put to the test. This was the first time since his debris avoidance issue many years ago, that George had deviated very far beyond his original position.

He moved the Gamma Scope into place and began scanning the darkness beyond the spacecraft. The Gamma Scope allowed him to see several planets in varying degrees of detail but he was unable to see very much detail at all on the first four planets from the sun. He had studied Jupiter and Saturn the most, and knew from his Astronomy studies with Professor Maule that huge gas atmospheres surrounded the planets and therefore prohibited close viewing from space.

This left George with little idea what was, or was not, on each planet he could see. For planetary bodies that he could see with the naked eye, through the Gamma Scope or on his satellite systems, his knowledge was based on what he could actually see and the selections that were picked for him to read about in his Astronomy coursework.

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He knew a great deal more almost about the stars beyond the solar system, with special interest in Andromeda and Triangulum, and the formation of galaxies, black holes and interstellar objects. His studies also focused on the Alpha Centauri system, a collection of three nearby galaxies that he believed could be inhabited as well as the Oort Cloud, an outer shell to the solar system believed to be responsible for the creation of most comets. Because the focus of his coursework was on distant galaxies, and rooted in theories that he felt a deep desire to evaluate, he spent most of his time observing systems outside of his own. And his equipment seemed calibrated to support such activities.

His satellite system was a nice complement to the Gamma Scope, and George would frequently be hopping between the two of them to observe a particular body or event. The Gamma Scope gave him a real life perspective because he could actually see the elements. His satellite was only dots and connecting lines with instant measurements and data crunching that would be impossible for a human to compute without deep study.

Because of the new position of the spacecraft, George was able to quickly notice a few things out the window that appeared a little out of the ordinary. He first tried to orient himself with how his position had changed. He knew the gravitational fields that he crossed were capable of changing his plane and doing so faster than he was able to counter steer, so it was highly likely that he did not travel in a straight line.

Using the Great Red Spot on Jupiter as a loose guide, and then through his familiarization with the position of distant star clusters in relation to his previous position, George was able to determine that he had travelled in a sharp J shape, ending at the top of the J. The calculations for his return were based on travelling in a direct line between the top and beginning of the J shape. So he had a slightly wider vantage point than where he was normally stationed.

As George scanned and ticked off each of the distant star clusters and galaxies, he noticed an abnormality that was in his direct line of site,

not far from Jupiter's moon Io. Something was blocking the view of a select group of stars. George counted the stars again quickly and realized that there had to be an object in between him and these stars that he had counted on so many other occasions.

What was equally perplexing is that an object this close should be showing up on the satellite but there was no sign of anything abnormal. Every other nearby object registered on the satellite. Something was very odd and George's curiosity peaked.

The black atmosphere surrounding him did little to help him identify the object. It was so dark that even with the Gamma Scope he couldn't see anything. But he was able to confirm with the Scope that indeed something small was obstructing this view. He knew that Jupiter had several dozen additional small moons that might be in his line of sight, but in the past he had always been able to account for them. He concluded this was something he had never seen before nor studied about.

Unable to entertain the idea of sleeping with this new mystery object dominating his thoughts, George went to his bookshelf and began digging through his Astronomy books. "Surely the answer must be in here," he thought. At the very least he projected that in six hours time, they would have rotated far enough to have enough light for a better view.

He spent that time going between his books, the Gamma Scope and the satellite. It had still not registered. He plugged BIM into the control panel too just to see if he could acquire any new information, but even BIM and his precise calculations, failed to show a foreign object in that vicinity.

As the light began to improve, George's heart raced with curiosity. With all of his studies, he had hoped to uncover something new that no one had ever seen before. His coursework seemed comprehensive, and Professor Maule was incredibly knowledgeable, but George knew

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he was being taught to analyze what existed in order to discover what didn't, and that was what he hoped to do.

He kept his eye in the Gamma Scope, just waiting to see something, when suddenly the video screen turned on and Kang appeared.

“Alright George, it's time for your morning routine.”

George shrugged, “Not today Kang.”

The video ran in the background as George tried to tune it out. Just then the lights went out, and the red lights in the corner of the room flashed.

“This is it,” George thought. His heart rate picked up, and he felt his palms begin to sweat.

The Grand Master came on the screen and right away put George's fears to rest.

“Congratulations George, you were able to stabilize your position, and you did so incredibly fast. We are all really impressed. In the future please carefully analyze your status data at the end of each day. We need to avoid incidents like this happening in the future. Good day George, and remember we are depending on you.”

The Grand Master disappeared from the screen and Kang reappeared.

“Remember to breathe at the end of each stretch. Ok, now stretch the other direction.”

George smiled. The Grand Master didn't have to worry about future incidents. George could now ensure that he would never even know about them. His reporting was guaranteed to be spot on and it was on autopilot for the foreseeable future. George was free to do what he liked.

Right now, the focus was on the foreign object, and the light was beginning to move closer to the area of interest. Soon George could make out what appeared to be a satellite. He kept watching as the object came further into the foreground.

“Whoa,” George gasped. His mouth left open in awe. He started feeling a numbness overtake his body. It was a combination of nervousness and excitement.

What George saw through the Gamma Scope was a spacecraft identical to Hendrix. It was unmistakable. An exact copy. It even had similar wear patterns on its exterior where the once white had become a dusty black. It had the same solar panel pattern, the same bay openings. The windows were in the exact same place as Hendrix’s windows. Is this the Grand Master’s ship? Could someone be on it? What was it doing there?

George moved over to the control panel and observed the satellite data. The object was still not appearing on the screen. “How could that not be showing up?” he thought. “It’s right there.”

Several thoughts raced through George’s mind. Can he contact them? How long would it take him to thrust to the other spacecraft? Can they see him? If this is the Grand Master isn’t he going to notice Hendrix? Why had George never seen this spacecraft before? What was its mission? And why is it not showing up on radar? Is it possible it is a mirror image of his own spacecraft, and he is just getting overly excited?

George took a deep breath. He would have to answer all these questions. His mind could not stop thinking about it. He pulled away from the Gamma Scope, and remembered what Mrs. Epstein always recommended that he do when he needed to slow down – exercise.

George began stretching, breathing, and light lifting. His routine was almost in autopilot because his thoughts were so consumed elsewhere.

He finished and ate a quick breakfast. Again, he was unable to find clarity in his thoughts.

He had to take action and he had to take action right now. He had to know more about this spacecraft. His curiosity about himself, his mission and his purpose began to peak. For 23 years he had lived aboard this ship. There was nothing else in his world, until now.

“I must establish communication,” he thought. “That is the top priority.”

Lacking sleep from the night before wouldn't matter when his adrenaline was pumping as fast as it was right now.

He evaluated options.

If he could see the ship then obviously the ship could see him. Perhaps he could signal to the ship with a beam of light. Maybe he could reflect some light from the solar panels. He would be dependent on the occupants of that ship looking in this exact direction in order to notice these actions, but that wasn't out of the question. He needed to have a continuous beam of light so it would be noticed whenever the occupant happened to look out the window in this direction. They would likely be required to use a Scope too given the vast distance between the two spacecraft.

If the occupant on that ship was savvy in astronomy, it's also possible that they might discover George in the same way that he discovered them. Perhaps they already had? It seemed like a long shot, but a possibility.

Then there was the idea of moving Hendrix toward the other spacecraft. This would be completely the opposite direction of the position the Grand Master desired for Hendrix, and it would take a long time to make the journey. Perhaps he could begin to move toward the craft, and at some point the other ship would see him, move in his direction and help close the gap.

“BIM, calculate approximate distance 4 degrees north of celestial equator,” George shouted as he ball parked the location.

“Approximately 8.13 million miles.”

“How long would that take us?”

“That is the opposite direction of the anchored position.”

“Not what I asked BIM. I know it’s the other direction. How many days?”

“I need more information.”

“BIM, give me an estimate. 18,000 miles an hour, 8 hours a day?”

“It would take 56.4 days of constant travel. I did not calculate gravitational differences on the path that may negatively or positively impact speed.”

“Two months,” thought George. And at any time in the journey the other ship could see them and travel towards them to shorten the time. He would continue to deceive the Grand Master of his actual location. The time stamp was all set to change accordingly and the randomness of the time it would send, along with the slight change in George’s physical reporting, would certainly not be detected for some time.

But what if the Callisto Symphony was to occur, and he was not in his proper position? That thought was the only one haunting him. He remembered the smile from Miss Palencia. Was she counting him, like all the others?

He thought of the monotony aboard the ship. As far back as he could remember, every memory, every experience, everything he learned was aboard Hendrix. And that would only change with the advent of the Callisto Symphony?

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He had to take a risk, something he had learned not to do, but there was a feeling deep inside him, an unrelenting mark of curiosity that was strong and getting stronger by the hour. But what if there was no one aboard the ship? What if the ship turned away from him? What if this ship held the secret to the Callisto Symphony? There were many possibilities, both favorable and unfavorable.

He made up his mind. This was his chance, maybe his only chance. He was going to travel toward the other ship.

“BIM set course as previously directed. Commence in two hours. Download gravitational field data for the travel path.”

George knew he needed to prepare for a journey of this magnitude. His ultra efficient mind could not help but organize the tasks as he created them, and he decided two hours was enough time to accomplish them all.

The final plan was not too complicated. Conduct a full ship inspection including areas that he rarely inspected such as the engine and battery rooms. He would be fully dependent upon the efficiency of those operations, and needed to make sure they were both operating at their utmost capacity.

Next he would use Exciter for a full inspection of the exterior of the ship, particularly the solar panels. He would also look for a way to reflect light from the exterior of the craft to make Hendrix more visible.

Then he would view the gravitational field map to ensure he was travelling through areas with the least interference.

Then he would return to the command center, and begin the trip.

Just then the video screen came on in the other room. It was Professor Miller and he was in the middle of the day's physics lesson. The Grand Master had apparently turned the course schedule back on.

George paused for a moment to think, then turned his back on the screen and began the ship inspection.

Food supply looked good. He replanted some beans, and snuck a small piece of the watermelon that was just starting to bloom. He was excited, and the watermelon was a small reward to get things started.

Water recycling looked ok. All hoses and connections throughout ship showed as satisfactory.

Now it was on to the propulsion units and energy supply. Everything in the engine room appeared in place. All systems checked green. In the battery room however, he noticed that one of the 25 ion solar panels was shown as malfunctioning and was not producing power. This would cut into his efficiency, and would need to be looked at. He hadn't checked the room for a while so he wasn't sure how long it had been out. BIM hadn't noticed it, and the sensors on the command console showed power as being strong.

He thought it was a little mysterious, but didn't worry too much since he had extra panels stored in the work room. He was planning on going out on Exciter anyway for the external inspection. Now he would just have to swap out these panels which wouldn't take too long.

All other propulsion related elements appeared to be in optimal condition. He walked down to the satellite bays, put a replacement solar panel onto a wheeled platform and pushed it over into Exciter's bay. Exciter had two long mechanical arms that George could activate that would be able to remove the old panel, and then he would have to come back into the bay to drop it off, and grab the fresh replacement.

He put his suit on and jumped into Exciter. He estimated he had been working for only 18 minutes so far, so he had 102 minutes left until they would take off, which would be plenty of time.

He launched Exciter and began his visual inspection of the ship. He didn't think much would have changed from last time, although the

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ship was under the stress of maximum operating capacity for a period of time while he fought his way out of the gravitational field. And he would be operating at maximum capacity again for quite a while, so he was particularly observant on this inspection.

He worked his way around the ship, and again took a look at BIM through the window. BIM stood there as he always did, not feeling any of the excitement in the air.

He approached the solar panels last, and could not find the faulty panel upon first glance. He knew it was in the bottom row, but they all appeared to be fine. He expected the faulty panel to have noticeable discrepancies in the solar cells, so he drew in for a closer look. Again, they all appeared similar.

He started to think this may take a bit longer than he originally planned, until he noticed a slight difference in the pattern of the cells inside one particular panel. It was an ever so subtle difference, but the more he looked at it and compared it to the others, the more evident it became.

He activated one of Exciter's arms and began to slowly unbolt the panel. It was held down by six big bolts that took what seemed like an eternity for him to undo. Exciter had a large magnetic rectangular strip on its front that George could place the screws on to hold them. As the final bolt was being undone, George used the second arm to prevent the panel from falling into space. He could always use spare parts, and some extra solar cells, if there were any good ones left, could at the very least let BIM charge from the light, if he couldn't find any other use for them.

As he lifted the panel, he moved Exciter down so he could see underneath it. He expected to see a large plug which he would remove to release the panel, but instead he saw a series of small wires, almost like the plug had come completely undone. He was careful not to raise

the panel too quickly as he focused on the underside, still surprised by what he saw.

The more he analyzed the wires and their pattern, the more he realized that something was clearly amiss. He lowered the panel and took another look at the front side with its irregular cell distribution. Something wasn't adding up but if he wasn't careful he would accidentally force the wires out of position, and he might not be able to replace them.

He decided to put that panel back and to remove the one next to it for comparison. It took him 15 minutes to put the panel back on, and another 15 minutes to remove the second panel. This one appeared just as he expected. It had a nice compact plug and all the wires were harnessed together. These wires looked a little different too, different colors, and there were fewer of them. The wire pattern seemed to stem from each row of solar cells, aggregate at the end, and then each one came down to join with all the others in a nice organized fashion.

He knew he needed to be careful not to make a mistake, especially given the mission he had just planned. He decided to go back into the bay, park Exciter, and evaluate the situation before he made any concrete decisions on how to proceed.

Back inside the bay he looked at the underside of the replacement panel. It had a simple plug connector. There was no way it was going to connect in place of the faulty panel.

His engineering expertise took over now. He walked back to the command center to get BIM.

“BIM, download ship engineering schematics for the solar cell panels.”

“Here you go.”

BIM went over the control panel, plugged in and projected the wire diagram plans onto the screen.

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George immediately noticed a part of the plan was missing from the bottom corner of the panel diagram. A whole section was just not there. Everything else around it was present. Every other panel contained full wire diagrams of their layout including all the connections leading back to the battery room.

George soon realized that he hadn't located a faulty solar panel. He had found a large antenna disguised as a solar panel, and it was apparent that someone went to great lengths to prevent him from finding it.

Chapter 6

George immediately started walking toward the back bays, thinking about how big, complex, and powerful that antenna must be. He wanted to access the backside of the antenna's connections from inside the spacecraft, so he needed to remove a few access panels in between the battery room and the satellite bays.

Removing the panels was a simple process but once inside George found a labyrinth of cables, wires, different computer boxes, some stacked up to the ceiling and a multitude of lights blinking in every direction. He carefully crawled through the cable maze to the very back of the tight space, and that's where he saw it.

The plugs on the back side of the solar panels were easy to find and he had no problem following the fat bulk of wires all the way back to the battery room. This made a lot of sense, and every panel was configured the same way except for the one he suspected of being an antenna. The wires behind that panel were scattered between a few different computer boxes and another open circuit board that had a small antenna and green blinking light just like the board George had found under the command console.

The entire technical communication ecosystem aboard Hendrix was now before him. His heart raced. There were so many unanswered questions now, and he felt he was on the cusp of making some big discoveries.

He had almost cracked PACE. PACE was no longer about Prohibiting All Communication Everywhere. The mission had now shifted to Promoting Active Communication Everywhere. At the very least he had all the knowledge now to do so. It was just a matter of time and effort. This was a new game.

But he needed a plan. He knew he had to continue advancing toward the other spacecraft. But when underway, he would not be able to

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work, and his path would constantly need to be monitored to ensure he avoided any unforeseen gravitational fields.

While the batteries recharged, the ship would be at rest and he would be able to continue working on the antenna and the communications infrastructure. BIM would be able to monitor the ship when travelling and he could sleep during that time, to be well rested for his work.

He would ignore all coursework and studies, but he would keep up with Kang and his exercise regimen. He hoped he had entered a period that he had years ago deemed “quiet time” when the Grand Master would not interfere with his routine. As long as the logs kept rolling in every day showing his perfect health, a perfect ship inspection and the appropriate position for Hendrix, the Grand Master had no reason to contact him. Unless of course, there was a new development with the Callisto Symphony, but George figured he had been waiting quite a few years for that news to surface. What difference would a few months make?

The adrenaline was still pumping through his veins, masking his complete lack of sleep. George knew he should travel and sleep in the evening so that he would be awake for the main periods of light, which would help not only the odds that the other spacecraft would see him, but the light would be necessary to facilitate a rapid full charge of his power supply.

He decided to work on PACE with all of its new developments for the next few hours, exercise, then eat, download the gravitational field data to BIM, and then begin travelling while he slept. BIM would be able to monitor everything.

George began to reflect on his construction of BIM many years ago. BIM was essentially a computer program that George wrote. His external components were a shell for a small circuit board, data storage, a camera for vision, a microphone for hearing, small speakers for

talking, all run by a hand coded custom operating system George designed for fun.

To create a communications system, George would need to build something similar, perhaps even less sophisticated. He thought about just using BIM as he was, but he had studied more advanced coursework in the years that followed the construction of BIM. He knew all the programming advancements he wanted to make to BIM, he just hadn't found the time to do it. He decided that this system would have to be built from scratch to be the best that it could be.

He also developed concerns about the path that information would travel through via the antenna. Would anything he created go directly and exclusively to the Grand Master? All the health and ship data was transferred this way. He knew his first task would be to find the computer program that determined the path of transmission. There was likely only one path in the system. Then he would need to build a switch that would go around that program and give him free and clear access to the antenna, with the ability to point it and transmit to any location he desired. It could be switched back at any time.

The most efficient way to begin this process was to have BIM download all the program source code, and George would have to pour through it to find the transmission destination details. Perhaps this would also give George a clue to the location of the Grand Master, although given the precautions taken for secrecy that seemed evident now, George figured the Grand Master would have scrambled the data, just in case someone stumbled up on it.

BIM downloaded the data from each of the computer boxes connected to the antenna. He output the data on the command console, and George began his review. He quickly realized this was going to be a long process, one that might take days to complete. He wasn't exactly sure what he was looking for, and the code was incredibly cumbersome, having been written decades ago. It didn't take advantage of many of the coding shortcuts George had figured out in the last ten years. Its

rudimentary nature made it easy to understand, but it was incredibly long.

George worked on code from the first out of three boxes for almost an hour and was exhausted. He made it one third of the way through and had found nothing that resembled coordinates.

He scanned the other two boxes' code quickly just to see if something jumped out at him, but again found nothing and his projection for two to three days of work now seemed almost certain.

He would pick this up later. He was too curious about some other aspects to the plan. Next he went to the work room to conduct a brief parts inventory. The work room housed everything since there was no way to discard anything that was on the spacecraft. This is the room where everything went.

He built BIM from scraps of some of the other robots and robotic structures that first boarded Hendrix with George in 1991. These pieces provided some of the best mechanisms with which to create moving parts, plus they had circuit boards, and small cameras along with speakers. They were used to raise George when he was just a baby, and any memory of how they worked or how they looked in those early years has long since past.

But it was fun to go through everything again. He began compiling many of the items from the old robots, and also found power cords and wires that would prove necessary. He was particularly interested in the circuit boards, since the ones he already had seemed to process information too slowly. He actually outfitted BIM with three different stacked boards and routed the commands and return functionality to each of the specific boards to maximize processing power and output. That is a big reason BIM operates so quickly.

This new machine, which he had tentatively named ACE for Achieving Communication Everywhere, was going to need to be as powerful as

George could make it. It was going to have to be smart to rapidly switch between his desired communications, both incoming and outgoing assuming he reached someone else, and the communication, in both directions, from the Grand Master. He would always be aware of timing for the outbound Grand Master communications, primarily the MANOOLA data that transferred during the same time window every day, but the inbound would always be inconsistent, and unexpected.

The first mechanism he built was the switch. It was a small separate box that contained just one small board and a mini power supply. This box did one thing – it managed the priorities for inbound and outbound communication between ACE and the existing system. It required a custom program once he cracked the code on the existing systems. But the hardware was easy for George to set up.

He set the switch aside and laid out the components for the main ACE computer. He surveyed everything and felt pretty confident in his ability to assemble it; however, he lacked one key piece of equipment – a monitor.

There were plenty of monitors aboard Hendrix, but no extras. He had the main video screen for the Grand Master and his instructors. That one was out. He had displays monitoring the equipment and status in the battery and engine rooms, but those displays were so critical to the ship that he could not risk using them. On the main control console, he had several monitors, but again, they were too core to his journey, containing his course chart, and spatial field data.

Although it would require more work, he concluded that his best choice was to have the battery and engine data share one screen. If he wrote a program that would display each one for 30 seconds and consistently change between the two, he would have adequate access to this important information. Plus it would be all in one place which might be even more convenient. Because the monitors only display the data in one place aboard the ship, George was confident that this

wouldn't interfere with his daily ship status reporting back to the Grand Master.

He detailed his plan for the rest of the day. First, spend one more hour analyzing the transmission code programming in hopes of finding the final location data. Then he would exercise, eat, work on the cabling and wiring necessary for the sharing of the monitor. Then review the course chart and spatial field data with BIM, begin the journey and fall asleep, waking up that much closer to the other spacecraft.

Before all of that, he peered through the Gamma Scope again at the far away craft. It had not deviated from its location. His mind began to race again thinking about the occupants of that ship when suddenly a voice from the other room commanded his attention.

“George, I hope that you have been keeping up on your studies. Today we are going to review portions of Plato's Symposium and Aristotle's Nicomachean and discuss the path to human excellence and the achievement of human purpose.”

It was Miss Palencia. George raced into the room. He had already read both selections a few years ago when he was fighting one of his bouts of depression. These books had helped inspire him and now he would be able to study their meaning with his favorite teacher.

The plan was on hold until Miss Palencia finished her video. She smiled multiple times throughout the video, and George would stare right into her eyes, wishing that he could cause the expression on her face to change, even slightly. Sometimes he felt that he did.

She concluded the video saying, “Take care George.” And then she was gone.

He stood there for a minute looking at the blank screen. She always made him feel warm all over, and George wanted the feeling to last as long as possible.

A minute or two later he felt anxious to keep going, and he switched back to the plan and was combing through line after line of code, but was again, unable to find what he was looking for. It was time for exercise and dinner, and then George was back in the engine room connecting various pieces of cable together to connect the two screens. Logistically, this was not too difficult, and he knew the real challenge was in the programming.

After an hour George unplugged the battery screen from its data source, and plugged in the cabling he had run from the engine room. Sure enough, the engine data appeared. All it would take was a simple program to alternate the display between the two incoming sources. For now, he plugged in the battery data and confirmed he had a full supply of power. He plugged the engine display back in too just for the night until he could write the program. Since he would be running the engines hard he wanted to make sure he, and BIM, had access to the data. Now, he was almost ready to begin travelling.

Back at the command console, BIM was waiting with the course data, and had everything on the display, ready for George's review.

"Thanks BIM. This is going to be exciting."

"What's going to be exciting?"

"Just wait, BIM."

George carefully studied the data, and noticed another area in his travel plan where the gravitational fields appeared extra strong. He circled it on the screen.

"BIM, we will need to travel around this," he said.

BIM quickly worked up a new plan, and it added two days of travel to the original arrival estimate. George figured it wouldn't matter; he couldn't risk being pulled down into one of those irregular fields again.

“BIM, we are ready to go. Commence engines.”

The ship began to vibrate as the engines and thrusters started up. The auto pilot slowly applied throttle and the ship began to move. The vibration and noise became much quieter as the ship got underway. George peered through the Gamma Scope at the other ship, wondering if its occupants were now aware that he was beginning to travel towards them. Hopefully they maintain course, or even begin to approach Hendrix he thought. He didn't want them to turn away from him.

More than anything, he knew he needed to communicate with that ship, and if he could do it soon, he would likely alleviate any fears its occupants might have about his approach, as well as address his curiosity, and slight fear, about what or who might be aboard this unknown ship.

Through the Gamma Scope, George could barely make out the ship as the light began to give up to the darkness, and the speed of Hendrix complicated matters even more. He would need to look again the morning.

That evening George lay on his bed, looking up at the ceiling of the spacecraft. He couldn't stop all the thoughts that were running through his head. He told himself time and time again, that a good night's sleep was necessary for optimal performance the following day. But his curiosity had control. Despite not sleeping the previous evening, George was awake for a full three hours before he was able to fall asleep. At the center of his thoughts were all the activities he hoped to accomplish in the next several days.

When he awoke the following morning, he ignored Kang's exercise routine on the screen since he had bigger things to do today. The ship and its engines were quiet. He walked over to the command console and looked at the magic number, the estimated days to arrival, which read 57.1. Since the original estimate was 56.4, and the new path

around the gravitational fields added two, overnight had actually reduced the number of days by 1.3. Not bad, he thought.

He gave a quick glance through the Gamma Scope and observed the other spacecraft far in the distance. It had not moved.

There was no time to waste. He ate a quick breakfast of fresh fruit and decided that he was going to find the destination stamp in the antenna box code. He was going to read through the entire thing until he found it.

He completed a review of the first box's code and came up empty handed. The second box's code was written in an even more cumbersome manner. "Add an extra half day for this," he thought.

Then he found a string of numbers that seemed out of the ordinary. It read: "HENDX75 98.234 69.556 0749304 246.77 14.933."

He had seen a string of numbers like this before, and it took him a minute to realize when that was. Professor Maule had taught him how to program coordinates like this many years ago when George conducted his experiment with the neighboring comet. George was required to launch the satellite, and he wrote a string of numbers in a similar progression that indicated the position of the satellite.

He was sure this was it. He grabbed a notebook, and split the numbers according to their meaning as he remembered it.

HENDX75 = Name of craft

98.234 = inclination

69.556 = ascension of ascending node

0749304 = Eccentricity

246.77 = mean anomaly

14.933 = Mean motion

This was clearly the positioning data for a satellite. It wouldn't take long for BIM to bring up its location.

BIM downloaded the data and projected an image of the inner solar system on the screen. There was a small blinking light near the third planet from the sun indicating the position dictated by the numerical sequence. George's data when he tried to observe this planet always seemed inconsistent. And it was just out of reach of his Gamma Scope. The Grand Master wasn't as close as he originally thought. And he wasn't in the spacecraft George was approaching. He was several planets away. George wondered why, and what else was in that vicinity? His studies had always been focused in the opposite direction, into deep space.

More than anything else, George now knew something that would be vital to his communications efforts. He knew how to bypass the antenna's default transmission data, so he could broadcast his own message anywhere he wanted in the solar system.

Chapter 7

George was inspired now. Everything was within his grasp. It was just a matter of time until he could complete each task and begin to see the results. Writing the complete operating code for the communications system he was building was likely to be the most complicated. In order to do that he needed to have all of the pieces of equipment necessary to assemble the hardware. And in order to do that he needed a monitor.

So he started back in the battery and engine monitoring rooms. He had already laid the cable to connect the two systems to a single screen. Now he needed to get inside the code of the system controlling each one, and write a script that will alternate the two reports on a single screen.

Back when Professor Maule helped him program the satellite, he was advised to use an old keyboard that he would simply plug into each system to gain write access in the code. He hadn't used that keyboard in a while, but he was able to successfully track it down in the work room. This was clutch because his only other alternative would have been to disable the keyboard control from the main command console. Fortunately he wouldn't have to do that.

He plugged the keyboard into the engine computing system first, and rather quickly was able to locate the display code:

```
(#displayout)engine
```

Which he changed to:

```
(#displayout)engine, fx: 'scrollRight', speed: 3000, current =  
(current==items.length-1) ? 0 : current + 1; //increment or reset  
setTimeout("rotater()",howOften*1000);
```

Then he made the same change to the battery system after locating its display code:

(#displayout)battery

This code was incredibly clear and efficient compared to the antenna code, and other internal system code that he had viewed on the ship. He deduced that some of the more complex code was purposely designed to be difficult to decipher. There was no other explanation.

He plugged the cables back in the way he had arranged the prior night, and along with the new code saved in the system, he had successfully eliminated the need for two monitors. One monitor would rotate between the two, giving him appropriate information quick enough to conduct almost any review and ship inspection.

He removed the other monitor and laid it out on the work room floor with the rest of the equipment. He began to solder metal pieces together, creating the design as he went along. He knew he just had to leave access to the various ports on each piece of equipment in order to connect them together.

On one side he put the camera and speakers and below that he placed 4 stacked circuit boards, the storage drive and the port to connect the keyboard. On the opposite side was the complete power supply with the monitor above it.

He dragged over a box full of wires and cords and began stringing everything together. This would be a pretty advanced system if he could write the code to make everything work together. As he soldered some of the wires together he became concerned about having enough power to control all of these pieces operating at once. He decided to run a separate line for the monitor since that was sure to be a big power draw. The rest, he figured, would be alright.

He powered everything up, and after about two minutes a small command prompt appeared on the screen. George smiled. "This might work, but it's going to be a lot of work, and it is moving awfully slow." With that thought he began feverishly typing away, coding a

new operating system to power the system. His skills and speed had vastly improved since he coded BIM. It all just made sense as he enabled each piece of equipment into operation, and wrote a system that would join them all together.

The first piece of equipment he tested was the camera, which he turned on and pointed directly at him. His face soon showed up on the monitor.

Once he had each piece of equipment functioning properly, he would need to write a program that would package the data and transmit it, as well as receive and unpack incoming data. He decided to work on this all day. He sat in the work room, with extra pieces of equipment and cables scattered all about, staring up at the monitor and typed away. He knew his work would have some bugs; that was inevitable. But it was going on pretty clean.

