

The Right Path

by Aaron

Section I

Chapter 1

It was a dark and stormy night as I... (Nah, that's too overdone.)

The moon shone brightly as if goading me on... (ugh, no)

It was a part of town I'd never been to before. (yeah, that's good)

One of those neighborhoods off on the edge that you wouldn't notice if you didn't live there. Dust devils played innocently along the dry walking path. Small houses squatted along each side looking as if they were ashamed to be seen above the earth. It wasn't a street interesting enough to visit twice, but I was looking for one specific place.

I stared at the sign out front. "Your future – is my past." It was catchy for sure, but a little cliché. The sign was scrawled on a piece of warped plywood long faded by the mercilessly hot Caribbean sun. The front looked poor even for Jamaican standards. The mud walls barely covered a stick thatch and a few blades of grass held on tenaciously among the chickens pecking around out front.

To say I was critical of fortune-tellers was an understatement. The only fortune-telling I believed in was when my momma told me we would she would never make a fortune. It was only my pride and Elenin's beauty that brought me here.

Anyway, much as I didn't believe any of this hocus-pocus, a dare was a dare, and I wasn't about to let the likes of Elenin and her friends label me a coward. So despite my misgivings, I took a breath and walked in.

It took several moments for my eyes to adjust to the dim light. The place looked surprisingly large given the humble exterior. The low ceiling was covered with those cheap dayglow plastic stars and there were deep red fabrics on all the walls. It was exactly what I envisioned a fortune teller's room would look like in some mystery TV show, a cheap attempt to convince the under confident and the gullible that they'd entered another world. I had only just walked in, when a short woman of about 50 came through one of the curtains. She was surprisingly small for a medium and wore a beautiful dress made of red and green lace. Her complexion was medium-brown and her features looked something between Japanese and Native American. It seemed to complete the otherworldly effect. Her graying hair was tied in an incredibly ornate

braid that stretched down to her waist.

She spoke with an accent that I couldn't quite place, but which was most definitely not Jamaican.

“I am so happy that you have arrived Tannin Boldóne.” she said with a disarming smile. And before I could ask how she knew my name, she continued. “You can call me Señora Bolom. I realize you are skeptical of my profession, so it seemed wise to give you some.....credentials first.”

She paused and ushered me over to a small wooden table. No crystal ball thank god, but a plain slab of flaking wood with a plasticity coating.

Most people come to me with some shallow wish to know their future in order to feed their ego. They want to believe that something wonderful will happen to them. These people do not realize that despite the strong wish to know the future, it carries grave consequences.”

“So why...”

“Because Tannin, unlike my other customers....you are here because I *planned* for you to be here. There is a very specific purpose for you and in order for you to fully realize that purpose, you *must* follow my advice.”

“Okay, that sounds great. But it also sounds like something you could tell to anyone who walked through the door.”

A ghost of a frown fluttered across her face, it was the closest I came that day to seeing her lose composure, but like the flight of a gnat it disappeared.

“Tannin, please hold your doubt briefly while I continue.

“You are here because you are going to be a part of something that will be very important to every one of us. Your path in the coming years will have repercussions for each and every human being. You will be faced with certain choices, and while seemingly trivial, it will in fact be profound. If you choose poorly, then each and every one of us will be....” she paused, seemingly deep in thought, then she continued “will be worse off.”

It was clear that she had been about to say something more dramatic. And despite the undertones of her statement, this grand plan sounded very convenient.

“Look” I said, trying to use impatience to cover my discomfort “how in de world am I goin' to be able to make dis *critical decision* if I don' know where or when it's going to happen? For all I know, dis *critical decisun* is wheda I finish my maja in astronomy or start taking electives in nuclear physics. Hell, maybe de *critical decision* is whether I eat breakfast tomorrow morning.”

She sat back, with a look of infinite patience, as if she could not only read my future, but my very mind as well. “This is why knowing the future is so dangerous. If you've ever studied mythology, you know how many countless stories involve someone learning of their future and in the process of trying to prevent it they bring about the very events they wanted to avoid. Eodopus, Hamlet, and many others. In order that you don't spend the next decade second-guessing yourself, I will tell you that this critical time will happen to you far from your home. Farther than you've ever imagined traveling.”

That got me thinking about all the stories I'd read. The Hobbit, The Never Ending Story, The Hope Chest. I imagined myself transported to fantastical land and fighting evil wizards.