He took a short break for lunch and dinner, and would hear the instructors on the screen in the adjacent room. They just kept on with his lesson plans like he was right there in front of them, engaged as he had been for years. It all began to seem a bit senseless, the routine, the monotony, the coursework. Now, none of it seemed to be that important. A new world had arisen. His challenges felt as though they had real importance. He truly cared about the outcome of everything he was doing. He had never felt like this. He had never felt purpose like he did right now. His development of this system and his outreach and contact with this foreign ship were all he could think about. It became a passion, the first real passion in his life. The excitement was overwhelming.

In the evening he walked back to the work room and continued playing with ACE. It was working but it was processing very slow despite having 4 stacked boards. And then he remembered the communications systems in the two remaining satellites. There would undoubtedly be some useful equipment to borrow from them, so he made his way to the back bays, boarded one of the dusty satellites that

hadn't been touched in years, and opened a panel exposing its inner workings.

He wondered if he was going to need these satellites later for the Callisto Symphony and hesitated to pull any components from the fully assembled units. The Grand Master and Professor Maule had hinted he would need them later. And he was already down to two from an original three that were loaded on board. If the Grand Master was to sound an alert about the Callisto Symphony, George was already out of the position. Tampering with the satellites and stealing pieces from them would only compound any problems he would have.

George left them as is. ACE was working properly and appeared to be capable of doing exactly what he intended for it to do. He could always come back to these satellites later if needed.

He went back to his work room and finished his coding on ACE. He wrote a program that would bypass the set transmission coordinates on the antenna for any outbound communication from ACE, and then immediately reset it for MANOOLA. This way, he should be able to communicate without the Grand Master detecting it. There was no way to test it except to try it, but he was pretty confident in his programming. He took pride in doing it quickly, and writing it as efficiently as possible so that the slow circuit boards would be processing at their peak capacity.

That evening he conducted his nightly scan of the solar system, paying special attention to the area around the other ship. It still had not appeared on his satellite map which continued to frustrate him. This just didn't make sense.

George checked the course data with BIM and then proceeded to start the engines and take off. He laid down on the bed, thinking about what he needed to do the following day, and still pondering how the ship could be visible to him through the Gamma Scope but not on his radar.

He awoke the next morning, sleeping a bit later than normal. Molly was ringing in the distance and Kang was on the screen about half way through his course. George had caught up on some much needed sleep. The ship was quiet as he grabbed some fruit and sat down at the command console.

He looked through the Gamma Scope toward the other spacecraft. But it wasn't in his line of sight. George rechecked the coordinates but they were the same as the previous night, even automatically recalibrating based on their distance travelled.

This woke him up rather quickly and he continued to scan the horizon looking for the ship. He noticed a small light in the top left corner of his field of view inside the Gamma Scope. "Oh, there it is," he thought. And then rather alarmed, he said out loud, "And it's moving."

His heart picked up. He couldn't believe what he was seeing.

"BIM, check the...never mind," he said as he realized the craft was not appearing on radar. BIM was of little help now. George was going to have to do some manual calculations. He took notes on its current estimated location, and compared those to his previous coordinates. He wrote quickly, and calculated the results. It became clear right away that the foreign spacecraft was traveling away from them.

"Oh no, BIM. We must have scared them."

George knew he couldn't lose them. He also knew a lot about that craft and its capabilities assuming it really was just like Hendrix. He wouldn't be able to close the distance between them if the other ship was travelling at the same speed he was. And with seven million miles still separating their locations, he would need to do something fast.

It was time to test ACE. George assumed the other ship likely had communications equipment aboard that was similar to what he had aboard Hendrix. He would do a test signal, and try to send something to himself first. If he could do that successfully, then he could enter

transmission coordinates near the other ship, and send a message that would hopefully be received.

He moved ACE into the ship's main control room. From here he would be able to test if what he sends is able to be picked up on his main video display as an incoming message. The first thing George did was write some quick code that would override any existing incoming signal with the most recent one. He had to do this because Professor Miller was on the screen right now giving George his next physics lesson. Soon Professor Miller disappeared from the screen and it went blank.

George booted up ACE. He watched as each component turned on. The monitor flickered on and soon the command prompt appeared.

George typed feverishly as he ran a manual program on ACE that would activate the camera and speakers, and process the transmission back to his incoming receiver and then broadcast the signal to the video screen in the other room.

But the screen in the other room remained blank.

“Test.”

He waited, and 15 seconds later he heard the word ‘test’ emanate from the screen in the other room.

A tingling sensation overcame his entire body. George smiled. He was close. Something was wrong with the camera though.

He started to dig through the code that made the camera operational. He had done this successfully for BIM's vision so wasn't sure where he went wrong this time. Then a minute later he saw his face on the screen, assembled in small square video blocks some of which were still blank as they continued to load. His mouth spoke the words ‘test’ but the audio was silent.

There was a huge delay, and George wasn't sure how to fix it. The processing power of the combined circuit boards and the memory he outfitted in ACE just wasn't enough to push all the data through fast enough. He would have to solve this problem later. For now, he was curious what would happen if he transmitted a signal toward the other space craft.

He looked through the Gamma Scope and saw the spacecraft was continuing to travel in the opposite direction. He briefly thought of what to say. If the communications system aboard the other craft was like Hendrix, then the occupant would be caught completely by surprise when a voice came through the screen. Travelling 7 million miles would also likely make the transmission lag between audio and video even worse.

George thought for a minute about only transmitting audio. This would leave an element of mystery to his identity until he knew more about what was going on with the other ship. His goal was to stop the ship from travelling away from him, and hopefully to travel to him. He hoped to meet whoever was aboard. He knew the Grand Master was likely located far away from where they were, but maintained a certain guard given the mystery still surrounding this ship.

He was also contemplating how the other ship would communicate with him. This ship didn't appear to have outgoing transmission capabilities otherwise he thought they would have sent a message to him prior to deciding to travel away from him. He could see the thrusters through the Gamma Scope, and they were visible enough at night that George figured they might be the best way to communicate back to him. A version of Morse Code, which he had studied, using rocket thrusters.

“Ok,” he thought. “I’m ready for this.” The hair on his arms stood up as he nervously entered the new transmission coordinates into ACE. He ran the program for the audio and video, figuring that he would start by saying there was a lag between the two. And then he began.

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“Hello, my name is George. I am travelling in the ship that is approaching you, approximately 7.6 million miles away. I have built a communications system that I hope is able to reach you. The video transmission will follow the audio after a few minutes.”

He paused, feeling like he was talking to absolutely no one. The ship was quiet. BIM stood off to the side. He had never heard his voice quite like this, speaking to another person, introducing himself. He became self conscious about what he was saying, wondering what, if anything, the person on the receiving end of this transmission was thinking.

He continued, “My ship is Hendrix and it looks just like yours. I have been on this ship for 23 years with a mission from the Grand Master to work on the forthcoming Callisto Symphony. I mean no harm. I would just like to know who you are and what you are doing.”

He paused again.

“I ask that you please change course heading, and travel towards us. I will monitor your course to see if you have received this communication. In the event that you do not carry outbound communications equipment aboard your craft, I can see your thrust clearly through my Scope, and we can use it to generate Morse Code that I can read from here.”

He looked through the Gamma Scope hoping to see the craft change its course, but it continued to pull away. He could see the thrusters roaring away at the back of the ship.

“This isn’t working,” George thought as he sunk his head in his arms. He analyzed different scenarios trying to figure out what he might have done wrong. If the test he sent made it out through the main antenna and then back in through his video screen, there’s no reason why a similar signal wouldn’t be able to be transmitted to another location. He thought about the lag that existed just in the small area around his

ship where he conducted the test, and realized the transmission would likely take a few minutes.

He waited anxiously, staring at the small speck of light from the thrusters through the Gamma Scope. And then the light went out.

“Yes!” George exclaimed.

He could barely make out the craft through the Gamma Scope, but it appeared to be holding into position having now stopped its forward course.

“Turn around, turn around,” he yelled out loud. His excitement growing to levels his body had never felt before.

His hands were shaking as he held his eye up to the Gamma Scope. The other spacecraft was motionless.

“Come on.”

But it didn’t move even as George stared at it upwards of 30 minutes. He went back to ACE to make another transmission.

“I see you have halted your forward course heading. If you rotate your thrusters 45 degrees, I will have a direct view of the light from them, and I believe using short bursts of thrusts in various on-off increments according to the Morse Code method, that you will be able to communicate to me. I am looking through my Scope now, if you care to try that.”

His heart continued to race as he looked through the scope. He desperately wanted to receive a signal from the other ship.

Ten minutes past and there was nothing.

Then he saw a faint burst of light, and it appeared the ship was slowly turning. His limbs became numb with the excitement. He was communicating to someone. But who?

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The ship made what George approximated to be a perfect 45 degree turn, and then he started counting the thrust blasts as the light turned on and off. He started writing on the screen next to him. It was slow but decipherable.

“H-I-I-A-M-L-I-S-A.”

He looked down, his neck almost completely numb from excitement.

The light paused.

“I-A-M-L-I-K-E-Y-O-U”

George smiled. It was the most amazing moment of his life. He walked over to ACE and spoke quickly, “Hi Lisa.”

More information came through the Scope.

“H-A-P-P-Y-T-O-M-E-E-T-Y-O-U”

George spoke into ACE, “It is nice to meet you. I have approximated that it may take 50 days for me to reach you at your current location. If you can travel towards me, it will cut that time in half. I would look forward to docking our craft together. This is very exciting for me. If you are like me, I imagine this will be exciting for you.”

He waited patiently for a reply, but this time it was taking longer than before. He worried for a moment that he may have said something wrong. Did he frighten her?

Soon he saw light from the thrusters.

“M-U-S-T-S-T-A-Y”

There was a slight pause, then more flashes of light.

“C-U-R-R-E-N-T-L-O-C-A-T-I-O-N”

George looked at all the words that he had written on the screen. He focused on the phrase “I’m just like you” and realized that she was unable to leave due to the daily reporting required on her MANOOLA system. After all, his deception of the reporting system was the only reason he was able to travel to where he was.

“Lisa, I am going to ask a series of questions and please indicate yes or no to all of them. I will do this all at once because of the lag time in the system. Here we go. Are you unable to leave because your position is reported to someone? Is this person the Grand Master? Is your mission also called the Callisto Symphony? Would you like to dock together if I can help deceive your reporting system? And lastly, because I really want to know, did you live your whole life aboard that ship?”

He waited nervously for answers to these crucial questions.

The first one came back.

“Y-E-S”

And then another, “Y-E-S”

And another, “Y-E-S”

“Y-E-S”

And finally, “Y-E-S”

But the lights continued and George kept taking notes.

“P-L-E-A-S-E-H-E-L-P-M-E-E-T-Y-O-U”

He looked at the screen, excited as ever, “I will Lisa.”

Chapter 8

“I will help you,” George said into ACE. “Give me a minute and I will be back in touch.”

Because it was morning, George knew the incoming videos from the instructors would be arriving any minute. He pondered how the communications systems would work for both him and Lisa. She was receiving his signals via her incoming transmitter, the very same one that would be used for the incoming instructional videos. He figured there was no way that an interruption in the regularly scheduled videos would be communicated back to whoever was sending them. Lisa’s video screen would simply play the most recent incoming signal, overriding what may already be playing.

The only time there would be a problem that would be detectable is if his outgoing communication were to ever interfere with his MANOOLA reporting. Because he randomized the time of that reporting for a small window, George would just have to be sure not to transmit his outgoing communication while MANOOLA was trying to use the system. Easy enough.

Then he wondered if he could teach Lisa how to deceive her MANOOLA system by changing the timestamp and maintaining consistent positioning data just as he had. He assumed her training was the same as his. There was no reason to suspect otherwise.

“Lisa, you are probably wondering how I am able to travel while still maintaining my MANOOLA reporting. I have deceived the system by automating the reports and changing them slightly every day, while keeping my positioning data constant. There is a timestamp at the top of each report. If you can manipulate the timestamp to generate a new report for each day sent at a slightly random time, that shows your desired position and changes just your health reporting marginally each day, you should be able to travel undetected. Do you want to do this, and can you do this?”

George waited, and soon he saw the communication from Lisa come back.

“Y-E-S-I-C-A-N”

George transmitted several more times with Lisa and it was clear that her training was very similar to his. She was perhaps able to grasp the concept even faster than he did. He looked forward to the day when they would meet, and now it appeared that day would come much sooner than he originally expected.

He worked with BIM to chart her course, which also included navigating around a gigantic gravitational field, and it seemed to George that she had also charted a similar path. He wondered if she had a BIM-like robot that was helping her. Regardless, she had successfully changed her MANOOLA reporting data, and would soon be on her way.

They agreed to travel at night following George’s existing schedule, and they would charge up during each day. At one point in the communication, George asked her if she feared the Grand Master detecting their plan, and she responded that she did. They needed to be careful.

George was also very curious about her knowledge of the Callisto Symphony but she indicated that she, like him, did not know exactly what it was, and when it was supposed to occur.

He asked if she had worked on a communications system, and she responded that yes, she was working on an outbound system but had not perfected it to a level of being entirely comfortable.

The Yes-No questions going back and forth took a lot of time, and George offered to help her develop the system remotely, but it proved too hard with the communications lag, and the fact that only one of them could fully communicate outbound. They were only 25 days or so from a potential meeting, and both had waited years for this

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opportunity, so a little while longer wouldn't matter. George longed to hear Lisa's voice and for her to communicate in more depth than the Morse code.

Over the course of the next several days, they spent their days communicating back and forth. George was doing most of the talking and after each transmission, he waited anxiously for her reply.

He asked if she was scared and lonely aboard the ship.

“S-O-M-E-T-I-M-E-S”

He wondered what she wanted to do when they were to meet.

“T-A-L-K”

One night Lisa transmitted what George quickly realized were coordinates, and upon looking through his Gamma Scope he saw a beautiful stream of light off in a distant galaxy that she wanted to share with him.

They talked about the Grand Master and his potential location, but Lisa didn't know much more than George. She didn't know where the instructors were located either, but speculated that there was a ship in a nearby galaxy. George shared his knowledge of the transmission location of the MANOOLA data, to which Lisa replied, “S-O-C-L-O-S-E.”

He also learned that his ship did not appear on her radar, which is what spooked her at first. She noticed the beams of light curving around an object and was frightened that perhaps a small black hole had entered the solar system and was travelling toward her.

George chuckled, “That makes sense. But it wasn't as exciting as a black hole. It was just me.”

Some nights their conversation would get a little deeper. George inquired as to what she thought their purpose was. She responded, “C-A-L-L-I-S-T-O” and then “N-O-T-A-L-W-A-Y-S-S-U-R-E.”

He asked if she had travelled far beyond her current location, to which she said “N-O.”

They also speculated as to whether there was anyone else out there like them. She didn't know, but hoped there was.

George was curious about her early memories aboard the ship. He learned that they were almost the exact same age, and Lisa, like George, remembered growing up among robotic arms, which she also had stored aboard her ship, which he learned was named Joplin.

The days ticked by as they closed the gap between them. George felt he knew a lot about Lisa, but he was curious what she would look like. She could see him, but he only had a picture of her that he created in his own mind. He would have no way of knowing how accurate it was until they met in person. Finally one night he asked her.

“L-I-K-E-Y-O-U-B-U-T-G-I-R-L,” George smiled.

About half way through the voyage he received a long transmission from Lisa that made him think.

“N-E-E-D-T-O-T-H-I-N-K-H-O-W-T-O-B-O-A-R-D-S-H-I-P”

It sent George's mind racing. She was right. He assumed she had an Exciter just like his that was connected to the craft through a manifold which housed the power and oxygen. But there was no way to disconnect the manifold if he were to enter her loading bay. There was also the question of room inside the bay for two Exciters.

George told her that they would have to find a solution, and then remembered that one of his satellite bays was open. Lisa indicated that she would have to board his ship using that open bay since all of hers

were still full. He was thrilled when he asked if she had any ideas on how to board.

She responded, “I-D-O”

George anxiously waited as the days continued to count down. Neither of them had any issues with the MANOOLA reporting during this time, so he was confident that the timestamp change had deceived the system for both of them. There had also not been any messages from the Grand Master, which wasn’t abnormal yet. Sometimes a few weeks would pass between his communications. He always seemed to have something to share when he would contact George, and perhaps, everything looked fine to the Grand Master at the current time.

As the distance between them grew shorter, the view of Lisa’s spacecraft became clearer. Because he had seen Hendrix from Exciter so many times, he could tell that her craft, Joplin, was an exact duplicate. It was assembled from the same pieces, in the same design, with the same thrusters, and, at least from what he assumed, the same battery design. He looked over her solar panel design on the exterior of Joplin, and knew that one of those was likely the secret antenna, just as he had aboard his ship.

George was curious what plan Lisa had assembled for making the transfer to Hendrix. He kicked around quite a few ideas, but each of them seemed risky. Indeed, no matter how they decided to do it, there was bound to be an element of danger.

When they were within four days of meeting, Lisa sent a message.

“U-S-E-S-C-O-P-E-S-E-E-M-Y-W-I-N-D-O-W”

George pointed the Gamma Scope toward Joplin in the distance, and focused in, first on the main control window that was blank. Then he moved to the bedroom window that was also empty. They were close enough now that George could see pretty clearly into her ship. He knew that he might get his first look at Lisa any minute.

He moved over to the kitchen window, and he noticed a dark shape behind it. It seemed like a head and shoulders. But there was what appeared to be a white square in the middle of the image. He tightened his focus, and made out what appeared to be words written on paper held up to the window.

It read, "Can you read this?"

George leaned over to ACE, which now was transmitting to Lisa much faster given their closer proximity.

"Yes, I can, but barely."

He looked through the scope again, the paper shuffled, and a new message was displayed.

"Can you see me?"

"Only a dark outline," replied George.

He could see the paper go back down, and then it returned a second later.

"Tomorrow morning will be better."

George couldn't wait, but knew he had little choice. He looked nervously into ACE.

"I can wait Lisa. Let's also figure out our docking plan. I know you were working on something."

He read one last note from Lisa before they prepared for that evening's travel.

"I have been working on it. Will share tomorrow. Need your help."

"No problem," replied George.

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Previously, he had many sleepless nights but this one ranked right up towards the top as his mind raced through various emotions. As he listened to the engines hum, his thoughts bounced between Lisa and Joplin, and his own ship and life aboard Hendrix. He wondered what it would be like meeting her? How long would she stay on, or keep Joplin near, Hendrix? Would she really be just like him? What information about their mission might she have that he doesn't know about? How did she spend her days aboard the ship? What kind of food did she have? What would it feel like to touch another human? How was this meeting going to change things for him? What would happen in a year from now? Two years?

The questions kept coming throughout the night. But everything would soon be answered.

George finally drifted off to sleep sometime in the early morning hours, and awoke not long afterwards. He sprang from his bed, noticed Molly hadn't made any noise and then he realized he was awake an hour earlier than normal. The ship's engines were winding down from the long night of travel.

"Only three days left," he thought to himself. He grabbed the Gamma Scope and looked toward Joplin. His eyes got bigger. He could see her.

He could see long dark hair surrounding a young face, certainly much younger than any of the other women he had ever seen in his life. When she turned and moved her long hair swung around her shoulders. She appeared to be the same height as George, or perhaps slightly smaller when he compared her height in relation to other objects in the background of the ship that he was familiar with. She wore a green t-shirt tucked into tan colored pants, similar to clothes that he also had in his closet. Her arms stood out to him as appearing very thin, which was something he had noticed among his female instructors. Their arms were always much thinner than the men's.

He became more anxious as he panned the scope around. She moved in the kitchen area and began eating breakfast. It was difficult for him to make out many more details, but he could see the inside of the ship faintly, and it was just like he expected, laid out identical to Hendrix.

A few things stood out as being different. Her kitchen table was turned the other way. Furniture was positioned in a different spot. She had fruit and jars of dark colored liquid on the kitchen counter. The most notable differences were what appeared to be articles of clothing strung across the walls and ceiling, creating what seemed to George to be a spider web. This was interesting.

He turned on ACE and said “Good morning” then immediately ran over to the Scope and waited for her to react. She was still in the kitchen and he watched until a minute later her head spun around toward the video screen. She got up, walked over her command center and looked through her Gamma Scope. George gave her a little wave and smile.

He continued to watch as she scribbled notes on a piece of paper and held it up to the window. With the light now starting to enter their space, it was much easier for him to read.

“Instructions for docking. Please confirm through video.”

“Ok, go ahead.”

“You set position. I come near you. You open satellite bay.”

“I’m following you so far.”

“We both get in Exciters. I can detach mine from Joplin.”

“Really?” George was curious.

“Yes. You must use arm to pull me into bay. Then close door.”

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George took a deep breath. “Let me repeat this back to you. It sounds as though you have constructed a way to detach your Exciter from its manifold. And that you might lose power, or have limited power when you disconnect? So I need to use my Exciter arm to pull you into the open satellite bay. Then we seal that bay door and you are in. Then I pull in the Exciter bay. Correct?”

He watched her through the Gamma Scope as he awaited her reply. Then he saw her head nod, and she wrote, “Yes, and I will be ok.”

George thought about the plan for a moment. Lisa must have developed something that would allow the Exciter manifold to connect and disconnect from Joplin. He was intrigued and began to wonder how such a mechanism would work. Regardless, it was clear that Lisa had studied engineering in great depth to be able to create such a system.

George spoke into ACE, “Ok, I’m ready to do this then. Just two days away.”

He could tell that Lisa was beginning to become affected by their forthcoming meeting, in a similar way as he was. She asked him if he was excited, nervous or worried about meeting her. George replied saying all the above. Lisa did too.

George was spending every second looking over the inside of Joplin in great detail through the Gamma Scope until Lisa acknowledged that she could see inside of Hendrix through hers. Then George decided he better not be caught looking at her all the time. And his excitement grew to new heights.

They conversed more about the docking plan. According to Lisa, their ships would be in the approximate vicinity of one another when they awoke the next morning. Then she would have to maneuver Joplin into a desired position next to Hendrix. There would be a short period of time where Lisa would be completely disbanded from both

spacecraft, during which time it would be imperative upon George to grab her Exciter with his mechanical Exciter arm, and ensure she doesn't drift off into space. When she disbands from Joplin she will lose all control and power.

George was confident in his ability to maneuver Exciter. It was what he did for fun. They agreed that a circular latch on the top of Lisa's Exciter would be the optimal place for George to hook on and guide her into the open satellite bay aboard Hendrix.

The plan was in place. It almost seemed surreal for George that night. They were both periodically looking inside each other's ships. She was almost there. They were almost together. The conversations over the last few days continued to grab George's attention and he became nervously excited for the next day. Lisa was the first human he had ever seen. For 23 whole years, he had been aboard that ship, by himself, with just BIM, and now his whole world, his whole routine, was going to change.

He was ready. Deep down he longed for this to happen, but now, lying on his bed the night before contact, he became nervous and the questions wouldn't stop. What was Lisa going to bring from her ship? Did they need to share supplies? What about his food supply? Would it be enough for both of them?

He was tired but again unable to fall asleep. He strived to remove all of these questions by thinking about something else. He needed something to occupy his time for a few hours, a distraction of some sort.

He fumbled around with the command center controls, then made BIM chase him. Then while still thinking about tomorrow's docking of the craft, he walked into the satellite bays and observed where her Exciter would soon be parked.

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He walked into the work room, and put a few pieces of equipment back where he stored them. This was about all the clean up that he felt was necessary since he lived with so few objects.

Then it hit him, something he had forgotten to do in all the excitement around meeting Lisa. Since he knew the coordinates of where the Grand Master was having the MANOOLA data sent to, what happens if he points ACE in that direction? He wondered if there would be a signal, or anything that was being communicated outbound from that area. There had to be a reason why the Grand Master chose those coordinates. And there would have to be a satellite there to receive incoming transmissions and likely mange outbound as well.

He went over to ACE, opened up its root programming log and changed the incoming antenna position to match with the coordinates from the MANOOLA data transmission.

It was late into the evening and the ship vibrated heavily all around him as it travelled through space, toward their eventual meeting point tomorrow. The engines were loud, but the noisy travel environment onboard the ship at the time did little to shift his focus. He had just found the ultimate distraction, and something he was very compelled to want to answer.

It would take a quite a while to receive a signal from 440 million miles away. George waited and heard nothing. He asked BIM to bring up the coordinates on the map so he could see them in greater context. It seemed to George like the coordinates were pointing to a huge open space above the third planet from the sun. But not to the planet itself or the large moon that was orbiting it.

That made little sense to George, so he changed the antenna positioning to coordinate with the position of the moon surrounding the planet. He waited and again didn't pick anything up. He felt he was just shooting in the dark. He aimed it toward the nearby planet

and programmed BIM to move the signal three degrees every 30 minutes.

He laid on the floor next to ACE, not far from one of the speakers, and listened to the constant white noise that was radiating from it. He listened intently to its consistency, hoping to hear anything that would jar him from his comfortable position on the floor. He was almost asleep when the thoughts of Lisa and their meet up tomorrow overcame him. He was excited, but tired enough that he fell asleep.

The white noise continued on ACE for a few hours. Then the noise broke with an indecipherable voice flashing in and out among the inconsistent radio frequency. The voice was high pitched and squeaky, and a minute later it had disappeared. The event was logged into ACE's root directory, and BIM's internal storage.

Chapter 9

George awoke to the engines still operating at full speed. He glanced out the window and it didn't take long to see with just the naked eye that Hendrix and Joplin were getting really close. His thrusters slowly began to shut down and his momentum decreased. Joplin continued to travel towards him just a little while longer and then finally came to rest.

“BIM, what is their distance?”

“7634 miles.”

The plan was for Lisa to bring Joplin in the rest of the way manually. George continued watching inside the ship and could see her take a seat behind the command center. She was up early and ready to go.

He saw Joplin's thrusters light up behind her, and soon she was making her way closer. George took a deep breath to help calm himself. He stood nervously watching as the ship approached. He stopped using the Gamma Scope when he could see directly into her ship and could make out the outline of her through his window. He could see she was smiling, and George smiled back. She waved to him as she navigated her way right alongside Hendrix, and pointed Joplin the opposite direction so that the bay doors, both located on the port side of the craft, would be easily aligned for transfer.

After a minute, her position was stabilized. George watched her as she smiled and gave him a thumbs up before walking to the back of her craft in preparation for docking.

George went to his back bays and sealed off the open satellite bay so that it could be entered from outside the ship. He then jumped in his Exciter, opened the door, and pulled out into space with Joplin just a few feet away from him.

He navigated the distance halfway and waited. He noticed on the bottom of the outside bay door for Lisa's Exciter that there appeared to be a connecting port that was 8 inches wide, something he was sure he didn't have on his ship. This was what she created to enable her manifold to be disconnected and reconnected. Now, George was curious to watch it work.

The Exciter door opened and Lisa slowly pulled out. Once she was outside the bay, she activated and closed the door mechanism from inside Exciter, which was something else George had never seen before. As the door closed, her manifold connected to the external port she had custom built.

She was only a few feet away now and George could really see her. She smiled with radiance, almost laughing, clearly so happy to be close and in contact with another human. The excitement was overwhelming for both of them. George began to feel a little shaky at the throttles, but he knew the most important part for him was about to begin. He took another deep breath, hardly believing what he was seeing unfold before him.

He moved forward towards Lisa and grabbed hold of the large ring atop her Exciter unit. He clamped down as hard as he could to ensure he would not lose his grip.

When he was confident his grip was perfect, he motioned to her that it was time to release her Exciter from the manifold. She was able to do this from controls inside her Exciter, which George again knew required highly customized engineering work. She had put a great deal of thought and ingenuity into making this disconnection mechanism.

He watched as the manifold unlocked from the port and the remaining portion swung underneath her. If he let go now, she would start drifting away into space, and because his manifold was connected to Hendrix, there was only so far that he would be able to go to retrieve her. He felt an enormous sense of pride come over him as Lisa clearly

had confidence in him and his abilities to trust her life with someone she had just met. And they had only met through a series of Morse code messages and hand written notes.

George processed every detail of the transfer to make sure he got it just right. Very slowly he moved her Exciter into the open satellite bay on Hendrix. It wasn't a great distance that needed to be travelled, but it required a certain amount of precision to make her Exciter fit in the bay, and the hanging part of the manifold had to be tucked inside the bay which required George to use the second arm on his Exciter. Once she was completely inside the bay, George radioed to BIM to seal it off. Soon the door closed and George backed into his Exciter bay, his heart pounding with excitement.

His bay door closed. Now the ship was sealed and he jumped out of Exciter. He walked around the corner to the satellite bays and Lisa was standing there, her helmet off, but the rest of her Exciter clothes on, and there was silence as they both absorbed the moment.

Then Lisa said "Hi," marking the first time he had heard her voice and any voice in person besides his own, and she walked over to George and gave him a hug that seemed like it lasted forever. It felt amazing to be embraced by another human. He felt a warmth much stronger, and more real, than the warmth he felt at the end of each of Miss Palencia's videos. It sent a tingling sensation throughout his body. She squeezed him hard enough that he could feel her heartbeat pumping blood through her body. The feeling of another human being was incredible.

They both smiled at each other following the long hug. It seemed they knew so much about each other, yet they had just met.

"Come on in," said George. "This is BIM, a companion I built from left over equipment."

Lisa was obviously impressed, "Wow, that is really smart. Hi BIM." BIM beeped and blinked a small light on his head.

She glanced around the ship. “Everything is just like Joplin. I can’t believe it. Every wall and electronic device is the same. They had to be built at the same time. When did you say your birthday was?”

“November 25, 1991.”