She continued, “When that time comes, it is critical that you choose the right path. You must not follow another's mistake, that is most important.” she paused and closed her eyes, as if wondering whether to tell a child that babies do not come from the Stork, “This is not a journey that you can complete by yourself, and while you two may not get along so well, the girl will be critical to the success of your journey.”

While most people probably felt gratified to have their ego fed by this roundabout esoterism, it was trying my patience more and more. I didn't miss the fact that she said 'the girl' rather than naming who this person was. Obviously if she said Delloreen or Claudia then it would be easy to dispute. “Look, I'm sua dat you tink dis stuff is real. An' it might fool a bunch o' people ta tell dem 'bout 'ow dey are goin ta be critical to 'umanity's futa o be worl famous blah blah blah, but aside from knowing my name, you 'aven't said a singel damn ting dat wud convince me dat you doing more dan jus weaving a well scripted tale! Is all 'bout making people feel impo'tant. Like telling someone dey used ta be Ghengis Kahn in a pas' life an all dat. I 'ope dat you not expecting me to pay you far some obscure grandiose story.

Through my whole outburst she just sat there, a slight grin developing on her chapped lips. She looked like a gambler who was about to reveal the most mind-blowing bluff ever seen. Her calm only fueled my anger and I started to get on my feet and leave, when she raised her hand and with the kindest tone I've ever heard, asked me to sit for just a few more moments.

“Tannin, I understand that you don't believe in me and that you only came here because Elenin dared you. That's perfectly fine. Whether you believe in fate or not changes nothing about it's effect on our paths. I

realize that you're attracted to her and that your frustration is all the more intense because she's gay. You'll feel more convinced when you get the email tomorrow.” I could feel my jaw starting to sag as she continued “You must realize that the obscurity is important to prevent you from shying away from your destiny. Look, here's an example you can relate to, if President Jimenez had been told that his son's death was going to happen as a result of him creating the South American Space Agency, do you think he would have done it? We all make decisions with the hope that what we're doing will be for the best, but we do so without knowing whether the good outweighs the bad. And no, I do not expect you to pay me for this. I am doing this as a service to all of us.”

In the merest instant I went from fury to amazement. My doubt was becoming as tremulous as the patterns of the black wall fabric. I just sat there, with my mouth open. Not normally finding myself at a loss for words, I was stunned. For someone to tell me that my decisions are going to have some kind of huge influence on the world was kind of like telling me that my pet mouse is going to get a dumb side kick and try to take over the world. As critical as I was of this voodoo, the gravity of her words and the emphasis with which she spoke briefly set me aback. Nothing like this had ever happened to me, to have some woman that I've never met before suddenly tell me things that I haven't even told my best friend...that was something....something unworldly.

“I...I...don know what ta say.”

“Of course you don't.” she replied.

She paused once more showing obvious caution about both what she said and how much she said.

“There is one more thing. Do not be fearful of taking responsibility for a great man's life. You must have faith in yourself that you have been given everything that you need to be successful.”

Chapter 2

I left feeling shaken, numb, and shocked beyond belief. Not only was I apparently going to have the fate of unknown hundreds...even thousands of people on my shoulders, but I had no idea when it would happen and under what circumstance.

I got home and searched for some way to clear my head. The conversation swirled around in my mind gripping me like a python. I tried kicking the fútbol around but it wasn't helping. I went to a cafe and checked my email just to see if anything mind-blowing would happen, but it was just spam. So I just spent time carving my model rockets. This brought me back to daydreaming about space. SASA was launching a new satellite toward the moon in a week and they were getting more funding for the launch facility. Satellites and rockets were my obsession since grade school.

The next day I was heading off to la Universidad when I saw Elenin and a couple of friends walking towards me. It was of course no coincidence, only a few dozen people went there from our neighborhood. She was only a few centimeters taller than me and her hair was always tied back tightly. She had a great figure and a smooth face with a slightly flattened nose that I always thought cute. She dressed just like her friends in a cut off T-shirt and shorts, probably wanted to fit in. Unfortunately the only time she smiled at me was when she had successfully devised some fiendish prank. The look on her face when she saw me made it clear that she had all she needed to dig into me. She knew what I thought of superstition, and had the most wonderful time tormenting me.

“So what did the great seer have to say?” she taunted

“Oh nothing much,” I tried to act casual “I wasn't impressed.”

I was a horrible liar, and Elenin knew it. There was no way that I was going to tell her what I'd learned, but at the same time, she'd want to know something.

“Nuh true?? You did'na go, did you?”

One of her friends giggled, and the smile playing on Elenin's face reminded me of the look that the psychic had given me yesterday.

“Of course I wen'.” I replied, getting angry despite myself

“Well if you wen', den you had to'a learn *sometin* interesting.”

“I don'a have to tell you nothin.” I feigned. Knowing it wouldn't get me out of this.

“Maybe she tol' you dat Suzanne t'inks you ugly. I mean she pro-a-ly does.”

Now her friends weren't even trying to hide their laughter. My crush on Suzanne was not exactly a secret, but not exactly school wide gossip. It was just enough to push me over the edge.

"Okay, well she did tell me that you're *gay*" I shouted back at her. I'd wanted to save this incredible jab for a time when I really needed it. But she'd really put me on edge, and I was still reeling from the conversation yesterday. Besides, it was both something true AND it shut her up like a steel trap. I grinned as her entire face turned beat red and her mouth opened and closed once before she could get a word out.

The funny thing was, we all suspected it. But of course nobody would ever come out and *say* anything.

Now I'd forced her to admit it not only in front of me, but also her closest friends.

"Well you obviously were right 'bout dem being quacks, cause is no' true an' how dare you make up sometin' like dat!"

Now it was my turn to blush. I'd really gone too far. It was one thing to accuse her but there was no saying what her friends might do or say. I mean, it was no secret that she was always making eyes at Ms. Chacón, the Physics professor. Fact is nearly everyone in the school had the hots for her. But if word got out, she could be beaten or worse.

I walked away feeling disoriented and horribly guilty. I knew she'd backed me into a corner, but I just lost control.

I'd replayed this day hundreds of times over in my mind. Even long after I lost touch with her, I never let go of the fact that I'd hurt her much deeper than I could have imagined.

Chapter 3

“Apply for an internship at SASA”

Now *this* was an e-mail that I would read, even if it might be spam.

“Your mentor has chosen you to be among a select group of students from Jamaica to compete for an exclusive internship at the South American Space Agency”

I barely read the rest of the email. I couldn't get over my excitement at even the remotest chance to be at the prestigious science agency, I just sat staring at the screen like some ignorant shepherd.

I wanted to tell Eddie, hell I wanted to tell the whole school. But then my doubt crept back in and I figured it was a bad idea to tell everyone only to find out that I hadn't won. After all, the email only said that I had a *chance*.

I quickly downloaded the form and spent an agonizing hour and a half going through all of the questions. It would take me days to come up with worthwhile answers to all of this. But there was nothing I wouldn't do to get into an astronomy program such as this.

Chapter 4

Elenin Deville couldn't concentrate on any of her classes. And this time it wasn't the fantasies of Ms. Chacón. Tannin's outburst had thrown her over like one of those leg sweeps they teach in Jujitsu. It wasn't just that he suspected (most of the people she knew probably suspected), it was the horrific danger she was in. Every few months there would be a story floating among the gossipers about someone who was beaten for being gay. Most people convinced themselves it wasn't true, or that it could never happen to someone *they* knew, but the fear was always there nevertheless. She might as well commit suicide for all it would do to mom. And the horror of it was that there was no way she could trust Tannin to keep his big mouth shut. She could see him now grinning wildly and telling everyone they knew. How could she have been so stupid to goad him like that. Thing is she couldn't even say why. Was it envy because he was always coming up with the right answers? None of it made any sense.

It took most of the afternoon to figure out what she was going to do. She played maybe a hundred different scenarios out in her mind. Should she send him an email, and avoid him in person? Or should she just grit her teeth and have a face to face conversation.

Unfortunately she never got the chance to make that decision.

Chapter 5

Claudio and I were in the yard playing fútbol. My place was smaller than his and the yard was just a postage stamp compared to some of the nicer ones in the neighborhood. But with his girl still upset about his decision to go to college in the United States, he was spending a lot of time with me. It wasn't a problem. I loved having him around and swapping fútbol stories over beers. When I saw the mailman walking toward my house my entire body froze. I'd been stressed out for the past two weeks. I was becoming a wreck over this whole SASA thing. I mean, it's not like I could really expect to be a full astronaut or anything, but to even work at the agency and help develop the satellites was an incredible chance. One that I didn't think I could be worthy of.