“And I was born October 23, 1991. So I’m a little bit older.” She laughed.

“Indeed. And BIM is seven years old. He needs a little rewrite on his programming.” BIM’s light on his head went dark.

Back in the command room, George was proud to show her ACE.

“So this is how you did it?” she said. “Impressive.”

George walked her through the entire process of creating ACE starting with the early days of the PACE project, and the breakthrough that came from the solar panel inspection. They both surmised that her ship had a similar antenna that could use the programming George had already written to give Joplin a full functioning ACE-like communications system. It would only require some assembly of equipment since most of the hard work had already been done.

Lisa continued walking around the ship while George followed her. She entered his Grow Room. “This is a lot like mine. We have a lot of the same plants. But I’ve been experimenting with crossing some of the fruits and vegetables. I’ll have to show you how it works. Have you ever fermented juice from your fruit,” she asked.

“I have not. How do you do it?”

“Oh George, you have to try it. It makes your body feel numb all over, and it makes you laugh a lot.”

“Sounds like fun.”

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“All you do is squeeze some juice in a jar, add water, place a few pieces of fruit in the jar, and let it sit for a week or so until you can separate out the yeast. Then you reintroduce the yeast and let it marinate a bit longer. It's not hard to do. It tastes different than you expect, kind of good, kind of bad, but the feeling it gives your body is a lot of fun. I have some aboard Joplin we can get.”

“We should do that.”

Lisa walked back into the adjoining kitchen and grabbed an orange from the table.

“Do you mind if I try it? I'm curious what someone else's fruit tastes like.”

George nodded. She peeled back part of the orange, took a bite, and laughed.

“It tastes just like mine do.”

George pulled another chair over to his tiny kitchen table and sat across from her. He couldn't believe that someone else was sitting in his kitchen with him, talking, and eating his fruit. He never imagined this day would come.

“Why are you being so quiet George?”

“Sorry, I'm still just a little overwhelmed with everything that is happening.”

“Me too,” Lisa said as she took another bite of the orange.

The two proceeded to talk for the next few hours, covering a range of topics, but particularly focusing on their life aboard the ship. They concluded that their ships were created at the same time and that since they were both born at almost the same time, someone had put them on the ships at almost the exact same time. Their early years were the same with memories of robotic arms helping them for as far back as

they can remember. The discarded pieces from these robots were all stored in each of their work rooms, and after sharing an inventory of everything in these rooms, it became clear they had the exact same pieces.

Their education was identical, with the same teachers, and even the exact same lessons.

“Who is your favorite teacher?” Lisa asked.

“Miss Palencia.”

“Me too. And I also like Professor Miller. Anyone except Mrs. Epstein.”

They both laughed.

The conversation flowed for hours. They learned that virtually everything about their lives was the same, and they shared many of the same feelings, positive and negative.

They speculated about what they were doing, and where the instructors and the Grand Master lived. George again mentioned the antenna transmission data, and they agreed that one of the top projects would be to follow the path of those coordinates to see what they could uncover.

They spoke about the Callisto Symphony, now concluding that it was an event that obviously required at least two people in spacecraft to work on. Maybe more. They were curious if there were more people like them out there. They both spent evenings staring at far away galaxies and taking readings on satellite data and maps. It seemed like a miracle that they hadn't discovered each other much earlier, given their relative close proximity.

But the data coming across the satellites was clearly being manipulated when compared to what they could see with the Gamma Scope and the

naked eye. Something in the programming of the ship and its control center did not allow it to recognize other similar ships, and each ship was emitting what appeared to be some sort of field around it that helped render it invisible to certain satellite systems. They decided that getting to the bottom of this was also a top priority since it might help them find other spacecraft that were hidden from them.

“George, we’re getting a big list of things to do. What about installing an ACE system on Joplin?”

“That too.”

“How are we going to do all of this?”

George replied, “We have plenty of time.”

As they continued talking it became clear to George that they had lived parallel lives, each aboard a ship that was stationed at a location not far from one another. They agreed on almost everything, stated ideas in a similar way, and almost knew what the other was thinking before they said anything.

The biggest point of differentiation was what they had chosen as their “specialties.” George had clearly chosen to follow a path using his engineering and computer programming skills. He also had a strong interest in the physics side of things.

Lisa had experimented with food and growing in an uncanny way, constantly creating new fruits and vegetables, and hybrid growing beans and wheat and other ingredients, which she used to make healthy and delicious meals that became an important part of her everyday life; something she said she always looked forward to everyday. Lisa had also decorated the inside of spaceship whereas George had done very little except keep his clean.

Both were extremely fluent in Astronomy, and they never tired of looking off into the distant galaxies and letting their minds wander

about what or who else might be out there. It was so vast, and seemingly empty yet so full of life. They both knew other life existed because they had seen it in instructional videos with professors their whole life, and in the Grand Master's regular communications. But where?

“George, I meant to ask you, why did you have one of your satellite bays empty? Did you not always have three in there?”

George proceeded to tell her about the sun flare event that occurred years ago, and how he had to program and send off one of his satellites near Saturn to monitor the approaching comet.

“And are you able to monitor what the satellite is broadcasting? It must still be there?”

George paused for a minute. “I wasn’t able to at the time. But I might be able to now,” he said thinking about ACE.

“You said that Professor Maule believed the satellite would provide a better understanding of the Callisto Symphony, for them. If we can tap into the satellite to see what data it is reporting, and even where it is pointing, we might learn something about the Callisto Symphony too, something we were not supposed to know about.”

George knew then that they were going to be a great team. Their training was too similar, and their interests were identical. They hatched a plan. Lisa liked plans and efficiency every bit as much as George did.

Even though Lisa’s ship was better decorated, more comfortable, cleaner and overall nicer than Hendrix, they had to use the open satellite bay to bring her Exciter in. So they decided to make Hendrix their home base. In a relatively short amount of time they had agreed that it would be more fun to be together on one ship, than to be separated on two. They had been alone their whole lives, and now it

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felt so good to have someone to talk to, someone to relate to, and to be around a real human being who cared.

Lisa estimated that it would take two trips back and forth to Joplin to move her essential food, clothes, and equipment over to Hendrix via her Exciter. George worked on an equipment list that included more circuit boards, monitors, and other pieces of the discarded robots he thought they might need. He thought for a minute about detaching her antenna among the solar panels, but decided to leave it in until it became necessary to use it. For now, his antenna should be fine.

Lisa would also grab some of her fermented juice, along with as much of her water supply as she could. She would also double check her MANOOLA reporting data and the custom program she wrote to ensure that it would turn over for an indefinite amount of time. If she needed to go back to Joplin it wouldn't be too difficult. It was just that each trip back and forth took an hour to complete in logistics of opening doors, connecting manifolds and using the Exciter arm. They felt they had an immense amount of time, but after they spent the afternoon conversing together they realized that they had a great deal to accomplish.

After Lisa moved her items over to Joplin, she would prepare a nice meal for the two of them, using some of special ingredients, along with some of her fermented juice. She laughed after asking George again why he had never fermented the fruit.

"You must have skipped the chapter on that one?" she joked, knowing full well they had both probably read the exact same texts their whole life. She had just been a little more adventurous in her extracurricular work.

They would enjoy the evening together and then the next morning, George would share with her the coordinates for the Grand Master's transmission location, and they would again try to hear any outgoing communications being emitted from that side of the galaxy. Lisa was

thoroughly engrossed with George's hand built communications infrastructure since it opened up possibilities that she had only dreamed of.

The retrieval of items from Joplin went smoothly. George again became nervous every time Lisa's Exciter disbanded from her ship. She was entirely in his hands each time, but he felt confident in his handling abilities and the maneuverability of his Exciter.

She brought more with her than George was expecting, and he helped her carry everything to the various points on Hendrix where things belonged. She brought almost her entire fruit and vegetable collection saying, "I couldn't bear to let it sit there alone and die out." George's Grow Room now had plants stacked in every corner.

She was also able to fill old cylinder tubes from her work room with water and George emptied them into his recycling system. It was now almost completely at capacity and should provide them much needed water for the foreseeable future.

There were clothes and an assortment of handmade figures that she had crafted many years ago from discarded ship equipment and old clothes that had worn through. The figures themselves showed wear and tear, obviously having been with Lisa for some time. "These are even more important to me than the plants. I've always had them. Kind of like BIM."

After everything was put away, Lisa began preparing the meal. She perused George's stash in the Grow Room, but decided to use all ingredients that she had grown.

Like George, she had also been experimenting with sauces to pour on top of the meal, and she brought a few of her favorite creations.

Before long, they were sitting together at the kitchen table, a nice meal before them, consisting of fresh beans, peppers, spinach, and squash with rice and a dark sauce that was spicier than anything George had

made before. It took him a while to get used to the bite of the sauce, but he came to enjoy it.

"And now for the fun part George," she poured a small amount of her juice mix into two cups and they each took a drink. George didn't find the taste particularly appealing but he didn't say anything.

"Just a couple more drinks and you will begin to feel your body respond. It makes you feel a little dizzy so make sure you are careful moving around."

"I'm ready."

They finished the meal and poured another glass of juice. George was beginning to feel light headed and started laughing.

"This does make you feel funny."

Lisa was laughing now too, "I know. One time I had three big glasses, almost my whole mix and I started seeing circles spinning on the ceiling as I laid on my bed. Then next thing I knew it was the next day and Kang was on the screen saying 'come on Lisa, you can do it, keep moving.'" They both laughed hysterically.

"It is always funny to wake up to Kang. Did you ever notice his videos only have exactly 365 days of programming and then they restart back with the first one?"

"And then he acts like you've never seen any of the videos before, but you've seen them all ten times," Lisa said laughing even more. "It's kind of fun to skip all the instructional videos like we've been doing. I never thought about doing that. It just seemed like a requirement so I did it."

"Same here," said George. "Until I got thrown off course by a gravitational field when I wasn't paying attention, and then everything just sort of happened after that. No thanks to BIM on that one."

George ran over and started pushing buttons on BIM while Lisa laughed along with him. Then he started to give BIM orders and they would make fun of him.

"Go in the bedroom BIM, and hide."

BIM would go in the bedroom and respond, "I do not understand the meaning when you say hide." More laughter ensued.

They both continued having a great time, laughing and sharing stories about their life aboard the ship and the cast of instructors they had growing up.

That night Lisa slept on the floor in the bedroom after having made a makeshift bed out of old blankets and pillows. She laid down on it, "George, it's more comfortable down here than in that bed. Trust me, I know what that bed feels like."

"Actually," she continued, "it doesn't feel comfortable at all." They laughed again. "I'll make due though." And soon they were both fast asleep.

The next day George awoke first. He had never felt like he did that morning. His head was pounding and his body was aching. He rubbed his eyes and then was startled when Molly's alarm began sounding. He reached over to turn it off and took a deep breath. Lisa was still asleep on the floor beside his bed.

Then Kang popped on the screen, "Good morning George. Are you ready for today's routine?" George shrugged and Kang's appearance woke Lisa up. She was groggy too, rubbing her eyes as she looked around.

"For a minute, I thought I was aboard my own ship."

"I need to find a way to turn the audio on this screen off."

"Add it to the list George. I am really looking forward to some of the projects we discussed today, even if I do feel sick after drinking that juice."

"I didn't want to say anything, but is that a normal feeling? Even the next day?"

"Sometimes. It depends how much you drink, and last night we had quite a bit. You will feel better soon."

"That was fun though."

The two had breakfast and then Lisa expressed an interest in seeing how George's entire communications infrastructure had been set up. She couldn't believe he had found the secret solar panel that served as an antenna. He showed her the programming where the coordinates for the Grand Master outbound communications were contained. Lisa was immediately interested in laying them out on a map. They went back to George's command center and BIM helped them transfer the data as he had done before.

"Have you studied the interstellar properties between us and the sun much?" George asked.

"Not much. I was always instructed to look toward the outer band of the galaxy as well as studying nearby movements of planets and moons."

They looked at each other for a minute and didn't have to say a word. Just as their satellite data was being blocked from one another, this was another controlled situation. They were never compelled to study the inner galaxy because the instructors obviously did not want them to. There must be a reason.

"We need to turn the Gamma Scopes around," said Lisa.

BIM was able to bring up a red blinking light showing the coordinates, again in the same approximate location as when George had brought it up. Lisa's eyes grew wide.

"George, this has to be it. There has to be something near here. Why else would the signal go towards the inner planets?"

Just then, George noticed a second red blinking dot on the screen. He pointed it out the Lisa. "I did not see this before. BIM, what is that second indicator?"

BIM loaded the communications log from the previous night on the screen and George noticed it right away.

"We picked something up." They both peered into the code, which contained the coordinates for the second blinking light.

"BIM, load those coordinates on ACE. Right away."

BIM plugged into ACE and moments later they could hear white noise from the incoming signal as it searched. The white noise continued for a few minutes, and then suddenly it was interrupted by a high pitched voice, speaking quickly. Lisa and George stared at each other, with completely blank faces as the gravity of what they had discovered settled in.

After a few seconds Lisa spoke first. "It's Mandarin." George nodded.

Chapter 10

"Can you make it out?" George asked. "It sounds like something about winning a game?"

"It is just that. There are at least two people playing some sort of game, and then there's a leader who is doing most of the talking. That is the loud voice." They both listened some more. It was almost more exciting for both of them than the discovery of each other.

"One of the people just lost something and the other person won it. I can't tell what the object is they are talking about."

"Yes, I'm only picking up a few phrases here and there," said Lisa.

"They are speaking very fast."

George had learned six different languages since as far back as he could remember. As he grew older he started to lose his vocabulary but at least once every couple of years, there would be a special instruction on each of the languages to keep it fresh in his memory. Most of the coursework was done through actual workbooks, and having gone through the workbooks a number of times, George had retained a great deal.

"How did you find this location?" Lisa asked.

"Randomly. I set my antenna to stagger its position throughout the night a few evenings ago, and I guess at sometime in the night, it came across this coordinate."

"I wonder if there were any others." They combed through the code together, but didn't see any record of additional contact.

"What about video?" said Lisa. "Do you think we could pick any video up from these coordinates?"

"We can try. I am using a small video board from the battery room, so I wonder how it will project."

George went into the code and changed the audio and video settings.

"I have a feeling there's going to be a significant lag in the video given test transmissions I did even just on this ship."

"And your transmissions to me were at times almost a minute behind the audio."

"We can try." George finished the code. "This might take a while, but we can let it run. And I know one other thing we can do quickly. Let's quiet this video screen in the other room."

"Good idea." They proceeded to program out the audio from the incoming signal.

"But what if the Grand Master comes on with a message?" George asked.

"Can we program BIM to detect the Grand Master's signal, and then have him plug in and change the code back? We might miss the first few seconds, but we should be able to hear most of the message."

"I can program BIM so that when the red lights flash, he will take that action. That's a great idea." George finished this small project while Lisa continued to listen to, and be enamored by, the voices on the screen. They had sent the signal from ACE to be broadcast over the video screen now that the instructor audio had been cut. This way they could both listen to the Mandarin broadcast they had picked up, and each would try to decipher more about what they were saying.

All of a sudden the video on the screen changed from the instructors to broken up shaky images of people. They stood side by side watching as the images struggled to appear on the screen.

"Wow," was all they could say.

"Looks like Kang," joked George.

"It does. I wonder who these people are."

"It's hard to make them out, and the audio continues to be a challenge." George was frustrated with the computing power of ACE. "I would like to use some of the extra equipment you brought over to make ACE process and output this data faster. I know we can make it faster by adding another board or two to jump start the signal processing."

"You can use any of my equipment that you need. I know there are some circuit boards in there, but they are old, back from the days of the robots."

George shrugged, "I'll make it work."

They moved the equipment in the bedroom so they could watch what they could on the video screen. Images would pop up and then disappear a minute later, with lots of dead time in between. The audio would cut in and out, making it difficult to understand what they were saying, although they were able to pick up bits and pieces.

"Instead of adding an old board, what about recircuiting the board, or maybe even all the boards, to be faster. That is a more long term solution, and I think it will work better," Lisa said.

"I might have to get out one of the old electrical engineering books." And that's exactly what George did. He studied it thoroughly for 30 minutes before passing it to Lisa. "Oh I remember this one," she said.

George disassembled three circuit boards from Lisa's pile and reassembled them in a more direct and efficient processing path. Instead of each board working separately, George made them work as a whole, as one more powerful board.

"I should be able to remove my boards and place this one complete board in its place. Then testing it should be a breeze." Lisa helped him

swap the equipment, and before long, the audio signal became clearer and the video speed almost doubled from its previous stagnant pace.

Lisa made another important suggestion. "What about using those other boards to boost the antenna capability?"

Now that George had done one board, he could do many others too. The overall efficiency of the systems aboard the ship could be dramatically increased. He agreed with Lisa and began reengineering the boards powering the secret antenna by the solar panels.

The work took much of the day. Lisa made notes in the other room about what she saw on the screen. A whole new world was opening up to them.

George finished powering up the antenna, and now the video and audio were even more crisp and clear. There was a lag but it was reduced to twenty seconds. Now watching the characters on the screen move their mouths was close enough to the audio to help make out what they were saying.

Lisa shared some of the notes on what she had seen. She talked about a beautiful, lush scene where plants grew all over the place, some of them 50 or 60 feet tall. She had seen vehicles that went on water, and vehicles that traveled on land. The land was covered with living quarters and big structures. She had seen a place stocked with fresh fruits, vegetables and other food she had never seen before.

George continued to listen to her and watch the screen simultaneously. They would stay up throughout the entire night, learning about animals, even a "dog" like George had seen that spurred his development of BIM. There was talking and people disagreeing with one another. There was laughter and jokes. During one segment, they both laughed as two people tried to climb over structures without falling into the water below them but both would end up falling in

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anyway. The voices associated with the video images would laugh along with them.

All through the night, there was a combination of being awestruck and laughter. Lisa and George shared their thoughts on everything they saw. They knew a world existed out there that was far different than the world they were used to.

"George, look at this," Lisa was standing over his command center. "When you use your satellite and radar to cover the same area where this signal is coming from, there are a lot of blank areas, and the signal gets fuzzy. But when you move away from that planet and even attempt to view a greater distance, the signal is clean again."

George nodded as she walked him through her discovery.

"This is where they all are, and they don't want us to find them. So they changed what we can view from this ship."

She was right, and it explained everything. They had purposely been directed in their studies to look away from that planet and that direction overall. But when they use a different device, like ACE, that has not been manipulated, they pick up a lot more in that direction. Plus the Grand Master was transmitting from the atmosphere surrounding that planet. Perhaps he was in an orbiting spacecraft or living on an orbiting moon?

"Then why are we out here?" wondered Lisa. "We have a mission, but we don't know when it will occur. Were they just going to leave us out here indefinitely?"

"It appears that way. Maybe the Callisto Symphony is when we come home, although I don't think that's the case. We need to understand why they sent us out here, as babies, and why they educated us in the way they did. There's something bigger going on here."

"You're right. We need to figure out what the Callisto Symphony is before they tell us. That should be a goal."

"I think we can do that. Now that we have more powerful equipment, let's tap into that satellite I sent toward Saturn years ago. Whatever it is broadcasting was very important to them at the time. I can only imagine that it is important to them now too."

Lisa offered to help with the satellite while he continued to watch the incoming audio and video. She wanted George to see more of the images coming across the screen first hand. Most of them were indescribable to her. They couldn't be shared properly. George would have to experience them as well.

It was now the middle of the evening, but neither one of them seemed to notice or care. The excitement of these new discoveries took control of their decision making, and they were bound to continue until they couldn't continue anymore.

George sat and watched the incoming video signal while Lisa looked through George's notes from when Professor Maule instructed George on the programming and launch of the satellite. Somewhere in these notes, George had to have programmed the location he was sending the satellite to and the destination coordinates for the return transmission of its data. Because George was younger and unsuspecting at the time, this could have easily been inserted into his work without him asking any questions about it. His notes were comprehensive and it was evident that George had taken great pride in his work on the satellite at the time.

George stayed in the other room, completely fascinated by what he saw. There were so many living organisms. So much food. So many people and structures. Everything was so massive in size. There were bodies full of water that stretched as far as you could see. He never dreamed such a place existed.

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He observed the characters on the screen as their emotions continued to jump between laughter and happiness, to anger and confrontation. It left him slightly confused, but peaked his curiosity. He still only understood a handful of the words that were spoken, but it was enough for him to grasp a context for what was being said. He just didn't always understand the times people chose to laugh or be mean.

Lisa entered the room. "I found it." She had located both the positioning data for where the satellite was to be sent along with the coordinates for its outbound transmission.

"Let me guess. The coordinates for its transmission match our MANOOLA coordinates?"

"They do George. Those coordinates are clearly the hub for all who are receiving information pertaining to our mission. And believe it or not, this satellite isn't far from us at all. We just can't see it."

George was beginning to be less surprised every time they uncovered a new secret. It was clear that their own satellite mapping system was preventing them from seeing certain things on purpose. And it was time for George to fix it. It was hard for him to peel away from the video screen but his annoyance from the clear manipulation by others was driving him nuts. They needed a full and complete view.

"We are smarter than they are. These tricks may have worked when we were younger, but not anymore."

Both he and Lisa walked over to the command center. BIM downloaded the programming software for the entire control panel and put it on the screen for them to view. George had already combed through this once when he was looking for the outgoing signal but he must have missed it.

"There must be two parts to this system," figured Lisa. "One part is not allowing us to see certain things. But then there must be another part that is disguising our ships from one another."

George agreed. This was a two part process but they didn't want to make any changes that would be evident to those monitoring them. George knew MANOOLA pulled from the positioning data so they had to be careful there. They also now knew that the Grand Master and likely the instructors, along with a planet that has human inhabitants, is much closer than they originally had thought. If they change a positioning setting, they had to make sure no one else could see the difference. So maybe unlocking the system that was hiding the position was a later move. For now, they needed a full, uninhibited view of the galaxy. What else might they find?

"Wait, go back," instructed Lisa. "Look there. If the H quotient matches this," she pointed to a string of numbers on the screen, "which seems like an entry in database, then the coordinates change, with each interval automatically being moved by a factor of four in each direction. Is that how you're reading it too?"

"Now that you point it out, yes it is. That string of numbers is odd though. What kind of database entry is that?"

"It could just be a random number generated to mask an actual word. It likely doesn't hold any importance; it just matches the object to a known database. So when they launched the satellite, I bet they added that number into the database, and then the mapping program seems to be written so that it automatically displays an area surrounding the object but not the actual object."

"That makes sense," said George. "That is how I found you. I could see the light bending around something on the Scope, but as I approached I could see more of an object, when the light was right."

"So Joplin is probably an entry in your system, and Hendrix is an entry in mine, hence why we couldn't see each other. The planet we are looking at is likely an entry too, as is whatever seems to be orbiting it."

"Do you think it's as simple as just deleting this bit of code? What am I missing?"

"Let's copy the code exactly how it is so that we can reenter if needed. Can BIM do that, and then we delete it? I think that should do it."

"He can."

BIM made a copy to his internal storage of the full code, while Lisa manually deleted it from the program. She reloaded it and rebooted the system.

Right away, Joplin showed up on the radar right alongside them. They both smiled, saying nothing more.

The Mandarin continued in the background. On the video, everyone was laughing and a group of people were clapping and cheering while people made funny faces on the screen.

They were both exhausted, having broke ground on a whole new life.

"This changes everything," said Lisa. "My eyes are heavy, and I think it's time to get some rest."

"I agree. Molly is going to ring in an hour though."

"That's funny, mine is called Mike. There's one difference between us."

Chapter 11

When he awoke the next morning, Lisa was already up and moving in the kitchen.

"Good morning. Come and grab some fruit."

"What time is it?" asked George.

"Almost two. I woke up a couple hours ago. It felt nice to catch up on some sleep, but I am still on a high from everything going on. I spent a little bit of time trying to tune that video feed back in, but it was just playing the same video as yesterday. It was still nice to see everything again."

"I wonder why it's not changing. We might need to take a look at the refresh rate to be sure we are updating our incoming transmission regularly."

"Yes. Also, I was going to wait for you, but I just couldn't resist. I learned a little bit more about the satellite we were curious about."

"What's that?" George grabbed a handful of strawberries that he figured came from Lisa's Grow Room since he hadn't grown any. They tasted great.

"It's sending data about the Oort Cloud."

"How do you know that?"

"I was digging through your notes from when you sent off the satellite, and it was pretty clear what the desired location of the satellite was. I did some mapping to try to find out why that location would be desirable, and it turns out that once a year that location provides a particularly direct view of the outer shell of the galaxy, where the Oort Cloud is. The rest of the year it is in an optimal viewing position too."

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"Wow, you were busy this morning. I wish we could get a look at that feed."

"Me too, but I'm not sure how."

"I wonder why they are so interested in the Oort Cloud? I know it's where most comets are formed, but what else?"

"It must be something important enough for them to contact you and spend months developing that satellite communication? I've studied that area and have never noticed anything that would cause alarm. But it is a long distance and I know we can't see everything."

"I have studied it too. I wonder if it's related to the Callisto Symphony. It must be."

On the screen in the other room was the video feed. They couldn't help but want to see the images of the other world, even if it was for a second or third time. They noticed new details they didn't see before, and the excitement remained high. They spoke at length about what it would be like to walk on the ground, and be in the water, to ride in the land vehicles, and to eat all of the food. Everything they saw also raised a lot of questions, for which answers wouldn't exist. What was inside the tall buildings? Where was everyone going in their vehicles? What is everyone doing? What is their mission? Why are the people so happy, then so angry?

George took particular interest in the computers that people were using. They seemed to have small portable computers in their pocket, and then sometimes they would use larger computers. And everyone was talking or typing on them. He knew that these computers must be generating signals, and with so many people using them, there should be a lot of signals that they could potentially pick up. But where exactly were they located?

"You know, I wonder if I could send a signal ping back to the source of this transmission, just to see if anything comes back to us?"

"But if someone is monitoring it, wouldn't they notice?"

"Yes, maybe, but we already aren't supposed to be viewing this, so I'm figuring that no one is monitoring it for activity. That's not where they expect us to be doing anything. What do you think? We might learn something."

"It's a good idea. I think we should first try to scan the area in more depth, similar to how you discovered this transmission. Perhaps we can find others?"

"It could take a while. We can mark these coordinates, and try to open the auto field scan while we are sleeping. That way, we can just wake up in the morning and see if any new signals are detected."

"Let's do that for sure. And can't you scramble the return ping to hide location data, or at least make it more difficult for someone to see where the information was sent?"

"We could, but it wouldn't be hard for someone to unscramble it. It might work as a first line of defense in the chance that someone was monitoring the signal. But I imagine we will be ok. It's our only way of learning more. Even if we find more signals, we still will want to do a ping, sometime; it will just be a matter of choosing among a larger number of signals."

"Alright, let's just do it then. But let's do the scrambling just to be on the safe side."

George left the kitchen and headed to the control room. He typed a quick command into ACE and hit send. "BIM, let me know if we receive anything."

George walked over to the Gamma Scope and noticed that Lisa had left some notes near it that contained a variety of coordinates. Soon he realized these were the coordinates for the satellite, and he zeroed in on the location enough to get a nice view of the satellite that he had

launched many years ago. It was so close yet he was sure it had never appeared in his Gamma Scope view before.

He scanned across the blackness, noting the star constellations that he would use to instinctively approximate his location. It almost happened as second nature.

He moved the Scope back toward the planet that was transmitting the signals. He could see much more than before. The clarity in the Gamma Scope changed dramatically now that they had deleted the hidden database code. He could see what he thought were a number of satellites orbiting the planet. He knew that the orbit of this planet in relation to their current location would only bring them closer together every day that passed.

BIM beeped. George got up and walked towards him. He had received a signal back. It was mostly numerical but contained small parts that were in Mandarin interspersed with a bit of English.

"Come here," he called out to Lisa, who quickly joined him. "This is the message I received back from the ping."

"What are all these numbers? Wait what's that towards the end?" She read it aloud translating a few Mandarin phrases with English. "This message is sent on behalf of Lingdao Broadcast Company. If you are not the intended recipient you are notified that disclosing, copying, distributing or taking any action in reliance on the contents of this information is strictly prohibited. Lingdao Broadcast Company accepts no liability for the content of this email, or for the consequences of any actions taken on the basis of the information provided, unless that information is subsequently confirmed in writing by Lingdao Broadcast Company."

"Are we the intended recipient?" George joked, elated at his accomplishment.

"George, I can't believe it. You are actually communicating with someone else."

"It was only a ping, so it's likely a computer generated message. We need to work on those numbers to figure out what they mean. But there are a lot of them. BIM might have to process them and look for commonality to determine context and meaning. And that could take a while to run all these combinations."

BIM downloaded the message, and George moved him on to his charging platform to make sure he would have enough power for what might be a lot of work. But BIM didn't stay on the charger. He started moving toward the bedroom, confusing both George and Lisa for a moment. Then the ship went dark and the red lights came on. George and Lisa froze, looking at each other in disbelief. BIM switched the feed on the main screen just before the Grand Master began speaking.

"George, I hope you are doing well. Your coursework is coming along smoothly. I am excited to tell you that you have now reached the Platinum level in your studies. This is quite an achievement George. We are all very excited for you."

Lisa and George just looked at each other emotionless and then back at the screen.

"As such George," the Grand Master continued, "we have determined that it will be important to focus on the Physics studies over the next 6 months. I know that you are already studying Physics right now, but we want to continue to advance your knowledge in this area so we will move to the next year of study immediately following this quarter's work. Please be sure to follow your instructor closely in your coursework. And pay attention to all details. You cannot make mistakes. You have to be 100% right in all of your work."