While I just stood in the yard frozen, he picked up the mail and waved it enthusiastically. That could only mean one thing..

“I can't believe you're such a coward man. Just open the damn envelope.” Claudio couldn't possibly imagine how terrifying this was for me.

“Can...can you open it for me....”

Before I could finish, he tore open the envelope with enough excitement that I could imagine for a second that it was addressed to him.

“Dear señor Tannin Boldóne;

It is with our sincerest regrets....” my heart sank half a meter into my abdomen as he continued “that we inform you that your useless and sorry ass has been accepted to the South American Space Agency....”

He didn't get a chance to continue because I all but threw him on the ground and was fully prepared to beat the living crap out of him. But of course he outweighed me by at least 12kg and I knew that I'd never win. Besides, I was too enthralled that I had *actually* been accepted.

“...We believe that your unique qualifications will be a valuable asset to the agency. You will be given clearance to work as a part time intern upon completing your studies at La Universidad.....”

I felt like I was dancing on air. It was a career path that would set me among the most successful Jamaicans in history.

Chapter 6

“Peru had such an incredible rugged beauty to it. Although she didn't get to see a lot of it on her time off, there had been plenty of awe inspiring views on the flight in. The enormous mountains, rugged cliffs, and beautiful rivers were such as she'd never even dreamed of in Trinidad.

Living in Peru was a great deal more relaxed for Elenin. Besides the awesome scenery, the people were so amazing, and the Air Force was an easy place to be for someone who wanted to learn weapons technology. There were so many wonderful challenges in the military. It was easy to stay in top physical shape, she could practice jujitsu with the best martial artists, and she learned several different types of guns. And the food! Lima had the most amazing food she had ever tasted. She'd already tried everything from Creole to something called Cebicherias.

But most importantly, she could work on her electronic rocket motor without wondering where she would get money for each screw or plate. She got to the lab at her usual time, 6am after doing a short workout. The place was little more than a quonset hut, but the equipment was the important thing. There was every kind of electronics tool she could imagine. It was so gratifying to finally be given the chance to work on her motor. The electronics package looked like it had the potential to put out an incredible amount of power. She'd upgraded the transformer three times already and finally this one remained stable.

“Major Quiñones, may I 'ave a word with you?”

“Sí Cadet, que este?”

“Señor, I believe dat the engine is ready for testing. I would like permission to utilize de testing frame to measure power output.”

“Well of course Elenin. It's no matter to use the rig. You believe the engine is stable now? There's a pile of burnt out capacitors which would show otherwise.” he gave her a smile to show he was only toying with her.

“Yes I'm aware of dat sir. I've tested de current configuration at multiple settings on very low velocity without incident.”

“Okay, well I would like to join you to observe this test.”

As they walked to the testing lab, Elenin reflected on how much she appreciated the man. There were very few people in the military who would put their trust in her. Not only did she have to prove herself as an engineer and a foreigner, but also as a woman. Eventually her knowledge of aircraft design and her brilliant improvements to the mechanical and electrical systems had earned the respect of at least some people in her department.

She carefully set the motor into a testing frame designed for aircraft engines. This was the real sweat equity that they always talked about. After spending several weeks on this idea, they both knew that she had better have something to show for it or Corporal Rodrigo would have her head. Despite the major's support, it was clear that Rodrigo was skeptical either of her design or the fact that it was being developed by a woman. He was clearly a very 'traditional' person (meaning he thought good ideas could only come from boys).

She double-checked every bolted connection to the frame and after getting behind the blast shield she slowly dialed up the current. The hum of the motor grew louder as the pressure readings were taken. The creaking of the steel frame was easily audible over the sound of the motor (which would never have been possible with a jet engine) and the readings indicated it was putting out 1 kiloNewton of power.

“Incredible!” Martin her coworker commented, “that thing is just sipping power and yet it's putting out enough force to launch a missile.

Quiñones was also smiling, “It sure looks like you have yourself a success Elenin. Even Rodrigo is going to have to admit it.”

She was positively beaming. It was a big gamble to get the department to support what looked like a nebulous project. If this didn't prove her merit in the service, nothing would.