"George, we are counting on you. Good day."

The screen turned off.

"That was pretty uninteresting," said Lisa.

"I agree. I have never understood the levels we reach. What does it mean?"

"I'm not sure either, but I assume the same message was broadcast over on Joplin."

"I guess some good news is that our MANOOLA reporting is working perfectly, plus the ping was not detected, and our code deletion on the satellite map appears to be safe," George said.

"Yes, that is all good to know. I would imagine he would have said something if it was to the contrary."

"I wonder what the focus on physics means. I am starting to get the sense that something is close to happening. I just have no idea what it is."

"Me either George."

The video from their feed came back on the screen. Images of a sunny place with a huge area of water captured their attention.

"Look at all that water George. It's blue for as long as you can see."

"It's amazing," George said as his mind began to drift and he began pacing between rooms. Everything they were seeing had to be happening on the blue planet where the transmissions were originating from. The message he received was from a broadcasting company who must be generating many different signals since they are a company that specializes in broadcasting. As the planet continued its orbital path, it would get closer and perhaps they could see even more. The planet also had other satellites orbiting it, which no other planet in the solar system has. He was beginning to conclude that this was in fact the center of the world. And now it was within reach.

"BIM, how many days to travel to origin of signal." George picked him up and put him back on the charger.

"1184 days at full thrust."

George shook his head. There had to be a way to do it faster. Lisa walked into the room.

"You want to go there? Are you serious? George, what about the Callisto Symphony?"

"I don't know, but we've been waiting around for it way too long. Didn't you want to move from our current location and explore? We have spent our entire lives in the same part of the solar system. Luckily you and I were able to meet. But this whole universe exists out there. I know you want to go as bad as I do. Let's just do it."

"We can't leave George. Think about what BIM just said. It will take more than three years. We have a purpose here."

"Our purpose is changing. Look how much we know now. And we're on the verge of learning a lot more."

"It's true, our whole lives have changed, but why not learn more using all these new communications tools? And someday the time will be right."

"Let's think about it," George said and walked into the bedroom. He knew Lisa was right and that he perhaps had started to pursue his idea without fully thinking it through. He was excited about the possibilities of communicating with the broadcast company. They presumed the Callisto Symphony might be more imminent given the Grand Master's communication, and they now had an area of the galaxy that seemed to be central to the mission. And the blue planet was getting closer every day.

The Callisto Symphony

Their sense of purpose about their mission had been instilled for so long it was impossible to ignore, even with so many new developments happening every day.

That night George lay in his bed. The ship was quiet. Lisa was in the living room, and George just wanted to stare out at the stars and dream. His analytical mind couldn't stop trying to put the pieces together, while at the same time trying to assemble a plan for what to do next. If they could determine what the Grand Master intended regarding the Callisto Symphony, then they would know exactly what they should do next. Traveling to the planet where they believed other people lived would be an adventure, and it wouldn't be a trip where returning back to orbit around Jupiter was an option. It was likely a one-way trip.

But then again, they were on a one-way trip right now; a one-way trip that didn't show any signs of progressing in the near term. Sure, there seemed to be a little flurry of activity but this isn't even as much attention as he received when the solar flares were darting around the ship years ago.

George knew it was time for change. So many things had happened recently that he knew he couldn't go about the same way in his thinking. He had to reach new levels of thought, with new approaches and new strategies. These thoughts consumed him the entire night. He did hear Lisa come in later. "See you in the morning, George."

"Yes, see you then Lisa." His thoughts returned to assembling the plan. He decided to propose the idea of them splitting duties, and then depending on the outcome, or lack thereof, they would switch duties to see if the other could perform them better.

George wanted to work on studying the Oort Cloud. He felt something out there was important to the mission. He would propose that Lisa continue to monitor the satellite transmissions and try to communicate more with the broadcasting company. Other than that,

BIM would continue crunching the numbers from the ping back, and they would all think about ways to increase their travel speed should they decide to change location.

The next morning George shared his plan with Lisa who agreed.

“But that doesn’t leave much time for our extended physics studies,” she joked. She also wanted to go back to Joplin to retrieve a few more items.

They began their plan. George was deeply focused on observing the outer galaxy and was digging through his Astronomy and physics course books to refresh his knowledge about certain equations, events and properties. He knew the closer Kuiper Belt was responsible for more short term comet development, while the Oort Cloud is where billions of comets with longer orbits live. These comets would only occasionally be pulled out of the cloud from the force of a nearby galaxy depending on its proximity.

He began to ponder why he was studying each of the chosen subjects with his instructors? Who determined the curriculum, and why this subject matter? Understanding the answers to these questions might prove to be more important than what he actually learned in the coursework.

Since he focused on Physics, which the Grand Master was emphasizing even more right now, along with Astronomy and Mathematics, everything was pointing to his acquiring deep knowledge of the solar system and how it worked. That appeared to be what he was really learning through this coursework. These three areas of study would provide him with incredible knowledge.

The more he pondered this, the more convinced he was that there would be an interstellar event of epic proportions. George became convinced this was the meaning behind the Callisto Symphony. He also had a clue in that Callisto was a nearby moon of Jupiter. Perhaps

he just had to work backwards from there. In each transmission, his instructors are “counting on him.” What are they counting on him to do?

Meanwhile, Lisa was working away on ACE trying to learn more about the transmissions that were going both directions now. The signal varied significantly depending on the changing rotation of both their craft and the target planet. She received several more pingbacks that were similar to the first one. They too contained a long string of numbers followed by a similar message regarding ‘intended recipients.’ She couldn’t help but wonder who the ‘intended recipients’ really were. Maybe that referred to the people in the video, which continued to attract her attention. It was hard to look at anything else.

They also went back to her ship to grab some additional items. She thought about staying on her ship for a few days, but Hendrix had become the command center for all of their operations. Every once in a while the two of them would get silly and drink some more of Lisa’s fermented juice. And she had taken one night to make some more so they wouldn’t run out anytime soon.

They worked hard most days and spent the nights talking and looking out the windows. Both were very interested in how the other had felt at various increments in their lives. Everything they knew was the same. Every word that had been spoken to them had been calculated, and likely had been the same words that were spoken to the other.

Neither one felt lonely anymore, but they did feel anxious. Anxious for what the future held. Anxious for what they would discover next. They felt as though a big secret was slowly being unveiled to them and they were ready for the next chapter.

Just two days later, as they were working away in the middle of day, as the ship was silent, BIM began beeping and walked toward George. George expected a reminder about something, or a lack of charge, so

casually brought up BIM's screen. BIM had decoded the numerical code, and it produced a series of images.

"Lisa," he shouted into the other room where she was working. "The numbers make a picture. Come look at this."

Lisa hurried in. "Amazing."

There were five images in total. The first was a photo of a man sitting behind a desk in an office with a large window behind him through which you could see a number of large buildings. The second was what looked like a map with the word 'dizhen' and an arrow pointing in the middle. That seemed to be Mandarin but the word was unfamiliar to both of them. The third photo showed a group of people in the same uniform walking together. The fourth showed one of the vehicles for the air like they had both seen in the video but this one looked much different. It could only hold a few people and it appeared as though it could travel much faster. The last photo showed a broken brick building and people standing beside the rubble with their hands over the face.

"This is incredible. I wonder what this is," said Lisa.

"It is incredible, and there is a lot of code surrounding each picture, structured to be some sort of directory if I had to guess."

"Let me see." Lisa peered into the screen. Now that the long numerical strings had been replaced by the pictures, she could see the context for how they were integrated in the communication. "This is odd, but we need to find out how to access these directories."

George flipped through the photos on the screen again, slowly observing every detail.

"Absolutely incredible," he broke the bewildered silence. "There must be more. We might have overlooked the importance of

undecipherable long strings of numbers before, but now we know they actually can produce a photo. See if we can find some more.”

“And I’ll try to find how to access those directories. They don’t look like they are protected by security or data scrambling.”

That night, George gazed out in the direction of the Oort Cloud and he monitored current and future projected activity in the cloud on his satellite screen. He noticed that a large cluster of comets seemed to be traveling together in a large elliptical orbit not far from the estimated location of the Oort Cloud. They stood out from the rest because of their sheer number. There were so many and they were so close together that it was impossible to count them accurately from such a distance, even with the Gamma Scope, or the Saturn orbiting satellite.

He then observed the nearby moon of Callisto. With more than 60 moons orbiting the planet of Jupiter, what was it about this one that was so special? Callisto's orbit was consistent, arching around the planet, then trying to veer out until Jupiter's gravity pulled it back and around the other side. It had been doing this exact pattern ever since George started studying the planet and its surroundings.

Since it didn't appear that Callisto was going to change, there had to be an event that would be affecting it. He continued to observe the area towards the Oort Cloud and forecast, as much as he could, the solar system's movement in relation to the more stagnant cloud. The cloud would shift slightly when the gravitational pull of the planets reached a closer vicinity, although the distance between the inner solar system and the Oort Cloud was still 4 trillion miles away.

BIM was helping compute the numbers which sped up the process. George watched as BIM produced a previously charted map of the movement of the entire solar system with movement of the Oort Cloud layered on top. It covered the span of the last 40 years of recorded activity and was still mostly calculated through projections given the vast distance. BIM sped up the calculations and George

watched the map begin to move month by month. As Saturn made its orbit toward the direction of the cloud, George noticed a slight pull in the outer edge of the cloud. He knew this was how comets entered our galaxy, and he began to speculate as to what would happen if the gravitation pull increased significantly more than just Saturn.

As the map continued to move approaching 1988 and 1989, he began to see a pattern. The planets had aligned. First, Uranus matched in line with the Oort Cloud; then Saturn stayed close. In June of 1990, Jupiter had made its way close to the Cloud at which point the map showed a huge bending of its shape as Jupiter pulled at it.

George heart raced. Something big was coming. "BIM, stop there. What is that exact date?"

"June 22, 1990"

"BIM, show me your projection on the contents of the Oort Cloud on that day?"

"Computing."

A map of the cloud came up with the objects swirling about inside it. A large cluster of comets and asteroids were located right at the part of the cloud that the planets' gravitational pull was going to affect.

He gasped as he realized what was about to happen.

Just then a voice came over the video screen, startling an already edgy George.

"Foreign ship, please identify yourself."

"George," Lisa called out from the other room.

He ran in and noticed the video screen was on. There was a figure hidden behind a blanket. They could only make out a shadow.

The Callisto Symphony

"Please identify yourself." It was a man's voice.

George and Lisa looked at each other in disbelief.

"What do we do?" said Lisa.

George raised in eyebrows. He didn't immediately feel threatened. He was nervous and baffled. "We should respond."

"Wait, George, we don't know who that is."

"And they don't know who we are. It can't be the Grand Master."

"Are you sure?"

"I can't be, but I want to know who they are?"

The voice spoke again. "Who is there? Please identify yourself."

"They might now know that we can hear them unless we respond," said Lisa.

"True."

They looked at the picture on the screen more closely. Lisa noticed something. "George, look at the floor." It was exactly the same as the floor aboard Hendrix and Joplin. Both of their bodies went numb as they looked at each other.

Lisa said, "It's one of us."

Chapter 12

George scrambled to ACE and booted it up as fast as he could. Lisa was smiling beside him. "I can't believe this George."

"Me either."

"Can you hear me? Identify yourself," the voice said once again.

"We're trying," said George.

ACE booted up and George began hunting for the incoming signal. He couldn't get ACE to connect.

"BIM, get over here now,"

BIM slowly made his way over and plugged in to ACE.

"We need to speed him up," George said in frustration at BIM's slow pace.

Soon the signal was up on the screen. The lights were on for both the microphone and speakers as the video screen slowly showed the figure once again behind a curtain.

"What's with the blanket?" wondered Lisa.

"No idea, let's ask him."

George spoke into ACE. "Um, this ship means no harm, thank you for your communication."

George and Lisa looked at each other confused as George motioned with his hands indicating he wasn't sure what to say. The excitement was clouding his ability to think. He continued, "We noticed your ship is the same model as ours. We believe we are all on the same mission, Callisto?"

The Callisto Symphony

The figure was quiet and didn't move for a few seconds. Then he pulled down the top of the curtain and two eyes appeared underneath a head of blonde hair as he looked toward the screen.

"Are there two of you?"

"Yes, George and Lisa. We recently found each other and boarded my ship, Hendrix."

"And you are on the Callisto mission?"

"Yes. I believe we all share similar lives. We have lived aboard our ships our whole lives, under the guidance of the Grand Master."

When he heard the words 'Grand Master' they could see his eyes light up. He stepped around the curtain revealing his tall frame, dressed in the standard uniform of tan colored pants and a faded green t-shirt.

After a brief pause, he continued, "I'm Jason. My ship is Clapton. I didn't know there was anyone else out here like me. I can't believe this."

"We didn't know that either until recently."

Lisa jumped in, "We can't believe it. But this is very exciting. Where are you located?"

"Not far from you at all. The moons moved out of my view yesterday and as my orbit carried me, all of a sudden I saw your ships appear on my control panel. I was stunned. It was as though you appeared out of nowhere."

"We turned off the scrambler on our location beacon and internal mapping systems because it was inhibiting our view. It was programmed to hide certain parts of the solar system. Have you noticed that too?"

"I have not until right now. But I was suspicious because certain things didn't add up from my studies. Certain objects seemed harder to identify than others that were further away. I attributed it to some sort of galactic fog because of the consistency."

"We experienced the same thing," said George. "But it looks like you figured out how to communicate?"

"You as well. Let me guess - the solar panel?"

"Yep."

"Now I feel left out since I didn't discover that," joked Lisa. "You are both pretty smart."

"I only noticed it because two of mine went out," said Jason.

"Same for Hendrix. I guess the parts on these ships have a similar lifespan. Speaking of, how old are you?"

"I was born on September 10, 1991."

Lisa laughed. "George, you're the baby in the group. Jason, that makes you the oldest, but just by a month."

"Were you all born in 1991?" Jason asked.

"Yes, all of us are within a few months of one another," said Lisa.

They continued to share details of their lives. George was impressed by Jason since his knowledge of engineering and communications rivaled his own. And Jason seemed even more knowledgeable about Astronomy and the makeup and motion of the galaxy.

Jason told them he had speculated about what the Callisto Symphony was, and that he believed that it was not going to be as eventful as the Grand Master was preparing them for.

The Callisto Symphony

George shared the insight he had just gained, and it matched Jason's predictions. But Jason had spent the last month working through calculations, and he determined that the Oort Cloud had in fact released a series of comets into the solar system thirty years ago, the number of which he couldn't be certain but he had started to catalog them all. He labeled them numerically JC (Jason Clapton) 1 through JC 232.

"So there are 232 comets that were released?" Lisa asked surprised at the high number.

"That's what I've counted so far. There are many more."

"And why are you not alarmed?"

"Because according to my calculations, Jupiter is so close right now to the comets' projected path that its gravitational strength will pull many of the larger ones into its orbit. And then they will circle Jupiter until they burn through and eventually fall into Jupiter's gases."

"I didn't get that far in my projections," said George. "If these aren't a threat then how do you know that this is the Callisto Symphony that the Grand Master warns of?"

"Easy. I've spent my whole life up here around Jupiter. I have felt its gravitational pull. And it's different than what we were taught. Let me guess, your understanding is based on the coursework of Professor Maule?"

They both nodded.

"What they know and what is really out here are two different things."

"You're saying they're wrong?" asked George.

"Absolutely. I'm almost certain of it. The only way we could have an impact on the Callisto Symphony with what we have aboard these ships is with the solar panels. We have the ability to shine warm light

on the comets to diminish their size, make them weaker and play a role in controlling their trajectory. That is what I think our mission is. They know that hundreds, maybe thousands, of new comets are released from the outer edge of the galaxy and that several of those would be headed toward the third planet from the sun. I estimate that's where they live."

"We did too, based on following the transmission data coordinates back."

"I did the same thing once I discovered the antenna in the solar panel. They are either on that planet, on its moon, or orbiting around it in a ship like ours."

"Fascinating," said Lisa. "So shining the light is our mission?"

"I believe so, but it's not necessary. They aren't aware of the fact that these comets will not make it past Jupiter. And if they do, they certainly won't make it to that planet. I have to calculate a few more of the objects to be certain, but I think everyone, including them will be safe."

"Jason, you won't believe this," said George. "But we received a ping back from a signal we sent toward that planet, and it included a video feed from that planet. There are trees, creatures, and vehicles on land and huge buildings."

"What? Really?"

"BIM, come here," George commanded. BIM entered the video frame.

"Is that a robot companion? I have one too but it doesn't look anything like that. Mine is built into my control panel."

"It is. It is modeled it after a creature from that planet. I saw one run by the screen during the coursework years ago."

"Wow."

George instructed BIM to play the video and he made it visible to Jason over the screen.

They watched the whole video, and there was small conversation between them at the beginning, but soon Jason was completely immersed, and didn't speak a word, except the occasional, "wow."

They decided there was so much to talk about that they needed to dock up and all board the same ship. Hendrix would be the vessel of choice, given that Joplin was already stationed adjacent to it, and their ability to travel would be more complex with two of them than Jason's would be. Jason however, had not diffused his location beacon, but it took all of a few minutes for George to walk him through it. He understood how it worked right away.

Jason estimated it would take seven days for him to reach them. He would begin the trip this evening. Once he reached them, he would have to disband his ship using his Exciter, similar to how Lisa had done it. And Lisa would walk him through how to build the disconnection manifold for Exciter. The empty bay with Lisa's Exciter already in it would make for a tight fit, but they figured it was their best option.

During the days of travel, the group would continue to communicate, and share things they had learned. The communications with the planet remained a popular topic, as did the Callisto Symphony. George began to track the comets just as Jason had done, naming them in a similar convention, beginning with GH1. They wanted to make sure their data matched. Jason believed that the largest comet, the one he named JC189 might be the cause for the biggest concern from the Grand Master, and the projections they had made.

JC189 appeared to be on a path where it might avoid being trapped by Jupiter, and would go on to be trapped by the next largest planet. In

such a case, Jason predicted that the blue planet's gravity would hold the comet in its orbit until it either shrunk from the warmth, grew weaker and crashed into the planet, or circled enough times, that it eventually makes contact with the close orbiting moon. Now that Jason had seen the large bodies of water from the video, he knew that such an impact on a close orbiting moon would cause a galactic tide on the nearby planet that would likely cover the entire planet.

When Jason laid out this path and observed its relevance to the rest of the interstellar properties, he realized that Jupiter's Callisto moon would be close to the path of this comet. This led him to believe that the mission may be singularly focused on diminishing the strength of JC189 to a point where they could cause it to collide with Callisto, thereby prohibiting its further trajectory through the galaxy and avoiding the potential for the galactic tide.

George and Lisa were in awe at Jason's brilliance. They ran the projections themselves, and noticed that everything he said was accurate. The biggest question was the path of JC189. Would it get pulled into Jupiter's orbit or make it past?

George had an idea and brought up his travel history log and fed it into BIM. He focused in on the days surrounding his last emergency shift in position caused by the extra strong force from Jupiter. Those fields were certainly stronger than what was projected on his mapping system. Otherwise, regardless of being down one solar panel, Hendrix would have never have been pulled so far out of position, and created alarm for the Grand Master.

When they overlaid the position for that field with the path of JC189, they discovered that it would in fact pass right through this stronger than expected field of gravity.

"I have felt and fought against that field in my own ship, Jason. I can tell you first hand, it's a tough one. Certainly stronger than predicted."

The Callisto Symphony

Jason nodded, "I am confident that the Callisto Symphony will not occur as the Grand Master predicted. I could of course be wrong, and there are variables out of everyone's control, but either way, I don't think that the three of us out here are going to be able to prevent a catastrophe of this magnitude."

It was soon day three of travel and they could see Jason's ship. He was close. They spent their days continuing to discuss the mission, their purpose, their instructors, and what they thought was on that third planet. They pondered what it would be like to go back, and they all three agreed that there was little choice but to try to do so now that the Callisto Symphony appeared to be under control. Their mission may in fact be at an end and they felt lucky to know about it ahead of the Grand Master and everyone else. They speculated as to what the Grand Master's plans were for them following the Callisto Symphony. Was his plan just to leave them out here? Or bring them back?

"Do you really think they sent us on a one way mission from that planet as babies, only to have us never to come back?" Lisa asked.

It seemed like a crazy thought to all of them, but also one that was rooted in the most truth, given their experiences. They discussed the different lives of the people in the videos, and how they seemed so happy with so much around them. They became upset at the fact that they were alone on the ships for such a long period of time. Jason was anxious to dock with them. At one point, he asked what it felt like to touch another human.

"It feels great," responded Lisa.

They began to formulate a plan for their return trip. Jason had estimated that it may take about three years, just as George and Lisa had. The biggest challenge was consistent power, and Jason believed that he could remove several of his solar panels to hook on to Hendrix, if Hendrix was to become the ship they would use. He figured he might be able to increase the power by 50% by installing more panels.

But he wouldn't be able to fit all of his panels on Hendrix, plus he needed to keep some aboard Clapton to keep its communication infrastructure powered up. They might be able to use a few from Joplin as well.

This could bring the travel time down from three years to two. The positioning of Jupiter and the 'swing' they might be able to get from its gravity, actually might benefit them too and decrease travel time. Plus the orbit of the blue planet was relatively favorable. If they had left six months ago it would have been even closer. And all this assumes that they don't encounter any technical complications.

On the night before they docked, Jason raised a good point about the secrecy of the travel.

"We need to figure out how we will travel toward that planet without being detected, and also how we will maintain our MANOOLA communication. For instance, what if we are told nine months from now to change location? We will need to re-manipulate our MANOOLA programming."

George believed he could program the MANOOLA to be accessible through ACE, for each spacecraft, so that they could edit the reporting data remotely. He said he would begin writing that program. But they were all three worried about the detection of the spacecraft as they approached the planet.

"We need to get inside their broadcasting network. Think about it. If they could prevent us from detecting one another at such close range, can't we turn them off from detecting us as well?"

"Maybe," said George, "but at some point as we get closer, they will be able to see us without their long range Gamma Scopes and mapping systems, in which case we'd have to find another solution."

Then George had an idea as he thought about the tools at their disposal.

The Callisto Symphony

"What if they didn't see a ship coming towards them? But instead saw a satellite?"

All three were silent for a moment while they pondered this idea. George continued to explain his thinking. "What if we hide the ship behind one of my satellites as we approach? We can combine that with scrambling their signal, but it might seem less threatening if they see a satellite, and they may not notice any small anomalies in the scrambling data around the ship if a satellite is out in front."

Jason was thinking intensely about the idea. "But the satellite is so small. It can't hurt and it might be fairly easy to execute such a plan, but at some point we are going to get close enough that we may need to hide even more."

"What if we don't hide?" suggested Lisa. "What are they going to do?"

George didn't like this idea at all. "They won't be expecting us and we have no idea how they will react. We are obviously deceiving them through the manipulation of the MANOOLA data. I don't want to count on their reaction as being positive. Sure, we think the Callisto Symphony will be done, but we don't know for certain, and we do not know their plan for us following the mission."

"I agree," said Jason. "We are already off-mission, and as we travel we will be completely disobeying their commands. We can't trust them."

"I understand all of that," said Lisa. "I just wonder if we will be able to see this plan through to completion and actually make it all the way back without incident. I guess we have to try at least."

"We do. Think about this." Jason took command. "We have one year before Callisto and at the earliest maybe two years before we approach the planet. Between the three of us, we will have time to formulate a plan for avoiding their detection. There is no reason to stay here. It's time to make a move."

And so it was decided.

The next day, when they awoke, Jason's spacecraft Clapton was just outside their window. He had completed the disconnection manifold per Lisa's instructions. Because he was docking on the opposite side of Joplin, George would have to navigate further around the ship to access the bay door on Clapton. He would then have to move Jason's Exciter with his arm over a much greater distance than he had done with Lisa. It was going to be a little more risky this time.

Jason indicated he was ready for the transfer. George opened the Exciter bay door and entered the space beyond the ship. Lisa was at the window watching anxiously. George made his way around the thrusters on Hendrix and reached the opposite side of the ship. He watched as Jason moved his Exciter towards him, and then after confirming that George had a grip on the top of it, he disconnected the manifold from Clapton and was completely loose.

George slowly guided him around the back of the ship. Jason's Exciter ever so slightly bumped Hendrix as they turned the last corner of the back of the ship, but it didn't cause any damage. George felt the bump and slowed down even more making sure each of his movements was precise and that he retained complete control over his cargo.

They came to the side of Hendrix and George opened the satellite door that now contained Lisa's Exciter. As he moved Jason towards the opening, he realized it was going to be a tighter fit than they had thought. Jason's Exciter seemed larger when it was matched up to the opening of the door and its proximity to the remaining open space. After ten minutes of negotiating his way in, George was able to turn Jason's Exciter around and drop him in facing the opposite way of Lisa's Exciter. The profile shapes of the two Exciters aligned with one another just enough for the door to squeeze shut.

George exited his Exciter and walked toward the satellite bay. Lisa was waiting there as well as Jason entered the pressurized area of the ship.

The Callisto Symphony

When the door opened Jason immediately exclaimed, "Now, that was a much tighter fit than I imagined. Nice work George."

They all smiled as Jason made his way in. He was much taller than George, standing at least one foot higher as he made his way toward them. Jason hugged Lisa tight as he relished in the touch of another human. He hugged George as well, stuffing George's head into his chest.

"You're tall."

"I never thought about it, until now."

Chapter 13

Jason's height brought attention to certain of his other features including his large hands and big shoes. But Jason felt it was just as interesting how small George and Lisa seemed. Not one of the three of them had ever had the chance to size up another human; until of course, George's recent meeting with Lisa. Even the instructors seemed similar in size, with the only notable differences being subtle aspects of their frame that could be seen on the video.

Jason wore tan pants and a white t-shirt, similar to the majority of clothes that Lisa and George had in their wardrobe. The only other articles of clothing they had to choose from included gray pants, and a couple other t-shirts that were black and dark green.

Jason's curly blonde hair stood out to them. Mrs. Epstein had sandy blonde hair, but neither George nor Lisa had seen blonde hair as light colored as Jason's.

They had the full day ahead of them to get acquainted. Jason didn't bring much from his ship, and as they passed the Grow Room he casually stuck his head in and observed, "Looks similar to mine."

Lisa suggested they plan a nice meal for later in the day, and then enjoy some of her special juice. Jason was interested in sampling it since he, like George, had not experimented with fermenting.

Jason expressed the most interest in the technological aspects of Hendrix. As they passed the battery and engine rooms, he noticed the split reporting screen, "What a smart way to do this." When BIM came walking slowly up, Jason reached out to hold him. "He's heavy."

"He is," acknowledged George. "There are lots of parts inside there."

"I call my system OptZ. It sounds as though he can do similar things as BIM, but he's not mobile. He's just a program I wrote that I communicate with. I designed him to not only think just like me, but

to also think completely different than me, if that makes any sense. The idea is that when a decision is made, he will figure out why he agrees with me, but also why he might not agree with me. So it helps generate a completely new point of view."

"That must keep things interesting," said George. "How has it been working?"

"Pretty good. I was going through stints where I would get bored on the ship. I was tired of the lessons, and had already worked forward across the entire library of coursework to complete most of it in advance. So when I would listen to the instructors, I would get bored. OptZ helps me see things from a different point of view that I realized I would never understand any other way."

Lisa was intrigued, "So do you ever listen to OptZ and change your course of action based on his ideas?"

"Yes. Contacting you was an example. I couldn't be certain that you weren't the Grand Master, or an affiliate of his. I decided to do further observation before making contact. But OptZ pushed me to make a transmission. That's why I hid behind the blanket. I wanted to mask my identity just in case I stumbled into a bad situation."

"We meant to ask you about the blanket." Lisa said.

"Yes, that must have been a little weird for you on that first transmission. I think we've been presented a lot of information over our lifetimes. I just don't think it has all been accurate. Take the gravitational field mapping. Why would that data be incorrect? I truly believe, the Grand Master just doesn't know. And they are mistaken about the Callisto Symphony. OptZ has helped me by challenging my first opinions and observations. It's always better to be challenged so that you are forced to prove that you were right."

"I never thought about it that way," said Lisa.

Jason continued walking around the ship. "This is almost identical. I trust that Joplin is the same too?"

"In every way," said Lisa.

They walked over to ACE, to which Jason was immediately impressed. "Did you connect all those boards into one? What a great idea."

"I did," said George. "It was actually Lisa's idea, and I wish I had done the same for BIM. It would cut his weight down a lot, and maybe he could move a little bit quicker." They laughed as BIM stood alongside motionless.

It was lunchtime and they ate George's fresh fruit and vegetables. Jason found the food to taste better than his, noting that he had not taken much of an interest in growing. It was instead a chore that he had to do to survive.

"I had even played with the idea of not eating for several days, but quickly realized the fact that our bodies need to be replenished on a regular basis. I grew weak pretty quick, and then stronger, physically and mentally, once I began eating again."

Lisa jumped in, "Don't worry about the food. I can handle that. Between the supplies that George and I already have, we are pretty well stocked. And we'll get the next batch in the soil. I know BIM keeps track of all of this for you, George."

"He does. We can establish a schedule for three people."

After lunch, they brought up the ping backs from the blue planet, along with all the photos and videos they had. Jason watched them intently, in further awe.

"I can't believe all of this exists, just a couple planets over from us. How did we not know?"

"It was part of what was made invisible or distorted to our view and our control systems," said George.