Chapter 7

Major Edwardo's Mig could be heard long before it was visible. The sleek plane banked easily and headed towards the rusted ship hull parked behind Isla San Lorenzo. It was the only artificial sound on the otherwise serene bit of coastline. But at this point there was too much excitement for her to admire the scenery. Elenin stood on the shore alongside Major Quiñones, Corporal Rodrigo, and several other crewmen.

'Major, you have a green light to launch.' the radio had been chattering away for the entire flight with tests and readings. But this was the moment she and the whole team had been waiting for.

Instead of a loud his and the roar of a rocket motor, the Nazca powered missile flew away with a quiet hum. The missile flew with amazing speed at the rusted ship. The entire 15 meter ship lifted out of the water with the force of the explosion. And the three cameras mounted on the starboard fin, nose, and underbelly as well as the old ship, recorded every microsecond for analysis.

Cheers were erupting throughout the makeshift control room.

It had taken years for Elenin to be accepted within the Peruvian Air Force. But this new design was the biggest risk she'd ever taken so far (aside from going out with Dolores). Not to mention the misgivings of Corporal Rodrigo who seemed to take it as his personal responsibility to belittle her every success. All of her hard work could have evaporated in a tiny vapor trail. And yet there was enough support to approve this test of her new 'quiet missile.' The electrically powered high-efficiency motors were trickle-charged from ultra-capacitors which could store and release huge amounts of energy without the drawbacks of standard batteries. The quiet missiles weren't hot enough to show up on thermal imagers and would be so fast that it would be nearly impossible to see or track.

By the end of the test even Rodrigo initiated a respectful salute which was the biggest compliment she could have ever expected from him.

Chapter 8

Carlos Zelega sat in his office on the top floor of SASA headquarters. It was modest compared to President Jimenez, but still nicer than most anyone in Sao Paulo. Two walls were filled with bookcases and books on astronomy, astrophysics, economics, psychology, and more. The third wall was glass curtain-wall with views of the city stretching out to the horizon. Carlos was tall compared to most Brazilians, but not excessively so, and his slender frame and receding salt and pepper hair gave him an unimposing appearance. The thick reading glasses that he used to read the report completed the persona. But Carlos had always made a reputation through his hard work, and dedication to science. His work at SASA was no different. It was said he would work 16 hours a day (which sometimes he did) and knew more about near Earth astronomy than anyone south of the Equator (which was a small exaggeration).

But of all the months and years that he had been employed as a scientist and then administrator, this was a day he would remember for the rest of his life. The mission report looked plain enough in its drab brown folder, but what it held was nothing short of world-changing. He read the report for what seemed like the 15th time, and each time it felt inconceivable. That something so astronomically profound could have existed for decades without being detected by anyone?

The bigger question was.....what was to be done about it. Certainly they couldn't make its existence known to the world, but on the other hand, SASA did not have the resources to explore it to the depth that would be necessary (no pun intended). How could he finance a mission around this without international cooperation? He needed fresh ideas.

Chapter 9

Carlos walked into the meeting room. It was boring, like every meeting room was. Drab materials, fake wood veneers, and dull fabrics. Carlos was thinking of some TV shows he watched where all the characters were young and attractive people with brilliant and catchy lines. It seemed almost a shame that there weren't more young people participating in these brainstorming meetings. After all it was well known that young people have less rigid thinking. But then again, these people were the best in their field. He looked over the half-dozen people who formed the administrative hub at SASA. Here were the most respected and well educated minds in the agency. Hopefully some game-changing strategy would come out of it.

“I've called you all in here to discuss a matter of monumental proportions ladies and gentleman. You've all received non-disclosure agreements which are bound in the highest authority. This information absolutely can not leave this room. What you are about to see is information known to only a couple of people in SASA.”

A motorized screen slowly and dramatically descended at the short end of the room, and Carlos dimmed the lights accordingly. The first image that showed on the screen was a fancy computer rendering of a space probe, the foil covering it's long cylindrical body shining with unrealistic brilliance against a far-away crescent-shaped Earth.

“I'll begin with the latest data from the Lua probe of which most of you have worked or are at least familiar with. As you know, the probe made 5 orbits of the moon with easily predictable results. It was a PR risk I admit could be viewed as a terrific failure.”

“It *is* seen as a terrific, and *very expensive* failure,” Esteban commented seemingly under his breath though not quietly enough. But he was just saying what everyone was thinking.