"But now that you have removed your shield, how do you know that they can't see your new location?" said Jason.

"We don't think they're looking," said George. "If the MANOOLA data remains consistent, giving them exactly the same positioning coordinates that they've seen every day for years, and it's what they expect to receive, then there would be no reason for alarm. I am a little worried though about once we begin to move. We may want to try to hide the remaining ships that we leave behind."

"It can't hurt. We will have the element of surprise, but we are going to be traveling for so long, that someone is going to notice at some point. It seems inevitable, even if we appear to be just a satellite."

"We need to work on figuring something out."

Jason poured through the code on all the ping back transmissions. He was fascinated by the huge numerical sequences being able to create an image. "We need to keep track of the program BIM used to decode those sequences so that we can more quickly view the contents of future transmissions." On that point they all agreed. BIM carried some important algorithms.

The afternoon was spent discussing life on the blue planet as they saw it through the video. Nobody could understand the range of emotions and how quickly they seemed to change. The happy moments made them smile, but the anger and yelling at one another provided a completely different experience. The characters seemed to be in such a beautiful place, surrounded by so many beautiful things, yet would get very angry toward one another. But then the characters would change and they would all be happy once again. It was baffling to try to understand, and the more they watched the same video over and over,

they picked up on more specifics in the video that made an explanation even more difficult to grasp.

They decided to put together a plan for departing their location aboard one ship the following day. Tonight, they wanted to enjoy each other's company, and indulge in some of Lisa's juice.

She prepared a large meal, with vegetables, beans and rice, along with a new sauce that she wanted to try. They enjoyed the meal, and began sampling the juice. Jason didn't like the taste, but started to laugh as he tried more and more. Like George on his first sample of the juice, soon Jason felt that it was "starting to taste better."

They sat in the living room, and laughed as they talked about their instructors and growing up on the ship, a similar conversation as to what George and Lisa had spoken about on their first night drinking the juice together.

"And Mrs. Epstein," said Jason. "She is so mean. She's like one of the people in the new videos we are receiving, the angry parts of the videos."

"We felt the same way," Lisa said as they laughed.

Jason was speaking loudly, "But most boring professor ever goes to..."

George and Lisa looked at each other.

"Professor Maule," said Lisa.

"Professor Miller, no no Grand Master," said George.

"Doesn't count," said Lisa, as she threw up her arms and they both looked over at Jason.

Jason's eyes darted between them. "How about...Kang." Laughter filled the ship, and it continued throughout the night.

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Jason would later fall asleep in a chair in the living room while George and Lisa slept in their places in the bedroom.

They awoke the next morning to moaning from the other room. They could hear Jason stumbling around and complaining about this headache, dry mouth and aching body.

"I have never felt like this before. What is going on?"

He shrugged as he heard the news about the day after effects of the juice. "I'm not sure I am up for a lot of programming work today."

George encouraged him, "Don't worry. You will be soon enough."

The three had breakfast and slowly felt better. George decided that he was going to continue his work monitoring what he could see in the direction of the Oort Cloud, and label the potential comets that were released. He wanted to be sure that there weren't any others that Jason had failed to locate so far. The big question was how many he should count?

"As many as you can," said Jason. "That's the way I approached it."

Jason and Lisa wanted to send signals toward the blue planet and see if they receive any more communication back. They both sat down in front of ACE and Lisa explained how she was carefully trying the signal at various coordinates. "It's mostly static, but you never know."

"We can be pretty sure that the blue parts we can see are the water," offered Jason. "Let's make sure we don't scan those but rather the areas of land like we saw in the video. We need to pinpoint where those big buildings and all those people are."

"That last signal came right from the edge of the land and the water. I'm going to try to focus back on that area again."

Everyone worked on their respective projects the entire day. George was up to GH187 in his count, but Lisa and George had failed to make any additional contact.

They enjoyed another nice meal prepared by Lisa, and then spent much of the evening talking. Jason was ready to speed up their departure, and he wasn't concerned about an invisibility shield for them on the way in. He felt they would have plenty of time to develop one on the way. His idea was to just turn the scrambling data back on for the other two ships, leave them be, and begin to head towards the blue planet. He thought it was optional whether they should add more solar panels since the time savings, according to his calculations, would be pretty minimal.

George was also an advocate for leaving but he wanted to add the solar panels, and complete the cataloging of as many of the potential stray comets as possible. He wanted to be certain that JC189 was in fact the Callisto Symphony, and confirm as much as possible that this comet was the primary worry that they should have.

Lisa wanted to postpone leaving until after the Callisto Symphony, feeling that the mission would be a complete failure without them in the event that they either misidentified what the Callisto Symphony was, or miscalculated the trajectory of JC189. She also wanted to install the panels, and do what they could to make the journey as fast as possible.

“But Lisa, if we wait, then the distance between us and that planet will begin to widen. It will travel away from us in its orbit, which will really slow down our overall travel time,” Jason argued. “Part of why it is imperative we need to go now is because of the location of the planet in relation to us. It already is starting to approach its most favorable point.”

“I know, I would just be more comfortable knowing for sure the dangers of the Callisto Symphony have truly subsided.”

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“I don’t think we will ever be 100% sure,” said George. “All of my data seems to back Jason’s data so far. This is going to be a major cosmic event when it unfolds. Perhaps our greater worry should be of our own ships getting hit by the debris?”

They all nodded.

George knew they had to work out a compromise, so decided to take the lead. “How about this for a plan? I will continue to log the comets and match them to Jason’s calculations. I will go all the way to 400 just to make sure that we will have likely identified the biggest ones heading toward the blue planet. If that data checks out, then I think we need to take the risk of leaving now; otherwise, we may be waiting here another eight to ten years for a similar opportunity. We will work on further communication and invisibility solutions on the way.”

Jason agreed, “Sounds like a plan. Lisa, you can continue to work the communications system, and I will begin assembly of the solar panels since it sounds like we all agree to do that.”

Lisa nodded, somewhat reluctantly but it was clear she now felt more in favor of going than she had previously.

“Jason, let’s steal the solar panels from one of the other ships. We should keep my spares aboard Hendrix.”

Jason agreed. It would be much more work but it was the best option. He could operate Hendrix’s Exciter himself to conduct most of the solar panel work. They would begin the next morning with a target take off date of two days later, which would be June 30, 2015, nine months before they projected the Callisto Symphony would occur.

Chapter 14

The next morning, when George awoke to Molly's ring, he noticed Jason was in the room with him, standing in front of the screen. Kang appeared on the video screen and Jason began his workout.

He looked at George, "Good morning. I stopped watching all of the instructor's videos except for this one. The workouts make me feel good."

George smiled, rose out of bed and began working out alongside Jason. "Me too, and it's been a while."

Lisa was in the kitchen pushing buttons on BIM to scroll through his historical data for any clues on the communication signals from the blue planet. BIM was loaded with data, and it was organized rather poorly since George had programmed his directories so many years ago when he was still developing his computing expertise. She was coming up empty handed. Her idea was to go back to the original coordinates that BIM had traced in the middle of the night, refresh the broadcast signal and see if she could pick up more content. It seemed like a long shot, but also more likely to work than randomly scouring tiny areas of the planet hoping for outbound signals.

After his work out, Jason prepped George's Exciter by fastening a number of tools and bolt removers to the outer frame, which he would then access via the Exciter arm. He felt he could accomplish the whole task without having to access the back sides of the panels, meaning he could do everything from Exciter, including the mounting of the new panels on Hendrix. The wiring would prove to be tricky, but he decided to go ahead and get started. He would just have to manage any issues as they arose.

George continued his observance of the comets as the number he counted broke the 200 mark. He was half way home, and so far, JC189 (which was the same as the newly counted GH189) was by far the

largest and most threatening. But the projected path matched what Jason had outlined. There were variables, particularly its burn rate, or how fast it began to disintegrate in the warmer environment. But it was almost certain that even if its burn rate was unusually slow, which is possible given its size, that it would still be hooked into orbit around Jupiter.

The greater concern was that many of these comets would be pulled into orbit around Jupiter and it was inevitable that some would collide, sometime, perhaps with enough force to jettison a piece of rock into the solar system. But there was no way to predict such sporadic and random activity. And George didn't think the Grand Master, or his professors, had gone to that length. An event such as that would put the three of them, the three people who are tasked with preventing this catastrophe, at risk of a cosmic collision.

Lisa eventually found the data from the night when they received the first transmission. She observed the input and realized that the data they received was much greater than what was projected on the screen. There appeared to be large numerical strings of numbers preceding and following what she determined to be the code responsible for the video, audio and images.

But no one noticed this the first time they observed it. Maybe BIM did, but couldn't process the data so he skipped it to present the information he could process. There was more here, and it was going to require a packet transfer mechanism either on ACE, BIM or the main control panel that could quickly receive, process and then output the data in a format they could comprehend. This was the lead she was looking for.

Because BIM had decoded most of the data before, the program he used would serve as a good start to developing something with a greater range of capabilities, hopefully enough to read this newly discovered data.

Lisa backed through BIM's programming code and discovered how he had assembled the data. He had tried hundreds of thousands of combinations to find a program that finally rendered it in its final format. Lisa wanted to observe how this program was structured so she might be able to manually manipulate it further, or run a second program with BIM and combine the two to discover what was coded in these numbers and letters. She began the painstaking task of trying to match the symbols with the output to understand how BIM's program worked.

It was mid-day as George crossed the 250 mark in his tracking of the comets. He still had not found one that rivaled JC189 in terms of inherent danger. He was growing tired of the cataloging, although he knew he had promised to complete the task. And he would complete it; he just needed to take a break. He walked over to the nearby window and scanned the area. A stream of light was bouncing off Joplin's solar panels and glaring back towards him. As the light shone in his eyes, he thought about their mission, their new goal and the possibilities that awaited them in the very near future.

He thought about all the work they needed to accomplish that day, and how much progress they had already made. He would likely have to work late into the evening, but he was going to catalog all 400 of the comets as he promised. Lisa had really been cranking away in the other room, and he was excited to get an update from her. But what about Jason? He hadn't seen him since the morning.

George walked to the opposite side of the craft to look out those windows. He didn't see Jason working on Joplin's solar panels, so maybe he was taking them from his own ship, or moving some items over to Hendrix. George didn't see any movement around Clapton.

"Lisa, come here," George called. "I don't see Jason out there. Have you seen him?"

"Not since this morning."

George raced to the other windows that had a view of Clapton. He saw the solar panels hanging on by their wires only. Then he noticed the connection manifold for Exciter dangling beneath the Exciter bay door.

“Something happened,” he shouted. He raced to the control panel. “Lisa, check the scope. Are Clapton and Joplin tethered to us?”

“I don’t think so. Radar anchored only.”

“We’re going to find out fast. BIM, bring up radar.” BIM moved alongside the control panel, plugged in and a map of the area was displayed on the screen.

“One new object,” said BIM as he flashed a red dot on the map. Lisa looked down at it, and then back in the scope.

“I got him. He’s floating away.”

George fired up the engines, locked in the coordinates and began moving the spacecraft away from the other two. Luckily they were not tethered and both stayed exactly in their position.

“Not too fast George,” Lisa called out as the craft gained momentum. “He’s right up here.”

It took but a few minutes to find Jason and Hendrix’s Exciter. They could see him smile through the window and his helmet as they approached.

“He’s going to have to hook on to us; we won’t be able to grab him.”

They floated Hendrix alongside Jason and the Exciter, but Jason didn’t make a move.

“He’s waiting for you to do something,” Lisa suggested.

“Really? I can’t get him. He has to use the arm to grab us.”

Jason continued smiling through the window back at them. George and Lisa were a little more terrified by the whole event, wondering why Jason found so much humor in it.

Finally Jason made a move with Exciter's arm and he grabbed hold of Hendrix. He was able to grab two more bars on the outside to move closer to the Exciter bay which George reopened for him. As he approached they could see the manifold torn off. He had obviously snagged it on something and lost control.

Soon he was inside, depressurized and he stepped in Hendrix, still smiling.

"I was wondering how long it would take you. I've been floating out there all day. It was kind of relaxing." He laughed.

George and Lisa looked at each other, a bit confused by George's lack of concern during a rather scary event.

"I can't believe you're so happy about it; that must have been scary," George said.

"It was my fault. Getting the panels off is going to be a two person job. I tried to do it all myself with just the two Exciter arms, but of course, I was trying to hold some wires out to pull from the ship and I ended up getting my manifold caught in the Exciter grip and I didn't notice until it was too late and I had already made the cut. And then I was loose."

"And you weren't scared?" asked Lisa.

"Not for a while. I knew you would come. But it took a little longer than I expected, so I was just beginning to get worried."

They walked back into the ship's main cabin. George was shaking his head in disbelief.

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“Jason, luckily we have two more Exciters left, and I can go out there later with you and grab the panels.” Jason nodded.

As Lisa prepared dinner, Jason decided to help George with the cataloging of the comets since they were looking at ones beyond what he had already reported. They found a few more that seemed like possible causes for concern but each time there was something that interfered with their course toward the blue planet.

One was JC314, or GH314 depending on who you ask, that they were able to determine would collide with another large comet upon entry into the inner solar system and split into many smaller, less threatening pieces.

George hoped they had these calculations right. There were many variables, and Jason was an expert but they were counting on him accurately running the probability of different scenarios and outlining the most likely outcomes.

Dinner was served as they crossed the 355 comet mark; this was going to be quite the cosmic event. At dinner Lisa shared information on the packet transfer program she was writing with BIM to decode the remaining communication symbols. George and Jason were intrigued and talked through the process with her, but neither had the knowledge of the program that she did at this point. She was leading the charge forward on the communication front.

After dinner, Jason and George suited up for the Exciters to complete the solar panel removal and reinstallation on Hendrix if they had time. With two people the process would be much faster. As they departed down the hall Lisa called out.

“I’ll keep an eye out for you. I’ll only let you drift away for 30 minutes this time.”

She continued working away on ACE. The program was coming together quickly since she had started to match the code with the code

that BIM had already decoded. Soon, new pictures started to emerge. They showed the words “Lingdao Broadcasting Company” in a special font. More photos appeared as the numbers were processed. There were large satellites, big tall buildings, people sitting around large tables, photos of computers that looked much nicer than anything Lisa had seen before.

There was still one large packet of data that needed to be opened. It was larger than the rest and she wasn't sure if the packet transfer program in its current form would be able to process it. She started running it, and simultaneously worked on some updates to streamline the program now that she saw even more clearly how it worked.

George and Jason working as a team were able to quickly dismantle the solar panels from Clapton, but they realized that installing and rewiring them aboard Hendrix was going to be another project in itself. They were able to remove eight panels which would provide a great boost in energy for Hendrix, and the panels would just have to be installed on the outside of Hendrix for the evening with the wiring to take place the following morning before they departed. Room for the panels was tight, but Jason's engineering expertise shone through as they were able to install them in a nice line above the existing panels where they would still see plenty of light and the wires would run in parallel to the existing panels making the connections seamless.

They completed the installation and pulled the two Exciters back into Hendrix's bays. After removing their suits they made their way back to the ship's cabin where Lisa was waiting for them.

“I cracked it, well, most of it so far,” she said as she brought up the new images.

The group looked over the new images, trying to process what was going on in the pictures.

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Lisa continued, “This is just the beginning. I’ve found that certain pieces of data link to even more data. It’s like a giant maze of information, all coded in vast numerical combinations. My program can read much of it, but there’s more, much more. It’s almost like a group of large databases all interconnected. And I’m just jumping from one to the next.”

George and Jason were fascinated. “Great work, Lisa. This is amazing.”

They spent an hour discussing the images. They were similar to what they had seen before, but each new picture was a lens into a different world, a world they soon hoped to know.

Later that evening, Jason and George pulled old wires from the work room and connected the panels to the main battery supply. The battery power monitor acknowledged the new power sources, and now everything was set. The additional panels added 33% more charging power to the ship, enough to extend their full throttle range by four hours a day, which would significantly decrease their anticipated travel time.

Jason and George were exhausted and fell asleep early that night. Lisa stayed in front of ACE, unable to stop her exploration into these computer systems. BIM was plugged in too and was constantly updated with the new algorithms as she created them. She quickly discovered the code for links between the various databases, and found a tag in the code that appeared frequently. It was called Reddit, and it appeared to be the source database for much of the content inside the Lingdao Broadcast systems.

Hours later she reached a point in the code that seemed to direct the system through keywords. It was cumbersome code to translate but soon the numerical values were replaced by blocks of text, much of which was written in English. It was raw code that was well organized and very lengthy to process.

She didn't understand much of what was listed under each directory.

One page read "TIL that an employee of the company hired to organize McDonald's Monopoly game rigged it for 5 years. He also admitted to anonymously sending a \$1 million game piece to St. Jude Children's Hospital in Memphis."

And then the next entry, "Probably the most biodiverse area in the world. Grassland, sandy desert, rocky cliffs and snowcapped mountains all in one frame. Shigar, Skardu, Pakistan [1000x667] by Yasir Nisar." This entry included a picture of a vast mountain landscape with little trees below the huge mountain, unlike anything she had seen before.

Her heart was racing with excitement. She knew this was it, everything they had been looking for.

The source database seemed to be called <http://www.reddit.com> with subdirectories heading from that. The only code she could find for navigating the databases was a search function that matched an entry with native parameters in the database. She moved her cursor to that part of code and typed a simple entry for "mountain."

A minute later the program responded returning the following line, "[Season 4 Spoilers] Premiere Discussion - 4.08 'The Mountain and the Viper'." There were no images and just a block of text that didn't make sense.

She navigated to the search code again, thought for a moment about what to say and typed in, "I've never been to your planet. Where do I begin?"

This again turned up a great deal of text that was largely indecipherable. She scrolled through the code but her eyes were tired and the excitement that had kept her going was starting to dissipate.

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She shrugged, knowing she was close to a breakthrough, but she was unable to continue this evening. She retired to her spot on the floor in George's room. ACE remained on with BIM plugged in.

As they all slept the screen on ACE continued to log activity. It showed two comments, then 25 comments, then an hour later showed 1050 comments on the Reddit question she had unknowingly posted for the entire planet to answer.

Chapter 15

When Lisa awoke the next morning, she found the ship empty. This was the big day and she wondered where everyone was. She was also anxious to get some time in front of ACE to see if she could progress in her communications project. But she first wandered into the kitchen, grabbed an orange and walked down the corridor to the satellite and Exciter bays.

Sure enough, one of the Exciters was gone; she could tell by the way the manifold connection was wired that the missing one was Jason's. She walked to the nearest window and noticed the Exciter docked inside Clapton's bay. Through the windows she could see George and Jason inside Clapton's control room, but she couldn't make out exactly what they were doing. They looked busy.

She finished the orange and anxiously walked toward the control room and ACE. The screen had continuously refreshed throughout the night and she was stunned to see all the activity that had ensued. The directory she found was growing in size and continuously feeding outbound updates, something she had never seen before.

The output underneath the text she had entered included character fonts mixed in with text, points and a timeframe. It wasn't initially clear to Lisa what this all meant.

[−]Gendalgoddess 503 points 3 hours ago

I'd start with porn and go from there.

permalink

[−]FailedExperiment 147 points 2 hours ago

Drink some whiskey and watch Citizen Kane

permalinkparent

[-]horsecock2 124 points an hour ago

www.redtube.com

permalinkparent

[-]dingle_lover 7 points 37 minutes ago

Watch Planet Earth in its entirety, go to McDonalds, a baseball game and finish with a trip to Vegas

permalinkparent

[-]jobova91 15 points 32 minutes ago

This is actually a good question. If I knew nothing I'd want to learn about the beautifulness of the animals, nature and some man made creations, and not know about most of how society behaves nowadays.

permalinkparent

[-]TooSexyForMEE.Self 23 minutes ago

http://youtu.be/bqpWGm7WrOM

permalinkparent

It wasn't initially clear to Lisa what this all meant, but she picked up on one key word, planet "Earth." She had also been making mental notes on the consistency of the prefix "http://" in the structure of the output she was analyzing. It seemed to be the main source for all content she was finding. Everything seemed to expand from this single directory.

So she entered the string of characters toward the bottom of her screen, <http://youtu.be/bqpWGm7WrOM>. For a moment, nothing happened, but the data seemed to be processing. Then an image

appeared; it was a moving image but the audio and video were coming in and out between bouts of static, rendering it almost impossible for her to absorb the content.

She waited and could pick up a lot of laughing so became interested. She tried to enter the string of characters again, and this time it played with less interference. She was stunned as she watched the video depicting what looked like two boys with one lighting a fire on an explosive attached to the other's back end. At the end of the video the explosion ignites and everyone starts laughing. She was horrified. Why would someone do that to another person? And why did they send this video to her?

She clicked away, then reentered the term "Planet Earth" into the program, which returned a lengthy list of text, some with small images next to it. The images showed the round planet, closer up than she had previously seen, and in vibrant color that accentuated the brightness of the blue and green. It was beautiful.

Lisa found another string of characters related to "Planet Earth" and entered them in the program. A new video began to play, shaky and inconsistent like the first one, but the content instantly brought a smile to her face. She watched as huge walls of water moved across vast areas of blue and then turned into white wash as they slammed into land. The audio lagged a few seconds behind, but it was even more impressive when she could hear the noise of the water crashing down. The video showed creatures jumping in the water, some shooting water up into the air, and others massive in size meandering about underneath the clear blue water.

Then the video showed land; it showed creatures of all types walking among large plants. Some creatures were large and slow, while others were small and fast. Many ran faster than she knew that she could. Among the large trees were smaller areas of moving water, some surrounded by extremely large pointy rocks. Then she saw creatures that could fly and do so just by flapping their arms. She heard the

creatures shout, loud as they opened their large mouths and brandished gigantic teeth.

There were no spaceships, and there were no people. She was confused as to the location of everything she saw and couldn't stop watching as the video continued to play. Soon a voice came on, following ten seconds behind the video.

"The Galapagos Islands are home to some of the most interesting land and sea life in the world...", the voice began as the video switched between small creatures walking on large spans of black rocks, and other creatures inside the water moving about in large packs.

She was interrupted by the sound of the bay door opening down the hallway. George and Jason appeared, their arms full of computer equipment and rolled up wires.

"Lisa, meet OptZ, Jason's creation."

"He doesn't look as clean as BIM, but I think you will like it when I get him installed. He's very intelligent," said Jason.

"I can't wait. But you both need to come here first. You won't believe what I've discovered."

Lisa reentered the string of numbers and letters that had brought up the Planet Earth video and it began at the beginning, playing slightly steadier than before. The three of them watched in silence, mouths open, eyes big, as they learned about the blue planet, Earth.

"It's called Earth," Lisa said and those were the only words spoken for 30 minutes until the video cut off.

"Unbelievable," said Jason.

"Yes indeed. I wonder where all the people are though?" asked George.

“I did too, but they must be there somewhere else since you can hear the voice talking. And somebody would need a video camera to capture images of those creatures,” said Lisa wisely. “It’s almost like the people live on one side of the planet and the creatures on the other.”

“Show me how you found that,” asked Jason, as they all huddled around ACE and looked through the code that was growing more complicated by the second as it continued to grow seemingly uncontrollably. She observed the text she had written on the Reddit program, and it now had 7834 posts under it. Jason and George were stunned that she was communicating with people.

“You mean *you* caused them to say those things?” Jason was perplexed. “It’s a written communication system?”

Lisa was excited, “Yes, that’s exactly what it is. Some of the things that I read and saw are not normal though. There are beautiful things like the Planet Earth video, but other things I do not understand.”

She moved the screen down to reveal more comments:

“Stupid question. This is Reddit. Post something interesting.”

“I’d show them the Alien films 1-4 so they wouldn’t mess with us.”

“Ya...and I’ve never stepped foot outside my house.”

“Watch MTV Cribs and you will think we are just a bunch of pimps, like I am.”

“How about just showing China. They rule the world now anyway. Just show a bunch of workers making iPhones surrounded by clouds of black smoke. That’ll bring em up to speed.”

“What if there was one movie you could show? Braveheart would be interesting.”

“Easy. The Good, The Bad, The Ugly.”

“The Notebook, ha”

“This is amazing Lisa,” said George. “You really are in the middle of this communication.”

“Yes, I just wish I understood more of what they were talking about.”

It was now mid-day. They spent hours watching video clips and combing through more of the text that continued to update on its own. It was becoming clear that Earth was a planet inhabited by both animals and humans. They lived together. Many of the humans seemed to have unpredictable behaviors. Most of the videos and images they saw didn’t make sense, but occasionally some of the content would make them smile, and all the while, their desire to reach this new planet was growing exponentially.

They had fully charged the existing batteries, plus the additional ones from Clapton. While aboard Clapton this morning, Jason and George had initiated its invisibility code and double checked his automated MANOOLA reporting data. It might be the last time they see Clapton, and they wanted to make sure that its systems and reporting were in line for years to come.

Joplin would need to undergo similar plans, and Lisa was anxious to bring over the last of her items. So after lunch Lisa embarked on a quick mission to Joplin, gathered her belongings, and checked her reporting. She also turned on Joplin’s invisibility code. When they returned to Hendrix, they checked the satellite data and of course the ships were not registered on the map, yet they could see them outside the windows.

George shook his head, “I can’t believe it took us this long to figure this out.”

Next George and Jason would install OptZ on Hendrix's control panel. They discussed building him into a mobile machine, similar to BIM, but then decided that since they weren't leaving the ship anytime soon, it was really an unnecessary undertaking.

The plan was to travel between the hours of 8:00pm and 11:00am. At this increased rate, BIM projected that they could reduce their travel time by a third, to approximately two years. He entered the gravitational field data into the travel path, but couldn't determine its exact effect on their travel time.

"Try OptZ. He likes it when there are unknown variables."

They booted up OptZ. A deep voice spoke, "Hello Jason."

"Hi Optz. I have new friends to introduce. This is George and Lisa." They all said hi.

"Will they have command ability?" OptZ asked.

"Yes, please allow full command ability for George and Lisa."

"George, please speak," OptZ requested.

"What do you want me to say?"

"That's good. Lisa, please speak?"

"I'm not sure what to say either--"

"That's good. I have your voices recognized."

Everyone looked at each other and smiled.

Jason continued, "OptZ, view travel data." BIM plugged in and downloaded the data.

OptZ immediately spoke, "Jason, this data is off course."

“I know OptZ. It’s ok. What is the estimated arrival date considering the impact of all intergalactic elements over the travel time?”

“Processing,” OptZ was silent for a full 60 seconds.

“He’s a bit slow,” whispered Jason.

“January 15, 2017,” replied OptZ

“Bingo, we reduced the time by another few months. We’re now looking at a year and a half,” said Jason excitedly, while George and Lisa smiled.

“Jason, I would not advise that you travel that direction. It is not an area of the galaxy that we have studied,” OptZ said.

“You are right. But that’s why we are going. Please sleep OptZ.”

“Goodnight,” replied OptZ as the system shut down.

George joked, “He’s a little stubborn, isn’t he?”

“Yes,” Jason replied. “But his analytical abilities are highly calibrated.”

“I think he’s amazing,” said Lisa. “You must have written a pretty complicated program for him to run from?”

“I spent a lot of time on it. But he’s still not right. I don’t think he would ever make a miscalculation, but I like to double check everything. Between him and BIM, we should be pretty prepared.”

It was fast approaching dinner time, at the conclusion of which they would begin their journey. Lisa wanted to make a special meal to celebrate the commencement of their trip so she headed to the Grow Room to grab some fresh vegetables.

Jason walked back to the satellite and Exciter bays. He wanted to make sure everything was secured for the trip since they had rather hurriedly docked up and parked their Exciters aboard Hendrix earlier

in the day. He also wanted to check the engine and battery wirings since they would be dependent on the system working perfectly for the duration of the trip, and the additional solar panels they added would be essential to a fully functioning power package.

George sat down in front of ACE. He was shocked at the success they had with its communication abilities. ACE was the most powerful machine he had ever built, and now they were connected to an entire communications system from a distant planet.

He scrolled through the text from Lisa's post, and then back up to the top of the directory, pausing for a minute to think about what he was going to do next. Then he typed "Connect with Earth" and entered it at the command prompt. This resulted in a screen full of text and code that he began to slowly parse through, unable to make sense out of much of it. But the process was so interesting to him.

He began to wonder how people on earth communicated. It seemed so much was in writing instead of verbal, although the videos they had watched contained a great deal of talking. He thought perhaps that more short term communication was done textually and longer term, or more planned, communication was done visually. He could type something and instantly have customized text sent back to him from people writing to him. But videos didn't seem to offer the instant response.

Unable to garner any real value from the results of his "Connect with Earth" input, he re-typed the code for the Planet Earth video, and soon the beautiful landscapes and worlds of water filled ACE's screen. He began scrolling through the code at the bottom of the output, remembering that Lisa had mentioned there were often clues to other types of content strung at the beginning and end of the code that their programs didn't immediately read.

In this case, he found a number of alphabetical and numerical strings that apparently had not loaded at the bottom of the code. He began

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loading each one, only to discover additional video content showing new animals, and new worlds on Earth that they had never seen before. Each video contained a voice talking about the creatures on the screen, and the voice continued to lag ten to twenty seconds behind the video, but George was enamored at what he was seeing. He began a small database of his own, cataloging these videos so that he could show them to Lisa and Jason later.

Lisa called out from the other room indicating the meal was prepared. Jason was the last to arrive at the small table, his hands dirty with what must have been grease from the Exciter bays.

“I got everything cleaned up in there. It was a bit of a mess, and our travel velocity may have caused a shifting in our Exciters, and possibly damage them so I’m glad I caught it now. Everything is secured. We are likely going to need those Exciters later.”