“You're right Esteban. It is indeed seen as a failure not just technically but politically. Believe me there have been some very curt messages from President Jimenez as well as Cristina Fernández and Chavez. But what you are about to see will convince the very few of you cleared to see this, that the mission was successful far beyond our wildest dreams.”

He took a long drink of water before continuing. “Most of the probe's images have been made public to help garner support for SASA. But the next images you see are for your eyes only.”

The slide changed and a grainy image of an oblong void filled the screen. The gauge at the bottom clarified that the void was four kilometers long and over a kilometer wide. Though to the untrained eye it looked like any cavern on Earth, it did seem a little too rectilinear.

“We set Lua to make a low-slow pass over the as-yet least explored portion of the moon. On the far side near the southern pole, the probe's ground sonar picked up this image. It was a unique feature, something that none of the nations have discovered. Probably because in years past, the technology wasn't commonly used in satellites. We decided that the unique nature of this cavern justified closer scrutiny. It was a tough call, in order to make a closer pass, the satellite would be traveling dangerously slow. There was no way to expect that it wouldn't get pulled in by the moon's gravity, which as you know is what happened.

I weighed the risks and eventually took the terrific gamble of giving the green light to make adjustments to Lua's orbit. On the next pass, we dialed in the ground sonar as high as we could and got this image.

The next slide came up and there was an audible gasp in the room. The same oblong void was visible, but there was no mistaking the distinct grid of square shapes within the cavity. This was clearly an artificial construct....and it couldn't have been made by humans.

“This cavity is approximately 30 meters below the Lunar surface. It is now clear beyond the shadow of a doubt that there are forms of consciousness out there who are technologically capable. Who created this, when did they build it, for what purpose, is simply impossible at this point to imagine. These are the questions on everybody's mind. Finding out more about this construct is the most important thing on our agenda.”

Now the slide image switched to a bold red question mark. “The question is, how do we, especially after this perceived failure, garner support for a more advanced mission to the moon. The Estados Unidos has done it, the Chinese have done it, and several others are well on their way to getting there as well. Not to mention the fact that nobody has, as yet, brought back anything that's valuable enough to justify the expense.”

The slide show ended and there was not a single closed mouth in the room. Carlos let the silence hang for several moments while he let everyone digest the monumental discovery.

Fransesco was the first to speak up. He was a taller man and he was the lead administrator for several of the setellite missions including a flyby of Venus. His many years at the administration had given him a seniority and a close connection to Carlos.

“Sir, is it not possible to explore this phenomenon....for lack of a better word, with robotic probes? I realize

that drilling something like this is unprecedented, but Los Estados Unidos has done some impressive work with robot probes so far. It would drastically reduce the cost of the mission.”

“Thank you Fransesco. While it’s true that robotic probes can do very good analysis and even some digging, the fact is that an operation of this complexity could become an utter failure if even a small part of the probe fails. I mean think of the last Mars mission. The probe was fully functional, but because it’s believed the antenna had not unfurled properly, it wasn’t possible to get signals to or from the probe. The entire mission had to be scrapped. Besides, this spot is on the far side of the moon, meaning further communication delays. Despite the greater risk of sending a human being, I feel that unexpected complexities can be better handled by having a human there to deal with them.”

Maria spoke up next. She was the lead scientist on the Densidade Oceânico satellite last year. She was a small woman with a brilliant mind. Her rise within the agency had been the stuff of office gossip.

“I’m assuming that you don’t think the public will react well to the idea of an alien construction on the moon. Do you really think there will be panic in the streets? I really don’t believe that you give our people enough credit. Just because the North Americans and the Rússians choose to hide everything behind a secret military veil, doesn’t mean that we have to follow suit.”

“A very good point Maria. It would be worthy of discussion if it weren’t for another more delicate matter. All of our space technology and expertise was imported either from los Estados Unidos or the Rússians. Given that both countries have sent satellites to the moon without discovering this, it would be quite an affront, would it not, for us to suddenly reveal that we alone are the ones to discover proof of alien life. We have to play this card *very* carefully.”

Johanson spoke next. He was the undersecretary, and as such, brought with him an administrative viewpoint. “Do we absolutely need to inform everyone. I know it would be good PR to have a manned mission announced to all the papers, but it *is* possible to just keep the mission a secret and pad the budget through other means.”