“I think you’re right,” said George. “Thanks for doing that. I played around on ACE and found some more videos that both of you need to see. The planet Earth is big, full of all kinds of life, and it’s amazing it all works harmoniously.”

“I can’t wait,” said Lisa.

“Sounds good,” Jason said. “How about after we enjoy this great meal? Lisa, this looks fantastic.”

“Thanks. I experimented a bit. I hope it’s good.”

Over dinner, they discussed their plan, led by George who put an emphasis on learning everything they could about Earth as they travelled towards it. There was no objection to that. They had plenty of time and an incredible amount of interest. They also agreed to get back on a regular workout regiment, feeling that it was necessary for maximum performance of their mind. Lisa wondered if they should be paying attention to the physics coursework that the Grand Master had introduced as important for their work on the Callisto Symphony.

Neither Jason nor George thought that was necessary, but Lisa maintained an interest in the idea, and decided that she might spend a few hours each day absorbing some of the material, just in case something was presented that would be compelling to their mission.

Each day they would monitor the battery and engine performance to ensure everything that operating properly and at the utmost efficiency. A slight change to the power or thrust mechanisms could cause a delay in their journey.

Jason wanted to find a way to make them invisible to the satellites that might be present on Earth. They all agreed that arriving undetected was mandatory. Right now they were on the back side of Jupiter, able to avoid detection simply by their position in relation to Earth. But this would soon change as their travel progressed and they would be more exposed to detection. Jason would take the lead on developing a system with the help of OptZ.

“Just be sure to do that in the other room,” said Lisa. “OptZ scares me.”

“I will,” said Jason sarcastically.

“And I’m going to need to carefully monitor the grow room, and the water recycling system,” said Lisa. “We are going to be using more of both of those than we ever have before. I know BIM can keep a log on everything for me.”

“Great. And I’d like to continue working with ACE, along with both of you. I think its computing power will allow us to do even more than we imagine, and we will learn how through our communications back to earth,” George said.

“That sounds-“ Lisa was interrupted by a dimming of the lights. BIM immediately moved over to the video screen to switch the signal as the red lights flashed in the background. Lisa, George and Jason all looked

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at each other, worried their plan had just come undone. They walked over to the video screen and the Grand Master appeared.

Chapter 16

“Good evening George,” said the Grand Master, dressed in a black shirt and black pants that made him appear more menacing than usual. “This is a big night for you as I’m about to disclose to you the full details of the Callisto Symphony.”

George, Lisa and Jason all looked each other. Jason whispered, “Here it comes,” as the Grand Master continued.

“Many years ago, George, many years before you were born even, an Astronomer named Jan Oort identified what he believed at the time to be the origin of the solar system in a spherical distribution of icy bodies on the edge of our galaxy. And as you probably already guessed, I am referring to the Oort Cloud. I know you are familiar with its location and its suspected role in the creation of the solar system, as well as it being the origin of many comets, asteroids, and likely even all of the planets surrounding us.”

Jason muttered quietly, “I think we got this one right.”

“Shortly before his death in 1992, Mr. Oort began secretly sharing reports of abnormal activity in the Cloud with many of the world’s most prominent astronomers including myself and Professor Maule. Many leading authorities at the time thought he was getting too old for these complex calculations, and wanted to dismiss what he had to say, thinking he was raising unnecessary fears, perhaps as a sensational way to draw attention to himself and his work. The secret he was keeping was what became known to a small group of us as the Callisto Symphony, an unleashing of thousands of stray comets into our solar system from the Oort Cloud; perhaps more than ever before in recorded history. We haven’t been able to predict the exact number of comets that are thought to have been released, but we estimate it to be several hundred. We also can’t be sure about the exact date of their release, or expected arrival into our solar system, but according to our

calculations, they will begin to enter the outer solar system around Feb 15, 2016 and they will become more of a threat shortly after that-“

“Wrong,” Jason mumbled under his breath.

“We are fairly certain that the comets will cause no harm to anyone in the galaxy. But we are concerned about a couple of larger, more unpredictable stray comets not following the path we’ve projected, and they have the potential to impact solar bodies in our system, and therefore change the balance of the galaxy in such a way that we can’t be certain of its impact.”

The Grand Master paused and took a deep breath. “George, this is the mission you have been trained for, and the time is coming to help ensure that the balance of our great solar system is not compromised by this cosmic event. You will want to position Hendrix and two of your satellites to new coordinates that have just been sent to your control panel. You have plenty of time to prepare but we want to make sure you are aware of what will need to be done.”

“We anticipate that two to three large comets may affect the third planet from the sun, either striking that planet’s moon or becoming stuck in that planet’s orbit until it burns down and then impacts it. The results of this catastrophe cannot be predicted since we have no history of similar events to base our calculations on. You are in a unique position to affect the path of these comets as they pass near you. The safest strategy is to burn them down so they become trapped in Jupiter’s strong gravitational fields, or cause them to collide with Jupiter’s Callisto moon, which we expect will be in their direct path as the comets move through the solar system towards the third planet. As you know, Callisto is one of the oldest moons in the galaxy with a strong lock on its orbit with Jupiter. We do not believe the size of any of the projected comets would be large enough to displace it from its orbit. So it is the perfect element to use to block, or at least break up, these large comets.”

“George, I know this is a lot of information to absorb all at once. Please spend some time observing these comets, and planning your strategy for moving your ship into position,” he paused and peered right in the camera. “Remember, we are counting on you.” The screen went dark, and the lights came up.

“We were right,” said Lisa. “Just as we thought.”

“Indeed,” said Jason. “Interesting how he doesn’t mention anything about Earth or the people or creatures on the planet. We are supposedly saving them, but he doesn’t even say anything about it.”

“I thought that was interesting too, but overall this communication was important for us to hear, and the timing couldn’t be better,” George offered. “Now we know a little more of what’s expected of us, although I’m not sure how we are going to be able to leave tonight. We need to figure out the positioning of the satellites.”

Lisa nodded, “Yes, I thought about that too.”

Jason appeared deep in thought. “I wonder if it even matters? Think about this. We know that the Callisto Symphony is not going to be as disastrous as they do.”

Lisa interjected, “We hope.”

“No, I’d say we are pretty certain,” continued Jason. “We are more certain about it not occurring than they seem to be about it actually occurring. I find that interesting. But let me continue. Let’s say that we leave tonight and do nothing more than change the MANOOLA data that we are already manipulating to put us at the Grand Master’s desired location three months from now. At that point, the Grand Master will think everything is ready while he waits another three months for the event to occur. Then when nothing occurs, or at any time they begin looking for us, it won’t matter anymore. Our mission will be complete. And who knows what they had planned for us after the Callisto Symphony. Let’s pretend they wanted us to come back to

Earth. Then we will already be on our way. See, it doesn't matter that much."

George agreed, "Makes sense. It is really just a decision on what level of deception we want to put in place before we leave. I'm not sure we need to do very much either. But I would feel better if we had our own invisibility in place."

"Absolutely, I am going to have that figured out very soon," Jason said.

"I guess it's a plan," said Lisa. "I'm a little more hesitant to leave so abruptly and I feel we are making some assumptions, but it does seem like the best plan for us for the long term. I'm very curious to visit Earth now. It is perhaps clouding my better judgment."

George walked over to the command center, had BIM bring up the new coordinates from the Grand Master and then plotted them on a map. It was instantly apparent that the new desired location wasn't far from his last location, and even closer to where he was now.

"BIM, distance to location?"

"35 days."

George showed little emotion as Jason pondered what message they would have received aboard their own ships, "I wonder if our coordinates are similar, or completely different? They had to know that if they got us too close we would eventually be able to discover each other?"

"That's right," said George. "Both of you should visit your ships, download the data, change your MANOOLA reporting and then let's compare the results. I'm curious too."

"Should we just do this in the morning since it's getting late, or try to figure it out now," suggested Lisa. "There's really not a rush, it will just push us out one day."

“I’m feeling a little rushed now,” said George. “Let’s do tomorrow.”

Jason agreed, “Fine with me.”

“Well now that we have a free night before we go, I was going to mention that I have some fresh juice we could enjoy,” said Lisa.

“Who’s in?”

That night they proceeded to indulge in almost the whole container full of juice that Lisa had prepared. Laughter filled the ship’s cabin. BIM had been knocked over and was in the corner of the bedroom with two red lights blinking on the top of his head. There had been chatter about playing around with OptZ too.

At one point George and Jason were pushing each other as they had seen in one of the early video broadcasts, each one trying to resist the strength of the other in pushing them down. Finally, Jason emerged victorious as George’s arm bent, relinquishing control to Jason who gave George a final push and caused him to fall to the ground. On his way down, George struck his head on a kitchen chair. He reached up and felt a small amount of blood oozing from the wound.

Jason’s face went blank when he saw the blood, but George continued to laugh, as Lisa rushed over to him with a towel.

“It doesn’t really hurt that much. How does it look?” George asked as his eyes wandered from side to side.

Lisa had the towel wrapped around his head. The blood flow was stopping, consuming only half of the small towel. “It’s not that bad George. The bleeding is already stopping.” George felt the warmth of Lisa’s touch more than the impact of the injury.

Jason stepped over towards him, “Sorry, I didn’t mean to hurt you.” He started breathing faster through his nostrils, trying not to laugh as

George began to smile. Soon the three of them erupted in more laughter.

“What’s so funny?” asked Lisa laughing uncontrollably. The night ended soon after. Their plans to turn on OptZ never materialized.

George woke up the next morning to see Jason standing in front of him again moving his arms up and down in correlation to Kang on the screen. He heard George move and turned around.

“I’m ready to go today. Get up and join me.”

George’s head hurt and his mind was foggy. He noticed Lisa was awake in the other room, sitting on the ground in front of ACE, typing away. He slowly crawled out of the bed as his thoughts became clearer. “This was the big day,” he thought to himself, joining Jason’s movements as he tried to remove all thoughts of the previous night’s juice drinking.

“Big day today George.”

“That’s exactly what I was thinking.”

After the workout and a quick breakfast, it was only 8:43 am. Lisa suggested, and the group agreed, that they knock out the travel to each of the spacecraft one at a time, and then regroup back aboard Hendrix to make final preparations for their journey.

Going to each spacecraft was a big undertaking but it went off without incident. Lisa completed her work aboard Joplin and brought the coordinates back to BIM who logged them next to the ones provided by Hendrix. They were not too close to one another, but after logging the trajectory of the proposed comet activity it became clear that both locations were on the same path overall, just several hundred thousand

miles apart. There was no doubt that they would be able to see each other in the new location.

“The Grand Master doesn’t care at this point,” said Lisa.

“Or, he figures that we can’t communicate with one another,” said George. “Remember, we are supposed to only accept incoming signals. We have grown accustomed to processing both incoming and outbound now.”

“The Grand Master’s plan doesn’t seem that well thought out. How would he not have noticed that this would happen?”

“You have to think,” George said, “that this entire plan originated and was set in motion at least 23 years ago, maybe even longer, once they released the comets were released from the Cloud. So they did do a pretty good anticipating how things would roll out. And if I saw another ship in line for the trajectory of the comets near the time of Callisto Symphony, I might think it was the Grand Master, or the professors, or something else.”

“They made us too smart.”

“Indeed they did. It should be fun when we finally meet them. I wonder how smart they will be.”

“Me too.”

Jason had just returned from his ship. Lisa and George could hear the bay doors shutting. Soon Jason appeared. “I’m all set.” He looked at Lisa. “How did you plot out your course data for arrival at the new location?”

“I just set a consistent travel schedule of approximately four hours of travel a day which would put me there in about 70 days.”

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“I thought you might. I set mine to travel there as fast as possible. Eight hours a day, projected to arrive in 36 days. My location was the furthest out I presume?”

“Plug your coordinates in.”

Jason walked over to the control panel and entered the coordinates you had received from the Grand Master. A red dot illuminated on the screen.”

“Yes, indeed,” said George. “Looks like you’re the last in the chain, closest to Callisto.”

“And the space between us looks to be about equidistant,” said Lisa. “I do wonder if us finding each other around the Callisto Symphony was in their plans or not. I think it’s pretty safe to say that we would have, given that we found each other even before we were that close together and with the invisibility program complicating discovery even further.”

“I think we would have. The question would be how or even if, we would be able to communicate,” said George. “Jason would likely be hiding behind a curtain again,” he joked.

“That’s funny. Be careful or I’ll knock you down again.”

It was now early afternoon and all preparations for their journey were complete. The three of them were anxious for their 8:00 pm departure but didn’t want to leave early since they anticipated getting on, and staying on, a set travel and recharge schedule. So they logged into ACE, with BIM and OptZ turned on, and broadcast the video signal from ACE on to the large video screen near the bedroom. ACE was their connection to this new, larger, still mysterious world, and they felt drawn to it anytime there was a break.

George pointed out that in the code they were viewing it often used the phrase, “reddit: the front page of the internet.” They were curious

what this phrase meant. Because the directory was named “reddit,” like “youtube,” they understood what that meant. But the “front page of the internet” was more ambiguous. Jason believed the “internet” referred to the name of the directories they were accessing, such as “inter-net,” which the other two agreed was probably the case. The “front page” portion was intriguing because it seemed to be indicating that they were early on in the discovery phase, similar to the front page of a book serving as a preface for what’s to follow.

“If we are only on the front page, we need to figure out how to turn the page,” joked Lisa.

“We do,” said George. “There are several directories listed throughout the code. We could try to manipulate them to see what else it might bring up. Much of the info we are getting from this directory seems convoluted and strange really.”

Jason stood up and moved next to the screen as George scrolled through the code. He began pointing out all the subdirectories that were listed, looking for consistency that might indicate what they should try next. “What about this one,” he pointed to a line of code. “It seems like it has appeared quite often.”

“Let’s try it,” George said as he typed it into the top of the page, “<http://www.google.com>.”

The data transferred more quickly than before, delivering a short burst of clean, organized code. “This is interesting,” Lisa said under her breath.

Jason, still standing next to the screen, pointed to an area of code entitled <Search Box>. George didn’t hesitate and entered the word “Earth.”

The program seemed to turn itself over as it processed incoming code. There was a small image of the planet from a distance. More images slowly appeared on the screen. There were links again to the YouTube

directory; then small paragraphs of text, the first from a directory called wikipedia. George moved that directory listing to the top of the page, and soon an entire story unfolded on the screen. It was almost entirely readable text, surrounded by short bits of code. Everyone moved in closer to the screen for a better view.

“Here it is,” said Jason. “It’s the whole story written in an electronic book.”

“Let’s see what we have,” said George as he scrolled down the screen. The text kept updating and updating getting longer and longer. “It’s organized by year starting millions of years ago. This is fascinating.”

Lisa interrupted. “Wait, look at me.” It took a second for George and Jason to focus, but they finally set their eyes on Lisa. “What?” said Jason.

“I think we need to slow down and think about what we are about to uncover. This is going to tell us everything.”

“Yes,” said Jason with a combination of rudeness and excitement. “Let’s read it.”

“I think we need to realize that this could change everything. We are going to learn about good things and bad things. We already saw a few of the bad things in the videos with people arguing and fighting. It is inevitable that it is going to have some effect on us. Just last night you two were beginning to fight.”

“Move on, it’s not going to be bad. The playing last night was just for fun,” Jason persisted.

“Let’s just all agree that we are going to stay who we are. That we are going to stay together on this and on our journey.”

Jason had enough and threw up his hands, “Where I am going to go?”

George cut in, “Alright. Lisa has a point. So far, what we don’t know has been our greatest strength. It made us curious just like we all learned in Mrs. Epstein’s classes. And that’s how we found each other, learned so much about the Callisto Symphony, and have made it as far as we have.”

Jason looked confused, “I’m the one who cracked Callisto. I don’t see what the problem is here. Everything was fine a minute ago.”

Lisa responded in a gentle tone, “And Jason, it is fine now. But we must keep our strength as we know it now. I can already feel the impact of this knowledge now. Every minute we have of free time, which used to be occupied with studies, or reading, or the Gamma Scope, is now directed towards this communication cycle.”

“And what’s wrong with that?” shot back Jason, his voice rising. “Are we not *all* fascinated by this? I thought we were.”

George knew he had to intervene. “You are both right. Everything that was said needed to be said. But now that is has, let’s continue.” He gave a firm look towards Lisa, who shrugged but reluctantly nodded.

It was now 3pm, and for the next four hours, with just a short break for dinner, the group typed in word after word in the search box as they learned more about the planet Earth. By the early evening, their search terms had run the gamut of history, including “Dinosaur,” “Earthquake,” “Earth Map,” “God,” “NASA,” “Socrates,” “Mother Earth,” “Typhoon,” “Earth Moon,” and finally “World War II,” which was the most shocking of all. It was discovery after discovery as they read ahead on the screen relishing in the vast amount of information and knowledge that was being presented to them.

They knew they had to stop for the day and prepare to begin their journey. As they turned down the screen and Jason left the room,

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George looked over at Lisa, “You were right earlier, in everything you said.”

An hour later, they fired up the engines, and began their journey towards Earth.

Chapter 17

George awoke in the middle of the night, his bed drenched with sweat as he swung his head from side to side, eyes wide, still coming to from a horrible vision he dreamed of himself walking alone through a vast span of fog-covered trees on Earth. He heard footsteps running through the trees, crackling on branches as he tried to determine who or what was circling around him. The noises got closer and the steps faster. He looked every direction but couldn't see anything through the fog, which was wet and dripping down his face alongside sweat from his brow.

As the steps continued to get closer and faster and louder, he suddenly saw a black shadow emerge from the fog and slam into his body with incredible force. His back hit the ground, his eyes closed for a moment, and when they reopened the black shadow was gone. The fog remained thick.

He stood up from his bed, groggy, still trying to shake the thoughts about the dream from the back of mind. He walked by Lisa and Jason, who were still sleeping in the darkness with the humming of the ship's thrusters in the background as it travelled forward at full throttle. He entered the main control room, took a deep breath and sat down in front of ACE. Before he booted it up, he took a moment to reflect on everything they had learned the previous night.

Earth was heavily populated, and as beautiful as the mountains, oceans, waves and rainforests were, there seemed to be a great struggle between all the elements, a lack of harmony in how they live. Jason seemed to thrive as he increased his knowledge of Earth while Lisa seemed to be pulling back. She was interested in learning more, but didn't want it to come between the lives they had built on the ship. Their arguing last night made George uncomfortable. He had never felt a sourness like that in stomach before, and he couldn't stop reflecting on how it made him feel.

They had read in almost disbelief about the World Wars, watching videos of people dying, shooting each other and blowing up cities with bombs. He had read of the sinister intentions of certain world leaders throughout history. And shortly after that had read about another leader, God, who was the supreme being, and creator and sustainer of the universe. Then he found views that ran counter to that belief, instead outlining a “big bang” cosmic event that created the universe from a series of atoms colliding hundreds of millions, maybe billions of years ago.

He slowly moved his command prompt to the search box, hesitated for a moment, and then typed in “where do humans come from?” The results enthralled him as he read about the male and female organs, the act of fertilization and the resulting pregnancy and birth of babies. Never before had he questioned how he was created. He had questioned how and why he was put on Hendrix many years ago, but that seems to be explained somewhat through the Grand Master and his new interactions with Jason and Lisa. But who were his mother and father? It seemed almost certain now that he would have a mother and father.

He moved the prompt back to the search box, this time typing in “George Burgess.” He was surprised at the abundance of data that was returned but found it to be mostly irrelevant. He received similar results after typing in Jason and Lisa’s names, neither yielding any clues or discerningly important data. It reinforced his notion that Earth contained a lot of people since so many shared their names. He did make note of a directory that appeared quite frequently in the results, “facebook.com.”

Next he searched for “Grand Master,” to which he found several references that he believed might provide clues, but ultimately those too proved to be irrelevant and in some case rather bizarre. He saw images of hooded figures and line drawings of exaggerated characters with facial features that were clearly not possible. To this, he shrugged,

not clear on how his input and the return information was being processed or categorized.

That was until he typed in “Professor Maule.” As George scanned the results a line caught his eye, “Professor Gerald Maule, Harvard-Smithsonian Center for Astrophysics, Professor of Astronomy. Research Interests: Surveys of the outer solar system, massive halo objects, comets and asteroids.” George opened the subdirectory and was stunned as a photo began to slowly appear on the screen. He could tell right away that it was the same Professor Maule who had been providing him instruction in the videos, however the image he was viewing now on ACE showed a slightly older Professor Maule, his skin and hair showing signs of age. George continued reading,

“And as Chief administrator and overseeing counsel for the Gilbert-Arnold Planetarium, Prof. Maule serves double duty leading cutting edge scientific theory and analysis as well as his own cosmic observations and tracking.” The text was combined with a photo of a beautiful spherical building and a massive Gamma Scope, all with the background of dark stars and space. This is the building where Prof Maule made his videos, and this explains the different backdrop that George had pondered, and been fascinated with, since he was a child. The videos from Professor Maule had originated from Earth.

He heard the faint rustling of blankets and sheets in the adjoining room, and turned around to see Lisa walking towards him.

“Good morning, George.”

“Good morning.”

“What are you looking at?”

“You have to see this,” he turned the screen towards her and she gasped as Professor Maule’s photo appeared.

“He’s older. But it’s him.”

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“Yes, I’ve been searching for various topics and names, hoping to find out more about what is really happening on Earth. He was the first professor I searched for. But I did find out that he lives in an area called Massachusetts, which I searched for too and it is a small land on one of the smaller land masses of the planet.”

“Incredible. How long have you been searching?”

“Not long, just an hour or so. I couldn’t sleep.”

“I didn’t sleep well either. There are too many thoughts in my head that I can’t sort out. It hurts my brain even when I begin thinking about them.”

“Me too Lisa. I feel the exact same. And it’s uncontrollable.”

“I guess we shouldn’t be worried but I am.”

“I’m sure we’ll figure everything out. Look, at least the engines are still running, and it’s 8:30 now, which means our extra battery power seems to be working.”

Lisa pretended to smile. Jason suddenly appeared from behind her, “Is that Professor Maule? He looks old.”

“We thought so too,” said George, “and I was able to find information about him. He lives on Earth.” And George proceeded to share all the new information about Professor Maule. Lisa didn’t listen to it all again, instead opting to go to the Grow Room where she stayed for the next several hours by herself working on the food plan. She only emerged to bring in BIM for some calculations.

George and Jason continued to type various search phrases into ACE and each time they were rewarded with further knowledge about Earth. At one point they searched for “23 year old on Earth” and ended up finding a host of unexplainable videos and irrelevant data with even more new theories on the creation of Earth, followed by audio for

something they learned what called “music.” Both were instantly captivated and they continued listening to more music throughout the day.

That night they finally reconvened around dinner, which Lisa had taken the lead on preparing. She remained quiet and reserved throughout the meal, and George and Jason rose from the table immediately upon finishing to listen to more music. Jason left without saying anything while George stopped to help clean the dishes. “Lisa, you need to come hear some of the music we have discovered. It comes in all different styles. Some is loud, some is soft. It is all so beautiful.”

“Sounds good. I’m going to finish up with BIM in the Grow Room and then I’ll come in.”

Lisa joined them slightly before 7pm, mentioning how busy she had been preparing the meal plans. She was excited about the plan and her work, but George and Jason paid little attention. Instead they were typing away feverishly on ACE bringing up all different types of music that was soon radiating throughout the control room cabin.

Before going to bed that night, George checked on the travel coordinates with BIM, noting that their first day of advancement checked out on schedule. BIM’s estimated date of arrival stayed the same. Jason and Lisa had already retired in the other room, so George spent the last 30 minutes of the evening peering through the Gamma Scope. He was always fascinated by how the universe took shape as he changed his location. He took particular interest in Earth and the area surrounding it. The red planet, the fourth from the sun, shone its red color more vibrantly than Earth was showing its blue. But George knew that would change as they approached, and Earth aligned more favorably into his line of study.

He then turned the opposite way and focused in on the streaking comets that we could see off in the distance. Their number was still

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indecipherable, but they seemed to be growing and getting brighter. They didn't look menacing. They looked magnificent.

As it approached 8:00 pm George heard the engines and thrusters start up. Soon they were continuing on their journey, hurling through space toward Earth.

The next morning George and Lisa both awoke at the sound of a loud voice in the other room. It was Jason speaking with OptZ, and they appeared to be in an argument.

"I remain concerned Jason. You are navigating too far from the desired path."

Jason was beyond frustrated as he screamed, "Take this order. Change the desired path. Change the path."

"The coordinates you provided me are not on the desired path. I do not understand the order as you have indicated."

Jason takes a deep breath as he sees George and Lisa enter the room. "Good morning. OptZ is stubborn to a point that he is now becoming useless."

"Let me try," offered Lisa. She walked toward the control panel. "OptZ--"

"Yes Lisa."

"Please share the desired path."

"HEND75 76.534 65.336 0769312 332.77 14.877"

"Thank you OptZ. Those are the old coordinates that were given to us before our plans changed. You are correct in that we would not want to deviant from those coordinates, unless our plans changed. But

since they have we must make a correction. We want to be accurate. Can I share the new coordinates with you now?”

“Yes, Lisa. Thanks for sharing this update.”

Lisa called BIM over who plugged into the control panel and shared the new coordinates with OptZ. OptZ did some quick calculations after asking Lisa for their speed and travel schedule. And then his estimated date of arrival was presented and it was two days after BIM’s projection.

“That sounds right on track,” said Lisa. She looked back at George and Jason who nodded with approval.

“I can’t believe you made that happen,” Jason said. “Nice work.”

That morning, George and Jason worked out with Kang. On some days Lisa would join them too. As a group they would frequently talk to one another, but as the days went on, they began spending more time on their individual projects. For Lisa, it was working in the grow room and playing with ACE. She had started hybrid growing experiments with many of the seeds, physically integrating them with one another in an attempt to create new plants. When Jason and George weren’t on ACE, she could usually be found tinkering around, searching for new terms, especially those around gardening which opened up a vast world of knowledge for her.

Jason was very involved with ACE too but would often search for different topics than Lisa and George. He took interest in the more unusual videos, photos and music that he discovered, and he loved sharing it with George. He discovered videos of people riding waves on boards, or jumping off huge snow banks with skis. George found the videos entertaining but his ACE time was used primarily for building knowledge, not entertainment.

Jason was frequently back in the work room for hours on end by himself, and he shared very little about what he was doing with Lisa

and George. George would try to engage Jason in a dialogue about what he was building, but Jason's answers were always short and uninformative. He also showed little interest in what George and Lisa were working on. They were curious when Jason would begin his work on the invisibility project that everyone had agreed was a top priority, but at every mention of the project Jason would become rather unresponsive.

George was working on a new program for BIM, one that was smarter and faster than what he had programmed years ago. He also sought to enable BIM to connect to the satellite communications infrastructure so that he could use the search functionality they had unlocked to ask and answer questions. It was going to be a complicated process but it would completely revolutionize BIM's role aboard the space craft.

George and Lisa inadvertently, and then more purposefully, began spending more time together as the days and weeks wore on. Their friendship remained intact and was representative of how they had first felt when they met each other earlier in the year. And while they were raised exactly the same, and shared many of the same opinions, they always found new ideas to discuss and theories to analyze, many of which involved Earth, its people and its way of operating which was becoming more clear, but also more difficult to fully understand.

Their searches on ACE involved history, amazing events and people, geography, oceanography, science and museums, and they would also go back to admire the original Planet Earth video series.

In addition to reworking BIM's code, George was experimenting with a sub directory that he had noted earlier, facebook.com. When he searched for names or people, frequently this sub directory would show up, but he had been unable to advance it beyond a single step in the directory. It seemed to be a dead end, until he began making notes on the characteristics of the various sub directories under its control. There was what appeared to be two separate folders, one private and one public, and the size of the private folder was much larger than the

public one. Yet he couldn't figure out how to switch and gain access to the private one.

Late one night, on November 15, 2015, after they had been traveling for four months, George made an important discovery. He found an area inside the facebook.com directory where he could create a new account. He needed something called an "email address" which was little more than another search and a few clicks away. Using his name George Burgess, and his new email address callistosymphony@yahoo.com, George created his new profile.

A prompt asked him to "write something..." to which he typed his first post, "I am George and I have never visited Earth. Please write something back." He smiled and went to bed.

Chapter 18

All three of the ship's occupants established a routine. George's didn't deviate far from the routine he had practiced for the last several years. He would still wake up and exercise with Kang, sometimes with Jason by his side, but instead of the instructor courses, he would tinker away on BIM or ACE, or assist Lisa with her experiments in the Grow Room.

Lisa typically awoke around the same time as George and the two liked to converse in the mornings. Sometimes Lisa would try to sneak in some time with OptZ. It was her secret that only George knew about. Since Jason was always away in the work room down the hall, Lisa could quiz OptZ on various topics, which would inevitably lead to her uncovering the errors in his programming, and she would help correct them by talking it through with OptZ. After many months, it had become apparent that Lisa was the only one who could truly relate to OptZ and influence his programming patterns. Jason had created a complex, intricate robot that appeared at times to be beyond even his own control.

On December 2, 2015 after five months of traveling, Jason emerged from the work room one afternoon noticeably elated as he confidently walked down the hall towards George and Lisa, who quickly turned off OptZ and pretended to be working on ACE.

"I cracked it," he shouted as he came down the hall. "I finally got it."

"What is it?" George asked.

"Invisibility. I figured it out."

George and Lisa looked at each other, impressed by what seemed like a major breakthrough.

Jason held up a large square device with four cameras mounted at each corner and a viewing screen off to the side. "Watch this." He turned

on a light that shone in the middle of the square and then proceeded to dip his hand in the middle of square. Lisa and George were observing the act on the screen and were astonished as it appeared that his hand disappeared into the square.

“Amazing,” Lisa said. “How did you do that?”

“It wasn’t that hard really. It’s just a perfect model, a three dimensional, perfect paraxial model that bends the light around any object that enters a certain circumference.”

Jason handed the device to George who put his hand in and watched it disappear on the monitor. “Fascinating.”

“And you can put anything in there? Even a large ship if this was scaled up?” asked Lisa.

“That’s right, and that’s precisely what we need to do.”

George pretended to put that device on top of Lisa’s head. “Let’s test it.”

“It’ll work if her head will fit,” said Jason.

After the joking subsided, they discussed the execution of enacting the same properties on Hendrix, to which Jason felt, “It’ll just take some time and a couple of Exciter trips when we are at rest, but we have the equipment and now the knowledge to do it.”

They decided to begin the following day after Jason and George spent a few hours today assembling and organizing all the materials and equipment they would need. The Work Room was full of good equipment that was still functional, just old. According to Jason’s calculations the quality and speed of the cameras and equipment wasn’t as important as the quality and speed of the computer program he had written to operate them. “The code is sound,” he said.

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Evening was approaching as they completed the equipment inventory. Lisa spent that evening peering through the Gamma Scope and logging information from the Oort Cloud, her curiosity peeking as the date of the Callisto Symphony approaches. George joined her at the Scope as they each pointed out the major star constellations, the planets, and the moons orbiting Jupiter which was now further away than at any other point in George and Lisa's memory.

"We're really doing this," said George. "It feels a long way from home."

"In a weird way it does."

George woke up early the next day, along with Jason who practiced with Kang by himself. George walked over to ACE and remembered that he hadn't logged back into the facebook.com directory since he made that initial post. Expecting to not see any activity, he almost fell backwards in shock as the screen filled with data.

His post had 7,345 "likes" and 2,134 comments. He noticed a directory for the comments and moved the prompt to that location, and began reading as they appeared on the screen.

"Michael Jackson is back and he's alive."

"My cat's never been to earth."

"What is the point of this post? This is why FB is getting so useless."

"I'd like to create life on Earth with George."

"plz don't make me laugh. You work under a model that only benefit a minority of the population, at the expenses of the ecosystem including our specie as a whole."

"If you've never stepped foot on Earth, you must live on a boat?"

The final comment was one of the only ones that made sense to George. He thought about it for a moment, and decided to write back. "I don't live on a boat. I live on a space ship orbiting Jupiter."

He hit return and waited for a moment, wondering if this would be one of those situations where he would receive an instant reply back. He waited, and finally received a reply: "*You are a certified wacko.*" And another: "*Dork.*" "*WTF*"? He didn't understand any of them.

Jason was in the kitchen eating breakfast with Lisa who had just awoken. George joined them as they planned the day of work on the invisibility system. Jason and George would take the lead on the project with Jason doing the external installation via the Exciter, and George assembling the parts for him and handling the internal wiring.

Lisa felt a little left out of the project so she made her own role after Jason and George had left. She would help with something they had not put a plan in place for yet. She would devise a system with OptZ for testing the invisibility. She made her way to the control panel and booted up OptZ. "Good morning, Lisa."

Back in the Exciter bay, it was clear most of the work had already been complete in the assembly of the modules. This was really just an installation project, but it could prove to be a tricky one at that.

With Jason in the Exciter, George propped up the first of the four lenses that would serve as both a reflector and deflector. Each one was attached securely to three large arms that would then be attached to the ship. The biggest challenge was going to be assembling the rear modules far enough away from the ship's thrusters to not be disturbed when traveling at speed. But Jason was confident they would work.

They assembled and installed the first two easily and rather quickly, fitting even stronger and more cleanly than Jason had envisioned. The back two would be a bit more of a struggle. Jason surveyed the attachment area and decided to try bending some of the metal tabs

protruding from the installation area on Hendrix to make the installation flush with the ship for durability at speed and when the thrusters were burning.

It wasn't until the fourth, and last tab, that an issue occurred. His confidence was increasing with each one, as was his speed, but the last tab snapped under the force, shot immediately back hitting the window of the Exciter before drifting into space. The event startled Jason for a moment, but he took a deep breath and glanced around the Exciter looking for damage. Everything appeared to be intact. Where the tab broke on Hendrix though, he noticed a sharp protruding edge created by the tab breaking. It was small but would still prevent a fully flush install of the module. Using his Exciter arm he tried to file the edge down but it didn't budge. They would just have to work with it.

He made his way back to the bay, picked up both of the modules from George who had them ready and waiting inside the bay, and then installed them without incident. The starboard module with the rough edge went on pretty firmly, and he felt confident in its ability to hold under force. The job was complete.

Back aboard the ship, George and Jason were elated. The installation took just over three hours, and everything was now in place. They walked back to the control room to hear Lisa speaking with OptZ.

“Everything set?”

“Yes, it is,” said Jason.

“I'm ready to test it.”

George and Jason were surprised as Lisa spoke commands to OptZ.

“What is your location, OptZ?”

“CLAP75 56.633 65.337 0759313 352.77 24.557”

“Thank you. That sounds about right. What are the coordinates of the nearest ship?”

“HEND75 56.644 65.337 0759442 352.77 24.557”

“He thinks he is right next to our ship, not in it,” Lisa said quietly. Jason and George nodded.

“I did not hear your command Lisa?”

“Please ignore. That was nothing.” She whispered again to Jason. “Now, go turn on the invisibility.” Jason used BIM plugged into the control board to activate his invisibility program. “It’s live.”

Lisa paused for a moment. “OptZ, what are the coordinates of the nearest ship?”

“One moment Lisa...I do not detect any objects in our immediately vicinity.”

“Yes!” said Jason.

“Hi Jason, I did not understand your command.”

George, Jason and Lisa all smiled. That night, they would celebrate with some new juice that Lisa had fermented, this time using cherries, strawberries and blueberries that blended into a dark purple color. It was delicious. The night was loud. It was joyous.

One month and 4 days later, on January 6, 2016, approximately one year before their scheduled arrival on Earth, the lights dimmed and the red lights shone. BIM moved over to the screen and activated the first message from the Grand Master that they group had experienced in several months.

“He knows we’re not in position,” Lisa said.

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“I don’t think so. But we will know now,” said Jason.

The Grand Master appeared on the screen. His hair now entirely gray, his face and upper frame appeared thin and fragile. His eyes darted around slightly confused as the message was delivered.

“Good day George. We are glad to see you are in position for the Callisto Symphony. We are just a little more than one month away and I hope you have completed your additional studies to prepare for this important event. I will not be able to communicate with you for some time following this transmission. As the Callisto Symphony begins, you will be alerted to objects that must be intercepted, burned down and whose path must change to collide with Callisto or deviate to a degree great enough to avoid the pending catastrophe. Your ship alarm will sound with coordinates for each object that must be met with resistance. Be alert. Be ready. The alerts will be generated upon detection, so they may come at any time during the day or the night. Remember George we are counting on you. You have trained your whole life for this moment.”

Then the Grand Master was silent for a moment, his eyes staring directly into the middle of the screen as the video flashed out.

“On plan and on schedule,” said Jason. Everyone smiled as their deception progressed.

George spent his nights on ACE and his facebook directory. The communication with others on this directory had reached new heights. Back and forth dialogue was regular and instant. His recipients were taking great interest in George and the aspects of his life that he shared. They asked for photos and he had always refused, until finally one of his “contacts,” jbremer1995, asked, “just share a small photo, anything, please.”

George developed an interest in jbremer1995, particularly because she was kind to him in all of their communication. She had indicated she

was a girl, slightly younger than him, and she continuously said how interested she was in his story, although he had only vaguely shared details. He remained reserved about sharing too much and being detected. Most of the communication he found to be rude and disparaging. Some of the more memorable quotes recently included:

“You are FB trash. Garbage. Filling up the Internet with the type of fairy tale bullsbit that distracts from everything good in the world.”

Or another: *“Anyone can sit here and hide on FB with a fake name and fake story. It takes a real man to fess up to who you are, and live with it. Get real, or get out.”*

He tried to ignore these negative comments, and he didn't share them with Lisa and Jason. jbremer1995 was different. She was curious and gentle. Today George decided to send a photo. He moved ACE towards the window in the control room, oriented his camera into the black, star sprinkled abyss outside the craft and recorded a two second video, in which very little could be seen. He had already discovered the “media” directory and placed this short video in his media folder. Ten minutes later, new comments came in.

“What, did you take a video out your bathroom window? I can do that too and hopefully you'll see a reflection of me on the shitter”

“Stupid, doesn't prove anything. You need to prove you are living in space. Shouldn't be hard. Just take a photo of Saturn out your window (or E.T. if you run into him) and send it to us.”

And then something from jbremer1995: “That's beautiful George. Thanks for sending it to me. It must be interesting to be up there and look out and see such a spectacular view.”

George paused, took a deep breath, and scrolled through the comments as they continued to pile up. The note from jbremer1995 was the only one that made him feel good. He moved the command prompt to the top of the page. His followers had now reached 855,349

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and the amount of comments he received to every one of his sporadic posts had grown exponentially over the last few months. It was time for a change.

“Thanks jbremer1995. I am going to take some time away from commenting. I have some work that I need to focus on over the next few months. Signing off, for now.”

As he logged his text, one comment came in before he shut the directory down. It was from stgangsta420: *“ya dog, you save the world, yo.”* George shook his head and closed down the facebook directory and ACE for the evening.

That night he contemplated what they were doing and the reaction of the humans on Earth to his communication. It was unexpected but also not entirely understood. The elements of the language that were used baffled George, rendering all but a small sliver of their conversations useless. He felt unwanted on Earth and scared to find out how they would be welcomed. No one seemed to understand the pending peril that the Grand Master had projected for them. Perhaps they knew it was going to be uneventful? Perhaps the Grand Master was located elsewhere, or was protecting another community of humans? George’s brain raced with ideas and speculation, most leading to increased confusion and further worry about what the next year would hold for them. After one hour of lying in bed, staring straight up at the ceiling of the ship with his sheets becoming moist from anxiety-driven perspiration, George fell asleep.

A month later, it was February 15, 2016, the date of the beginning of the Callisto Symphony as projected by the Grand Master. George, Jason and Lisa were up early and began logging activity as far as they could see in the Gamma Scope. The comets were approaching Jupiter, and their previous home in the solar system. But now they were half way to Earth, observing the aftermath of the Callisto Symphony from a distance, hoping they made their calculations correctly.

As they surveyed and charted the trajectories, the biggest fear, besides George's apprehension with how they will be accepted on Earth, was the comets unexpectedly striking an interplanetary object, or each other, and then breaking into numerous smaller pieces, taking on unpredictable paths and in the end, hitting Hendrix. But there was nothing anyone could do to help avoid that.

During the days that followed, Jason continued to spend time alone in the work room. He was becoming removed from the group, saying few words, and some days George and Lisa would go the entire day and to bed without seeing him. They weren't certain where he slept or what he ate. And they wondered why he didn't take greater interest in observing the incoming comets.

Lisa spent her time in the Grow Room, the Kitchen and the control room, still working on the programming and reasoning calculations of OptZ. George was obsessed with ACE and with learning everything he could about what was happening on Earth. He frequently visited the reddit directory where he read a host of interesting news along with the more frequent crazy, unexplainable story. But he was starting to build an understanding of the classes of people, and in his always efficient mind, he began a system of "smart contributors," "average contributors," "smart non-contributors," and "unneeded non-contributors." His goal was to focus on those people and their related posts that fell into the "contributors" category, while not completely ignoring "smart non-contributors," although he had to keep them an arm's length away. Under these classifications, his comfort level grew. He identified with the "smart contributors" and knew that he wanted to be considered one of them.

One night Lisa approached George as they were getting ready to go to bed. Jason was nowhere to be seen. Lisa sat next to George behind ACE.

"What are you finding? Anything new?"

“Yes, a lot Lisa. I now believe that there is a good and a bad on Earth, and I’m not sure which one is a greater force. Perhaps the bad.”

“You need to focus on the good George.”

“I know. I try. But the bad is so different that it’s hard for me to pull away from it sometimes. It must take a certain person to be capable of doing the things I read about. I am not that person. And I am worried about what happens when we reach Earth.”

“I worry about that too. There’s a reason why we were chosen to be placed on these ships, and to grow up in a different way than everyone back there. We need to find out what that is. Why us? We need a full understanding. We’ve make some big discoveries, and come a long way, but we aren’t done.”

George lowered his voice. “What do you think about Jason? He hides from us all day, says very little; seems to have lost interest in being aboard this ship with us?”

“I’m worried about him too. I am not sure what he is doing?”

“Turning bad?”

“I hope not.” Lisa moved closer to George and a brief moment of silence blanketed the room as the comfort of their close proximity settled in. She smiled. “George, let’s look at something that is more fun. How about this?”

She leaned over George, brushing him slightly on the shoulder as she typed next to the command prompt: “Miss Palencia”

Images started to download onto the screen. They showed women in small clothes, none of whom were Miss Palencia. Much of the text was written in Spanish which Lisa and George were both able to read. But there were no clues to the Miss Palencia they knew. So Lisa changed the search: “Miss Palencia English.”

Lisa scrolled down the page, much of which was again written in Spanish, but it told of a city called Palencia in Spain. “That must be where the language originated George.”

“Wait, there.” A directory read “Professor Miriam Palencia, Associate Professor of English, Georgetown University.”

Lisa opened the directory. There was a small photo of Miss Palencia and some comments. “Professor Palencia - New York University, B.A. in English, Summa Cum Laude; Ph.D. Georgetown University. Professor Palencia studies every period of American and British literature, focusing on broad areas including Modern Drama, Dramatic Theory, and Performance; Cultural Studies; Psychoanalysis and Literature; Renaissance Drama; Gender Theory; Visual Studies; Media Studies; Detective Fiction; the History and Theory of the Profession.”

“She studies a lot of areas.” Lisa said.

“Indeed.” George focused in on Miss Palencia’s photo. He missed her videos and wondered if she had sent through any new ones since they had turned the system off. Did they go unwatched, and unnoticed? Was he betraying her by not watching them?

George pondered that question as he walked into the bedroom with Lisa. They stayed awake for a few hours conversing further together in George’s bed. Lisa fell asleep first. It took George another 15 minutes before they could turn his brain off enough to fall asleep, a challenge that he was facing almost nightly with so much activity around him and thoughts processing in his mind at all hours.

Two weeks later, on March 1, 2016, one day before Jason had predicted, the first comets from the Oort Cloud reached Jupiter’s vicinity. The strong gravitational forces of the planet pulled all of these early comets into its orbit where they would stay until they disintegrated into its atmosphere. But there were many more coming. The Callisto Symphony had begun.

Chapter 19

“Amazing,” said Jason. It was the happiest George and Lisa had seen him in many months.

The three of them were standing in front of the control panel. BIM and OptZ pulled double duty bringing in all the relevant data from the Callisto Symphony.

“There’s JC22 and JC26. 23 through 25 must have been too small and dissolved already on their way in,” Jason said.

“And they’re traveling faster than we predicted,” said George. “Jupiter is really pulling them in and blocking almost all of them.”

“But as Jupiter orbits away from their path, the possibility that a big one could sneak past increases substantially,” Jason said. “JC189 is one of the first big ones that fall into that group. It won’t be long now. Just another couple of days.”

The old Jason appeared to be back. Lisa controlled OptZ, which normally perturbed Jason, but today he wasn’t showing any signs of being upset. Lisa had integrated him with Hendrix’s system alerts which the Grand Master had indicated would be helping them identify the objects. Combined with his own mapping and projections, OptZ became the center of command for the Callisto Symphony.

OptZ interjected with a short buzz, “Alert, JC41 successfully cleared Jupiter’s gravity.”

“Bring up the projected trajectory,” said Jason.

A red line appeared on the three dimensional chart showing the comet’s path through the solar system.

“That one’s going right into the sun, almost a straight shot,” said Lisa.

“Yes, nothing to worry about there,” said Jason. “We’re looking good.”

By early evening, nearly 60 comets had been tracked and determined to be insignificant events. Some were too small and dissolved. Others were trapped by Jupiter. And still others showed a non-threatening path through to their eventual demise as they approached the sun.

Jason was the last one to go to bed that night, and JC129 was the last comet he counted. For each one that made it past Jupiter’s pull, OptZ would sound an alert, and Jason would run in the room to observe its projected path. By morning, they had only reached JC147 and only one comet set off an alert throughout the night. It was JC140, which OptZ detected had cleared Jupiter. Jason took particular interest in JC140 because it was in a path in the direction of Earth, as well as the Callisto moon which was sliding around the backside of Jupiter into the comet’s path. This was precisely the type of comet that they were instructed by the Grand Master to intercept.

It was a small comet that was moving fast enough to elude Jupiter’s pull. And it was beginning to cause alarm for Jason, who monitored its path throughout the early morning hours. George soon joined him.

“What’s that?” asked George pointing to a red line whose trajectory went very close to Earth.

Jason explained the situation, as Lisa also joined them in the room.

“Do you think we need to be worried?” she asked.

“What concerns me the most is that we were off in our calculations,” said Jason. “I’ve been reworking some of our calculations to see where we went wrong.”

“Maybe we didn’t,” said George. “OptZ, bring up the gravitational fields around Jupiter.”

“Please be more specific with your request, George,” OptZ said.

“OptZ,” said Lisa. “Can you please bring up a map of the gravitational fields surrounding the planet Jupiter?”

“Yes, Lisa. It is coming up now.” As the maps appeared on the screen, Jason and George looked at each other, puzzled, shoulders up as to say “what?” in disbelief at OptZ’s loyalty to Lisa. But they didn’t say a word.

George saw it right away, “There,” he pointed. The large field that had once nearly pulled him and Hendrix into Jupiter’s orbit was in a direct path between the comet and Callisto. “It will pull JC140 into orbit. This one will never even make it close to Callisto. Our calculations included knowledge of this extra field, but we believe the Grand Master’s calculations did not.”

“I bet this is one that had the Grand Master alarmed,” said Lisa.

“It likely is, but he doesn’t know as much about what’s out here as we do,” said Jason. “OptZ, please monitor path of JC140. Provide notification of any change from projected trajectory.”

“Yes, Jason.”

“Sometimes he still listens to me,” Jason then grabbed his pillow and walked back to the work room to catch up on sleep.

Lisa looked at George, “I’m wondering if we need to be more worried about this?”

“Perhaps.”

Jason slept most of the day while George and Lisa watched the radar as the comets continued to make their way towards the inner solar system. The quantity of comets began to pick up and by the early afternoon, they were up to JC188, and then not a moment later, OptZ sounded the buzzing alarm as JC189 was approaching. This brought

Jason back into the control room. The map was a scattering of red dots. Through the Gamma Scope, even from a distance, the comets lit up the darkness of far away space.

“It is a big one, especially compared to the ones we have seen so far,” said Jason. A few minutes later, its trajectory appeared on the screen. It was headed for a near direct collision with Earth except that the Callisto moon was projected to intercept it half way through its journey provided everything stayed on a consistent course.

“Let’s hope this is accurate,” said Lisa.

“It’s as accurate as we will get,” said Jason. “OptZ, please provide notification of change to trajectory of JC189 please.”

“Yes Jason.” Jason smiled at the affirmative response, nodded toward George and Lisa, and headed back to the work room.

“What is he doing back there?” asked Lisa.

“No idea. But I suspect more than sleeping. He’s tinkering with stuff. I can hear him.”

“But at least last time he did this he emerged with an invisibility solution.”

“Maybe he’s working on a new invention. But I’m not going to ask since he seems to want some privacy.”

George had not logged into ACE in weeks, and was beginning to feel disconnected from his contact with Earth via the directories. But the excitement of the Callisto Symphony overtook any urge he had to do much else. George and Lisa stayed up late tracking the comets, remaining in awe of their bright color and long hazy tails. They knew that soon many of them would track close to Hendrix as they continued their course. Not one would come within 20 million miles

of their route, but they looked forward to getting an even closer look at the comets as they came to their closest point with Hendrix.

George and Lisa retired for the evening around 10:00pm, just a few hours after the engines kicked on for their travel throughout the night. 15 minutes later, as they were just falling asleep, the red lights flashed on Hendrix. The lights were already dim. Everyone jumped up. BIM plugged into the video monitor. It was the Grand Master but he was not talking to the screen.

He was pacing back and forth in a room, passing the video screen every time he went by but he was not paying any attention to the screen. He was talking to someone else in the room who wasn't visible.

“Why don't you tell me...,” the Grand Master said.

“Tell you what? Where we went wrong? I have no idea. You confirmed the positioning. You confirmed the messages. Why don't you tell me?” the other voice said. Both voices were getting louder.

“You are the planner, Gerald. You are the expert. I found a solution and was willing to execute. All you had to do was figure out the goddamn plan. How many people do you have. 100? The best of the best? I don't think so.”

“The odds still remain very small.”

“I don't want small odds, Gerald. I don't want any odds. That's why I hired you-” the Grand Master stopped midsentence. “What? Don't try to quiet me down.”

The Grand Master stepped in front of the screen, his face beat red, his eyes worn, wrinkly, chest moving in and out fast with heavy breathing. He reached his arm up.

“Goddamn you-“ The video went dark.

The room was quiet for ten seconds before Jason broke the silence, “They know we’re not there.”

Lisa looked scared. She leaned on George who was deep in thought.

“It’s JC140,” Jason said. “They think it’s going to impact them.”

“They don’t know that it will hit Callisto,” said George.

Lisa had tears in her eyes. “We don’t know that either, for sure. What if they’re right?”

“They are not right,” said Jason. “We can’t know for sure, but I am confident in our calculations.”

George knew there was nothing else to say at this point, “I am confident too.”

Jason went back to his bed. Lisa laid down on hers and pulled the covers close to her face. George went into the control room to observe the course of the two stray comets, and recalculate his predictions for how they would travel. He was not as confident as he had put forth.

Working into the night with BIM and OptZ, who had become quite a team although George caught faint hints of a little competition flaring up, George was able to run a few other possible scenarios for the paths of JC140 and JC189. They were long shot course trajectories dependent on a number of unlikely factors, and only one of those projections showed JC189 making it past Callisto.

It was possible that another fast moving comet that just appeared, JC226, would be pulled closer to Jupiter than originally predicted, leading to a slight probability, of maybe one or two percent chance, of colliding with JC189, an event that would be almost impossible to chart, leaving an even smaller possibility of JC189’s new path becoming cause for concern. So George calculated the likelihood of all of this

occurring and becoming a cosmic catastrophe in one way or another of less than 0.5 percent.

He shut everything down. He would be able to rest a bit better now.

The night was quiet. Not one alarm sounded despite more than 100 more comets making their way through the system, the latest of which was JC331. It wasn't until the afternoon of the next day that comet JC345 set off an alarm. Everyone gathered around the mapping system.

"This is an odd one," said Jason pointing at the red line trajectory that wasn't nearly as straight as the others. "This one is curving off course and then falling back on course."

"It must be an irregular shape," said Lisa. "Could be one to watch out for."

"I don't like it a bit," said Jason. "I've never seen anything quite like it before."

"I wonder what will happen if it curves out far enough and establishes a new path?" said Lisa.

"The odds are pretty slim that it will fall into a danger zone for us, or Earth," said George. He then proceeded to share his calculations from the previous night, to which everyone breathed a collective sigh of relief. "I am now convinced that we have above a 99% chance of getting through the Callisto Symphony without issue." Lisa smiled. Jason nodded and walked back to the work room.

"Hey Jason," said George. "What are you working on back there?"

"Oh nothing. Just tinkering away. Trying to play with some of the resources that we have aboard the ship."

George and Lisa watched him walk back. He stopped in front of the work room door for a moment, and then walked back and climbed inside his Exciter. He shut the door.

George spent the evening in the Grow Room with Lisa, harvesting a new batch of fruits, vegetables and grains. They would be eating well to celebrate the potential end to the Callisto Symphony.

At 7:15, right after they completed a nice dinner which Jason failed to join them for, an alarm sounded from the control panel. It was an update from OptZ about JC140, which had been snagged by Jupiter and was now orbiting the planet. They all smiled. "One down," said George. That night they slept peacefully and without any alarms sounding. Until 8:10 the next morning, as George and Jason worked out with Kang as they still tended to do together; OptZ sounded an alarm. JC189 had collided with the Callisto moon as they had predicted.

The comet count approached 400, marking the near end of the Callisto Symphony. Only the small, easily predictable comets remained. JC226 was also snagged by Jupiter's gravity. It was time to celebrate.

Hendrix's three crewmates, stayed up late, indulging on Lisa's juice. They played games with BIM, tried to play with OptZ but even Lisa couldn't trick him into participating, his logical mind asking too many questions to be any fun. They all fell asleep hard that night around 12:00 and awoke feeling sick. The next day was spent lying around Hendrix, the ship almost completely silent most of the day. It was a nice change from the mixture of mayhem and excitement that surrounded the Callisto Symphony.

George logged onto ACE in the afternoon. His head was pounding and his stomach felt upset. He hadn't eaten anything all day. It had been so long since he logged in, that he couldn't wait any longer, even though he knew he would have to communicate with some of his dreaded "non-contributors."

The Callisto Symphony

Inside the facebook.com directory, he had 31,075 likes and 22,871 comments. He read them briefly.

“Looks like someone went dark pretty quick after being discovered.”

“Are you f'ing serious? You really thought this dude was in outer space? WTF?”

He shook his head, and scrolled quickly through the text looking for anything from jbremer1995, but didn't see anything. He only saw more of the same negative comments and wanted desperately to correct them. He wanted to tell them how the world had just been saved since there was no mention of the Callisto Symphony anywhere. Did they really have no idea?

He opened up the Google directory and typed in “Callisto Symphony.” It brought up references of music and of course the moon of Jupiter. As he dug in further he found a small post on new directory called 4chen. It read, “A sensational cosmic event predicted by Jan Oort in 1991 outlining the explosive release of thousands of stray and unpredictable comets into the milky way with a high likelihood of catastrophic consequences to the people on Earth. The event was never logged and no timeline for its commencement was outlined before Jan's death the following year. Most professionals in the scientific and academic communities balked at Mr. Oort's claims, finding them to be without merit or scientific backing and they viewed the Callisto Symphony as being just a final publicity stunt before the end of his career and life.”

He scrolled further down. There was one comment from callistomaniac “Let's hope the professionals are right.”

And that was it. George wondered why the Grand Master was so alarmed about the Callisto Symphony, yet most people did not. Or perhaps the Grand Master had more information at his access, which seemed evident through what he shared in their final broadcast.

George caught a streak of white light out the corner of his eye, and he turned to see a blazing comet in the distance slicing through the darkness with its bright light and long tail. Surely, he thought, the people on Earth can see this. The proof is right here. The Callisto Symphony is real. It is occurring now. And it is a not a danger to Earth.

He felt the need to share this information but was reserved by thoughts of disclosing too much about their current Earth-bound aboard Hendrix. The Grand Master already seemed to be suspicious of their activity, although to what degree wasn't clear. On the other hand, George knew he had less to lose now. The Callisto Symphony was almost complete, and it was a bust. If they are detected traveling towards Earth, is it really that big of deal? Plus no one will expect them to be as close as they are right now, within nine months of touching down. And Jason didn't seem all that concerned by it, only doing the invisibility shield because everyone else had demanded it.

He moved the command prompt back to the facebook directory. "Yes, I am back. We just observed the completion of the Callisto Symphony, a cosmic event that held potentially devastating consequences for the people of Earth. I know you were not made aware of this event by your leaders, but please look it up on your Inter Net. Proof is there right now. Look toward the night's sky, in the direction of Jupiter through your Gamma Scope and you will see the numerous comets traveling through the solar system right now. Do not worry. They will not impact you or your moon."

He reread the passage quickly and without thinking any longer hit "post."

The replies came back immediately.

"You talk like an alien. Or is that retard????"

The Callisto Symphony

“Are you serious man...how many times have you already been called out on here? And you’re back with these wacky predictions? You have a mental problem.”

“I don’t have a Gamma Scope aboard my spaceship. Sorry.”

“Our Inter Net? You are on the Internet already dumbass. Not clever.”

“I believe you, George. I am going to look into it now.”

The last post was from jbremer1995. More posts continued to appear underneath, but George refused to look at them. He felt he was only capable of connecting with this one person. Why could no one else understand? Why did no one else want to understand?

He tried to fight the anger that was slowly beginning to build and finally reached a point here it broke free. There was no reason to hide the truth. He picked up ACE and began hitting the record button on the video camera repeatedly as he pointed it out the window, and then he turned it inside the ship, and finally on himself.

The files logged on the screen and were posted simultaneously. The first three clips showed a bright streak in the dark sky. It was a distant comet but it was difficult to make out. The next four short video clips showed the inside of Hendrix, beginning with the lights on the command center, and completing with a close up of BIM who happened to be standing next to George. The view was dark given the ship’s minimal lighting when underway but certain objects and elements could be noticed. And the last two clips were of George. The first was a shirtless shot from his chin down to his waistline. The second was his hand in front of the camera, blocking most, but not all of his face.

He shook his head at his impulsive behavior. And now he knew all the “non-contributors” would make more rude comments. He wanted to go to bed without reading them, but knew his mind would not move far from wondering what they said.

“Freak.”

“Is that your basement or something? You win best spaceship basement I’ve ever seen.”

“This spaceman is ripped.”

“Those shots are a little freaky. You seriously live there. Where is that?”

“The resale value on your house just went down the shitter.”

“These photos prove nothing other than you are a) human and b) not going to give up on this one anytime soon.”

George felt powerless now. His heartbeat and breathing accelerated as he read more of the comments. They were all the same with the same negative tone. But he took comfort in knowing that he had now done it, shared with them the truth, and provided photographic evidence. It was no longer a secret. Yet, he remained baffled at their response. How could no one believe him, except maybe jbremer1995?

Chapter 20

Six months later it is September 22, 2016 and the estimated time of arrival on Earth according to BIM is January 11, 2017 and according to OptZ it is January 4, 2017. They had gained a couple days from their original estimates.

Jason was becoming more reserved and isolated, spending most of his time alone in the work room, and the remainder of his time inside his Exciter, rarely coming into the main cabin except to grab what food was left over from the meals Lisa had prepared. Neither Lisa nor George had been back to the work room in several months, and Jason appeared to not want anyone to see what he was working on. He frequently did his work inside the Exciter at night when George and Lisa had already fallen asleep, adding to the mystery of what exactly he was doing inside the small footprint of the secondary spacecraft.

On the surface, George and Lisa didn't mind his seclusion, but deep down they knew something was brewing, and they only hoped that his intentions were sincere.

Lisa and George spent a great deal of time on ACE, learning more about Earth, and perhaps more interestingly, Earth's view of the rest of the solar system. They took interest in the past and future space expeditions, wondering why the humans on Earth continued to spend decades building telescopes, when they could put a human into space, like they were, to conduct experiments and report the results back firsthand. They agreed to visit NASA, which appeared to be the biggest space exploration group, to share their findings and knowledge. They knew that it was located in Washington DC, where Miss Palencia also originated.

When George was alone he would post frequently to the facebook directory. It was a secret refuge for him, almost another life that he lived in close relation to the humans on Earth. He now had 2.3 million likes and streams of content and posts that were generating at such a

rapid rate, he was unable to keep up. And when he posted, the replies came in even faster. He had a number of friends now, besides jbremer1995. He knew not everyone believed what he was saying but he enjoyed answering their questions about his space travel. The amount of “smart contributors” and “average contributors” in his eyes were growing and he was becoming more comfortable with the conversations he was having.

Many of the contributors began referencing events taking place on Earth, which George was able to search for and read more about. Two countries named Iran and India were embroiled in conflict, and Iran had begun to shoot rockets toward the other country. George found scenes of explosions, building collapsing and people running through the streets in fear, crying. He shared these images and videos with Lisa who was astonished. “It is almost like what we saw happen earlier in the timeline of the Earth. Fighting among everyone. I can’t believe this is happening again right now.”

That night, George and Lisa continued discussing the war and the destruction they saw from the photos and videos over dinner. It was just the two of them. When they finished, they left some food out for Jason as they did every night he didn’t join them. Some days they would notice it was gone before they went to bed, while other days it wasn’t until the following morning.

George logged into ACE that night alone while Lisa slept. The postings about the war were multiplying. George found a news directory on google.com that was updated with the latest information. He learned that Iran had dropped three bombs on India, leading to widespread devastation and the photos he saw could hardly describe it. There seemed to be no signs of life or movement among the broken buildings and charred country sides. It looked like a different place.

The next morning more headlines poured in: “US Alliance Excludes Russia and China.” George and Lisa read the stories together. It appeared a showdown was imminent between the largest superpowers

on Earth. The tone of the articles started to show disbelief and promise at first, but soon grew grimmer by the day. Two days later the headline declared: “World War III.” The United States had bombed Iran and then Russia retaliated by bombing Los Angeles, a major city in the United States. The United States President declared an all out war with Russia and China who remained united against the US and their allies. The rest of the world seemed to be part of the US Alliance.

That night Jason joined George and Lisa for dinner, and learned of the war for the first time. He was quiet, reserved and rather unresponsive. “That’s just great. And that’s where we are heading? I don’t think so.”

“What do you mean Jason?” George asked.

“Nevermind. Going to Earth was a mistake from the beginning. We were just fine out there until...all of this,” he threw his arms up and walked back to the work room and shut the door. They could hear Jason continue talking inside the work room but they couldn’t make out what he was saying.

That night George and Lisa continued to monitor the news. Right before they turned in for the evening, the lights flashed and the red lights came on. They froze, then slowly got up without saying a word and walked to the video screen. Jason walked down the hall to join them, just as the Grand Master appeared on the screen.

He looked older, his beard long and white, the hair on the top of head standing up in just a handful of strands. His eyes appeared darker, and his squint seemed even tighter. He was not happy.

“George I don’t know what the hell you are thinking. You think we are dumb here? That we aren’t going to see what you are doing?”

Jason glanced at George with an evil eye.

“We knew you would crack the communication system at some point. Come on. We trained you to be brilliant. We gave you the best education. What we didn’t expect is that you would tell the whole world about yourself and try to become some kind of a celebrity. But that’s exactly what George Burgess wanted to do. Become a celebrity.”

He shifted his position and moved closer to the camera. “We don’t need any more goddamn celebrities. Your job is the mission, and you failed at that. Don’t worry about the repercussions of your inaction. While you’re off telling the world how you’re saving everyone from doom all the way from outer space, we took precautions mind you. George, you are still a boy. You need to listen to what I say now just as you have your whole life. Someday you will become a man.”

The Grand Master swung his hand and knocked the camera to the ground. They caught a quick glimpse of the room around him that appeared to be a command center with lights and maps. And then it went dark.

The hair on the back of George’s neck rose. A sensation took over his body. A tear dropped from his eye.

“George, what is he talking about,” screamed Jason. “What are you doing?”

George had his head down, thoughts clouding his mind and couldn’t answer.

Lisa tried to comfort him. “George, it’s ok. We’ll talk later.”

“Sounds like you really messed something up, but it matters very little at this point really. You can figure out what you want to do. I don’t care anymore,” Jason said and stormed off down the hall.

George fell into Lisa’s arms, fighting the urge to cry. They were silent for several minutes until finally George started telling Lisa about the posts on the facebook directory, the photos he had sent and the

interactions he had with people on Earth. She listened intently, and understood his intentions, but was confused as to why he revealed so much information. Her anger grew but she was able to control her outward emotion.

“George, that was why we built the invisibility shield. It is why we were so careful making the communications systems, and manipulated the MANOOLA data. Why did you share all that information?”

“It doesn’t matter now. And no one believed me anyway. Most people thought I was lying, and I wanted to show them that I was telling the truth. They didn’t even know about the Callisto Symphony. Even when it was going on and they could look up to the sky and see it. I’m sorry Lisa. I didn’t mean for it to go this far.”

“I think we are the lucky ones George. The only ones who truly knew what was going on. Think about it. All those people were living their lives every day, doing all the things we saw in the videos, and they had no idea that hundreds of comets were being released in the galaxy. They weren’t going to save themselves. But we were going to. And now they are fighting again. Not because of the Callisto Symphony, or any pending catastrophe, but because of their own ideals. The ideals they invented and the conventions they built to live under. We read about their governments. We read about the issues, and then what? Destruction of everything they built.”

George raised his head, “Yes, Lisa. You are right. Thanks.”

There was no further mention of the Grand Master’s message that night. Jason remained in his room for another three days before they caught a glimpse of him grabbing some food from the Grow Room, only to return immediately to his room without saying a word or acknowledging their presence.

George and Lisa spent a week without logging into ACE. The time away gave them a chance to get the ship into order. Lisa organized the

growing schedule for the next few months. George worked on BIM's programming, bringing in elements of reason that Lisa had worked with OptZ on. BIM was getting smarter, slowly. George still believed an entire rewrite of his programming would be necessary, but for now he needed a project to work on.

When they did finally log into ACE, with George intending to show Lisa the full facebook directory, the system was dead. They couldn't receive any incoming signals. Even their pings to various directories returned nothing.

"One of these has to work," said George. He examined their entire history of directories, all the way back to the Lingdao Broadcasting System, hoping to receive a simple message reply, but nothing appeared. George was stumped. They hadn't changed any piece of equipment. They hadn't touched anything since George's last log in a week before.

"Maybe it's for the better," said Lisa. "This machine was beginning to impact us in a negative way."

"Yes, it did, but it was also a key source for information. I feel distant, alone out here without it."

"Let's keep working on other projects. I don't need to see this anyway. I've enjoyed our time away, George. It feels like we used to be."

They sat together for dinner that night and left a plate out for Jason. He came to retrieve it a short time later, and George saw him.

"What did you do that for?" George snapped at him.

"What?"

"Sabotaging our communications system."

"I didn't touch anything. I don't even know what you are talking about."

“ACE is dead, done, nothing. And you think that just happens?”

“I didn’t do anything George. I have no idea what you are talking about. And that’s it. I have nothing more to say.” Jason walked away.

George’s anger was building. He wanted to walk down the hallway. He wanted to push Jason into the wall. He wanted to open that work room door. Lisa approached him.

“Leave him alone, George,” she touched his arm.

He shrugged her off. “He did it Lisa. I know he did. He’s the one that causing the problems around here. Not me.”

“Forget about it George. Come in here. Calm down. Remember your breathing.”

George sat down in a chair and put his head in his arms. Lisa touched his back as his breathing steadied. They remained there for thirty minutes without speaking, and finally George went to lay his bed.

They awoke the next morning to the red lights shining again. The cabin lights went dim. George and Lisa sprang from the bed. Jason walked in, “So what did you do this time?” George glared at Jason and didn’t say a word.

The Grand Master came on. His face looked different. He was smiling. His normally thin eyes were open. It reassured George for the moment.

“Hello George. And hello Lisa and Jason.”

The Grand Master paused as the three of them looked around puzzled.

“I didn’t realize that I was speaking to all three of you. I’m really glad you are all together. Isn’t that nice?”

“This isn’t real. Something’s very wrong,” said Jason.

“You’re probably wondering how I know all this, especially since your MANOOLA data tells me the three of you are nice and healthy, and right in the position I sent you for the Callisto Symphony. You can imagine my surprise when all of a sudden a familiar ship appears on my satellite, much much closer than I was expecting. You did an excellent job hiding and deceiving my system. I made you even smarter than expected, so I do take great pride in that.”

“How could he know?” Jason asked. He looked at the window and noticed the forward two invisibility shields were in place. He ran to the rear of the spacecraft and George and Lisa could hear him faintly, “Oh, no.”

He returned, “One of the rear shields snapped off.”

The Grand Master continued, “Well, I’m sure this catches you by surprise too. And that makes me happy. I am also happy that you decided to come visit us. I look forward to your arrival. I’ll be in touch, and of course, feel free to track the origin of this message and communicate back to me.” He smiled. “I know you can do it. And I look forward to hearing from you. And I do hope you enjoyed meeting one another.”

The communication ended. Everyone was speechless for several minutes.

“Well, that changes things,” said Jason.

George waited a moment, then said, “Not really. I thought we talked about this. It doesn’t really matter if they know we’re coming. Especially now the Callisto Symphony is not the catastrophe it was once thought to be.”

“True, but I’m confused. In his last message, it still seemed as though he was still worried about the Callisto Symphony?” said Lisa.

“I’ve thought about that too,” said Jason. “I think he either doesn’t know the full outcome of the Callisto Symphony, which I find to be surprising. Or else, this world war that you have been following is commanding more of their attention.”

“Could be. His tone seemed different to me this time,” said Lisa. “He was sarcastic, almost taunting us to come. He could be setting us up for something.”

“I think he’s confused,” said George. “We surprised him on this one. There is no way they could ever have predicted this decades ago – that the three of us would hack the communications infrastructure, that the Callisto Symphony would be a non-event, and that the three of us would travel together back to Earth?”

“You’re right. Perhaps he’s trying to scare us,” said Jason.

“Precisely,” said George. “I am curious where he is broadcasting from though.”

“Me too. Obviously don’t communicate back to him,” said Jason to which George responded with a deadpan look so as to say “of course, and thanks for your concern.” The distribution of trust aboard Hendrix was fragmented. Jason walked back to his room.

George and Lisa worked on tracking back the signal. It wasn’t hard. The signal wasn’t masked or manipulated in any way. It was a clear shot originating from a small satellite station they could see through the Gamma Scope that was orbiting Earth. For the first time, they knew, and could see, exactly where the Grand Master was. The big blue planet lingering nearby was growing larger as the days went on, the unrest below its surface was undetectable in the quietness, calmness and serenity of space.

Chapter 21

It was the evening of December 5, 2016 and George and Lisa were taking turns behind the Gamma Scoop observing the numerous satellites orbiting the Earth. They were one month away from making contact with the planet, and not a lot had changed aboard the ship as they continued their approach.

ACE was still unresponsive. They weren't able to detect a signal from anything on Earth, or from the nearby satellites. Lisa speculated that the Grand Master had jammed their systems. George still thought Jason had something to do with it. Regardless, they had started to find peace in their routine without ACE but remained on alert that something, or someone, could still be working against them.

Jason was almost non-existent, having permanently established himself in the Work Room and the back bays of the ship. He could be heard talking but there was no sign of who or what he was talking to. Lisa noticed that he had started to grow vegetables and beans in a back corner of the Grow Room, but she had never seen him in the grow room working on them.

The coordinates for their landing on Earth had been decided by George and Lisa, who believed that a location near Washington DC would be best, given its proximity to the US government which seemed to be in charge, along with Miss Palencia's history in the area and the fact that NASA was located nearby.

George and Lisa were a strong team, agreeing on most every decision and making them unanimously between themselves. They looked forward to making contact on Earth, but were a little reserved with all the fighting that had seemingly been taking place.

They looked out at Earth, now appearing as though it was only an arm's length away.

“I can't believe we are actually doing this George.”

“Me either. I would never have guessed it four or five years ago. We were so trapped into a certain way of thinking. The way they wanted us to be.”

“I still do wonder if they would have left us out there like that forever. Even after the mission if we hadn’t taken action.”

“I don’t think we will ever know. And I don’t think if they had those kinds of intentions for us that the Grand Master would ever admit it.”

Lisa felt comforted the more they spoke, even though it was a subject they had covered almost every month since they had met. They went to bed with the excitement of new experiences and interactions with more humans on their mind.

In the middle of the night the alarm sounded and the lights turned on, then went dim. The red lights appeared in the corner of the ship. George and Lisa slowly rose from their beds. Jason walked down the hallway.

The Grand Master appeared to have aged another year or two even though it had only been three months since they last saw him. The skin on his face was heavily wrinkled and his head was nearly bald. In the background they could see maps and satellites with lights shining on and off. It appeared he was on a spaceship with electronics that were more sophisticated than what they had aboard Hendrix.

He didn’t waste any time. “I actually thought you would communicate with me. Come on? We’ve known each other since you were born, yet you have nothing you want to say to me? You don’t have any questions you want me to answer? Nothing?”

“I must say I’m surprised. Perhaps you feel anger. Or perhaps you want to feel anger because you think that’s what you *should* feel. But you don’t. You feel curious. You feel loyal. You feel a part of me.”

“Whatever you feel, remember one thing. I made you. Everything that is in your brain was put there by me. Everything. Every lesson. Every word. Every thought. If you are happy with yourself, remember who allowed that happiness to exist. Look,” he spread open his arms, “look at you now. Look how far you’ve come, how smart you are. You became everything I wanted you to become, and even more.”

“I’m proud of you. I really am. And I hope you understand that you do have feelings for me. You do care about me. You do know that you were all three abandoned at birth? Your mothers and fathers were unable, or unwilling, to care for you. It wasn’t clear if they even wanted you. So I took you in, when you were still newborns. I saved you when you needed help the most. That’s the truth. What began as a very sad story has now become a grand story.”

“I must share with you a word of caution. My intentions are sincere in every way. Earth is a very different place than you are expecting it to be. You would be best served visiting the space station where I am located first. It is safe and secure. You will learn a great deal more about what you are doing, and who you really are. There are many more secrets I’d like to discuss with you. Many more answers to share.”

“I know you have been watching my location. I know you are curious to meet me. I look forward to hearing back from you. And remember, we have always been counting on you. And we still are. I care about each of you deeply. Good night.”

“It’s a trick,” said George. “He needs us. He’s playing games with us.”

“I agree,” said Lisa. “He’s trying to appeal to us emotionally now. He wouldn’t do that for our benefit. It would only be for his.”

Jason shook his head, “I’m not so sure.”

George and Lisa looked at him bewildered.

The Callisto Symphony

“This gives you something to think about.” Jason didn’t look back as he walked down the hall. Lisa called out after him, but he ignored her.

“That was weird,” said Lisa. “What the Grand Master said, and then Jason’s reaction.”

“It was. But don’t worry about it. We are not going to deviate from our plan. We are not going to communicate with him. We are going to proceed as though none of this even took place. We have a plan, and it is the plan we want to execute.”

Lisa nodded.

“BIM, estimated time of arrival on Earth”

“28 days, 6 hours, 32 minutes.”

“We’re almost there.” Lisa and George went back to bed, trying to shake off the lingering influence of the Grand Master’s latest appearance, and Jason’s odd behavior. The Grand Master’s words replayed in their heads, and then were forgotten as they fell asleep.

They didn’t see Jason for another five days, and when they finally did, he quickly grabbed food and water and walked briskly back to his work room. Lisa noticed he had been tending to his plantings in the garden, but she had still never seen him in the Grow Room.

It wasn’t until they were just one week away that Jason’s intentions became known. On December 26, 2016, as Lisa and George were working out with Kang in the morning, Jason entered the room.

“Do not speak. Just listen.” George and Lisa stopped everything.

“I am departing this ship right now. I am taking my Exciter along with equipment that I have prepared in the work room. The materials used to make this equipment were shared amongst us, and you can keep everything I leave behind. I have already disassembled OptZ from the command center and installed him in my Exciter. I have taken the

time to plant and grow my own food supply which will be coming with me, as well as my water supply and certain parts of the recycling system. My departure will not impact you in any way. I do not wish to be contacted. Please do not follow me. Just let me go. Thank you.”

He started to walk away but George grabbed him by the shoulder and tried to spin him around. “What are you doing Jason?”

“Leave me be.”

“Where are you going?”

“Away. That is it, now let me go.” George loosened his grip and took a step back. Lisa began to cry. Jason’s eyes made contact with Lisa’s for a second. She could see this was hard for him. He was trying to hide it; to be strong, yet, he turned violently away from the group and walked toward the Exciter.

Lisa and George slowly walked down the hallway toward the back bays. The Work Room door was open and they could see it was rather empty inside where Jason had stored much of the equipment. Everything that was left was wrapped up perfectly and organized in the opposite corner.

They heard the Exciter bay door close. “How is he going to do this?” George said as they raced to the nearby window. The outside bay door opened, and Jason’s Exciter emerged, unrestrained by a power cord. On the outside of the Exciter, they could see an enormous amount of work had been done. It appeared to have large battery packs installed across the bottom of the ship. Above that were 5 large solar panels, expertly installed at different angles. In between were two jet thrusters that lit up as Jason moved forward and away from the ship. He didn’t close the bay door. He didn’t look back at Hendrix. He just slowly drifted off, the light from the thrusters becoming fainter as he pulled away. He appeared to be on a course bound for Earth.

George walked over and closed the bay door. “Did you see that? He has completely turned the Exciter into a mini spaceship?”

“Is he really going to live on that though? It’s tiny. He won’t be able to survive for long?”

“He survived in the Work Room for over a year.”

“I can’t believe this just happened. And now he’s gone?” Lisa said.

“It looks like he’s heading for Earth. I can’t understand why he would depart right now?”

“Me either. He was getting strange to be around. I was never comfortable when he would walk in.”

“I wasn’t either.”

They laid in bed together and speculated all night about what Jason was doing, and why. The ideas ranged from him heading back towards his old ship near Jupiter, to going to Earth’s moon, to being under a spell from the Grand Master. By the end of the night, they agreed that they might never know. Lisa grabbed a jug of juice. It had been several months since they last indulged.

BIM beeped repeatedly the next morning, waking both George and Lisa from the bed they were sharing. He was standing in the center of the room and George, not sure what BIM needed, just plugged him in to the command center and went back to bed. BIM processed data for an hour and then disconnected and walked back into the bedroom and beeped again until George woke up. “What do you want?” BIM was motionless. “What?”

BIM walked back over to the command center.

“George, we have never attempted to enter the immediate atmosphere of another planet before. It is not safe.”

“BIM,” George rested his head in his hands, his head pounding from the previous night. “You do realize *I* made you smarter. You don’t have to show me all the time.”

“George, I’m not sure what you mean?”

“Alright, just figure out your calculations then.”

“What calculations?”

“BIM, figure out how we enter Earth’s atmosphere.” George was growing frustrated.

“Ok, will do.”

“Finally,” George muttered under his breath. He was tired and couldn’t fall back asleep. He rested his eyes as he sat in the chair of the command center.

“6.1 degrees is optimal entry inclination.”

“Ok, BIM.”

“Drag co-efficient upon descent could be a challenge due to significant increases in heat.”

“BIM, we got out of this atmosphere a long time ago. We’ll get back in just fine.”

George reached up and turned BIM off. He rested his head on the command center.

Preparations began that day for reentry. They began locking everything down. The remaining Exciters were proving to be a challenge since they couldn’t be moved easily. George arranged to have them locked down with belts and custom steel fittings that he rigged.

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All of the elements in the Grow Room had to be stabilized, and would be one of the last that they do. Lisa took special interest in BIM's concerns about entry into the atmosphere. She would work with him on the appropriate course of descent.

Each day, they tried ACE but with no luck. There was no further communication as landing day approached. The Earth looked beautiful. They couldn't wait to see all the water. All the people. All the buildings. Everything they longed for in the videos and photos.

It was determined they would land in the evening on January 3, 2017 in order to catch a favorable position in the Earth's rotation for reaching Washington DC. That day, they went over final preparations. Everything was secured and latched down. Lisa warned George that it might prove to be a scary ride. She was worried about the heat build up from the atmospheric drag.

Soon they were in orbit of the Earth which they allowed to pull them for a few hours to put them on their desired course. Then they fired up the thrusters and broke free, entering Earth's gravitational pull. The ship gained speed fast. Lisa and George were strapped in seats by the command center, both fearful. Their eyes were glued to a series of three lights on the satellite control that were mapping their position.

The first light went from red to green, indicating they had entered the Earth's atmosphere. The ship was beginning to shake. It was hot and George thought he smelled smoke. It began to shake more violently, and Lisa reached over to hold George's hand. She squeezed it.

The second light changed to green indicating they were almost through. They heard a large crash and felt a jerk as something impacted the ship. They smelled more smoke. George was strapped in so tight that he could barely turn his head in the direction of the crash. He couldn't see anything.

“What was that?” George shouted as loud as he could.

Lisa said something but he couldn't hear her. He thought he read her lips to say, "invisibility shield."

George was breathing intensely. The ship continued shaking. He could hear banging noises behind him, beside him. He clenched Lisa's hand even tighter. The third light went to green. The noise suddenly changed. Everything was quiet. The shaking subsided. It felt like they were gliding. The blackness outside the windows was replaced by a bright blue. They both smiled.

George sat up and turned on the thrusters to slow down the descent. BIM beeped from the corner of the command center to indicate he was helping control the ship now too.

Lisa sat up as the motion stabilized, her eyes wide darting every direction, trying desperately to take in everything around her. The brightness almost stung, but she kept looking. It was blue and white. No black.

The sun shone through the far side of the ship casting a light down on the control panel.

"Unbelievable," Lisa said as she held her bare arm up to the light, feeling its gentle warmth.

"BIM, current course?"

"Stable George."

The gliding feeling continued for several minutes. The cabin inside Hendrix was silent. Only the humming of the thrusters could be heard behind them.

Hendrix began turning, leaning to one side and changing the viewpoint out the window showing the world below. Lisa and George could see the vastness of the blue water sprinkled with the creases of waves that appeared tiny. They caught a glimpse of where the water met the land,

and saw the light brown edges of a beach, where the waves appeared larger and more plentiful.

The ship straightened up. BIM's lights were dancing on and off.

"Looks like BIM has this one," George said.

"I hope so."

The ship descended slowly. The scenes out the window changed. They could see buildings, many of which were broken and collapsing. There were thin streams of smoke wiggling up toward the sky. There appeared to be a layer of dust across the entire landscape.

They descended further, flying over a large forest, circular green tree tops as far as the eye could see, intermingled between more clouds of dark black smoke.

"Hold on," shouted George.

The ship whizzed beyond the forest, its speed decreasing. An open field appeared out the window as the ship moved lower. Soon they were parallel with the ground, and then impact. A loud crash jolts the ship. The landscape continued moving out of the window. Slower and slower until finally the ship rocks to a stop. The infrastructure of the ship creaking as it tilts side to side eventually becoming settled with a slight upwards incline.

George and Lisa remove their safety belts. Lisa takes a look out the window noticing the dust that was kicked up during the landing. She can faintly see the tree line beyond. George walks down the hallway and opens the Exciter bay.

"No spacesuit this time," he calls out as the door opens. Light shines throughout the inside of the ship, its coverage spreading as the door opens. Lisa holds his hand as they walk toward the open door and jump down to the ground below. They smile and embrace. They jump. They run. They shout out, their voices echoing into the distance.

Lisa runs back inside the ship and into the Grow Room, only to emerge a moment later with a bucket full of her soil, a small shovel and a couple of plants. She bends down and digs a small hole for the plants.

Inside Hendrix, the cabin lights flash, and the red lights turn on. BIM accesses the main video screen as the Grand Master appears. BIM's red record light turns on as George and Lisa are not aboard the ship.

“George, you and Lisa must come to our ship at once. We are in desperate need of supplies.”

Jason enters the frame, standing next to the Grand Master. “This is the home for the future of humanity, George and Lisa. Trust me. Listen to the Grand Master now, for once.”

The Grand Master continued, “I beg you.”

Outside, George thought he heard a noise inside Hendrix. He started to walk toward the ship but saw Lisa at a distance, bending over. She was throwing up. He ran towards her.

The Grand Master moved away from their screen, and an older woman took his place. Her voice was calm and gentle.

“George, this is Miss Palencia,” she began weeping. “I am your mother George.”

Epilogue

February 16, 2021:

George awakens suddenly in the middle of the night. He sits up in bed and listens to the quiet, gentle creaking of the house trying to determine if it was a noise in his physical surroundings that had awoken him or just thoughts in his dreams. He still wasn't sure as he glanced at Lisa next to him in the bed, still asleep.

It was summertime and the house was warm as he slid out of bed and began checking all corners of the small structure he had constructed years ago. As he walked into the newer section of the house that he had just finished building last week, he stepped on a board that creaked loudly. He paused. He didn't want to disturb three year old William in the adjoining room. Getting William back to sleep could prove challenging as it did so many nights. All remained silent.

Perhaps he had heard an animal, one of those land burrowing rodents that occasionally made their way in the house, but more frequently were caught ravaging Lisa's expansive garden in the front of the house. The sightings of any other life had been slim to none in their years on the desolate planet.

Signs of the previous world could readily be found in the ruins they encountered on their near daily hikes. Their house was constructed based on photos they had found amid the rubble and images they were able to conjure up from memory of the Internet transmissions they had once found. It was sad to know that so much activity existed right on this land where they now made their home, and that the surrounding area was at one time, the epicenter for the entire planet.

George opened the front door, walked down three stairs and sat on a bench he had built the other day that he had not yet moved into the house. He turned and looked toward the right side of the house where Hendrix was docked. Small green shrubs had appeared around its base

since it had been stationary for years. Half of the ship's lights were dimly lit and could be seen through the windows. In between the ship and the house was a myriad of cords and wires connecting the two together. The solar panels and regenerative battery capabilities allowed George and Lisa to power elements in the house.

He knew the Grand Master, Miss Palencia and Jason had likely ran out of resources by now, given their concern over this four years ago. Or perhaps they had driven each other a bit crazy being confined to the small satellite the Grand Master had chosen to orbit the Earth. Either way, every time George looked toward the night sky, he wondered if one of those satellites up there was theirs. Or perhaps they had made landfall back on Earth. He could only wonder where on this large planet they would choose for their landing. Would they be close to him? Would they want to be? Would *he* even want them to be?

George still felt a longing to be with Miss Palencia. It was a deep desire that burned in him every day. But his desire to be with Lisa burned even deeper.

There had only been one other communications from the Grand Master's satellite, just a week following the first one, and they again pleaded for help. Miss Palencia appeared scared while the Grand Master seemed more sincere than ever before. Jason continued to exhibit unpredictable signs alternating between warmth and hatred. They were signs no one could interpret for sure but George gathered that Jason was happiest living on his own as he had done almost his entire life.

George and Lisa discussed their options when the second transmission came through. While they cared deeply about Miss Palencia, and wanted to save her from the others, Lisa wasn't feeling well. Their ship was in need of repairs. And they had found a beautiful expanse of land that appeared to be untouched. It was a large green pasture surrounded by tall trees that hid the smoke and haze of the aftermath of the war they now knew had consumed the entire planet. It was a

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large beautiful space. They could breathe normally. They could run for miles in any direction. It was bliss for all three of them now.

George heard a loud rustling in the bushes on the left side of the house; several branches snapped on the forest floor. Something was coming towards him.

About the Author

Andrew Cullen has authored and co-authored four non-fiction books. THE CALLISTO SYMPHONY is his first work of fiction. He is a digital marketer for a global 100 brand and the founder of The Underside Publishing Co. which has produced several websites including CostcoWineBlog.com and ToysBulletin.com.

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