“That thought had crossed my mind as well sir. It’s common practice for the North Americans and without it they wouldn’t have all those fancy military satellites. But our budget is under much closer scrutiny. I report not only to President Jimenez, but also to El Sociedade Astronômica de Brazil and several other

astronomical organizations on the continent. I guess we simply don't have a population as gullible as los Estados Unidos."

"Why don't we combine these two ideas?" Selena was SASA's PR liaison and as such was less capable with technology, but more than proved her merit in dealing with the public and the press specifically. "We could announce a planned mission stating that we had found new evidence of valuable underground water, or frozen oxygen...something less monumental that would allow us to justify such an elaborate mission."

Esteban raised his hand, "Sir, we could never hope to finance such a mission by ourselves. The only way we could afford a manned moon landing would be to collaborate with someone else. But if the agreement is to not make this public, then we will have to find some way to do this quietly *and* most importantly to find a partner who can keep it secret. What if we made this a joint mission with the Chinese?"

"Esteban, I appreciate your creative thinking. But do you think we can trust another country, even China, to keep a secret of this magnitude. Even if they could, there's nothing stopping them from simply using the knowledge and taking on the mission themselves. Look what they've done to North America and Europe, taking every invention and selling it back at a lower cost. Despite the Estados Unidos flag, the moon is like Antarctica. No single nation has jurisdiction there."

It was clear that the creative energy in the room was beginning to wane. "Thank you everyone. This is exactly the type of creative thinking that I was looking for. I like Selena's idea. And while the concept of bringing in the Chinese, makes me terribly nervous, I will keep it on the back burner. Whichever path we choose, we will have to be very careful in how we frame this. The other nations have some brilliant scientists and we can't afford to look like charlatans."

Chapter 10

Carlos spent the next half hour drilling through research and emails not unlike the ones he mentioned from El Presidente. He was alone in the meeting room while he waited for the next group to arrive. While the job kept him very busy and distracted, Carlos longed for the days gazing through the telescope or designing model rockets in his garage. He remembered the day Skylab was sent up, and watching the whole deployment with baited breath.

Carlos sighed. If he'd known that his years of studying fluid dynamics, astronomy, and physics were going to lead him to a boring career of meetings and press-releases, he'd have stayed in the military. At least the Navy had training exercises once in awhile.

People were starting to file in now and the silence was punctuated here and there with greetings and pleasantries. Instead of the more formal administrators, he was now surrounded by casually dressed, frumpy physicists and scientists. He took them through the same slideshow, and not a single jaw was closed by the last slide. Of course there were a great many more science fiction fans among this crowd.

“So with the satellite out of commission, we can't get a detailed analysis of the data unless we send better equipment to the site. The difficulty is that we don't feel that robotic probes will be able to both analyze the ground radar as well as penetrate the cavern for a full inspection. We believe that in order to do this, we need a manned mission.”

There was muttering and shaking heads all around the room as the group digested the gravity of the situation.

Domingo, one of the mission planners spoke up, “Sir, we don't have the endless resources of the Rússians or the Chinese.”

“Very true Domingo. We do have much more efficient technology these days, but in the end there's no getting around the high cost to sending a human hurtling through thousands of kilometers of airless space.

“Thank you . Anyone else?”

Miguel spoke up next. He was both a scientist but also had many political connections which gave him access to much broader knowledge base.

“What about the propulsion system that the Peruvian Air Force has been working on? Could we develop a

rocket jointly with them? With all the expense of rocket fuel out of the way, we could probably afford to send a human being.”

Carlos looked at the man intrigued. He knew Miguel had connections, but he had no idea the man was so familiar with the military. This was a whole new side he was seeing. “Miguel, are you able to elaborate on what this new technology is?”

The man looked slightly embarrassed, as if he hadn't expected his suggestion to be taken seriously. “Well sir, I don't have the specifics. I have a friend who works there and just heard some chatter. It's pretty top secret, I only know that it's powerful, efficient, and a real game changer. It would be worth our time to learn more. Maybe President Jimenez can authorize clearance for us to explore it.”

President Jimenez was the current liason to SASA. Every 5 years a different political leader had the unenvied position of coordinating with SASA on behalf of the whole continent. It fell on him to make budget decisions, influence project priorities, and sometimes to install the director.

“Okay, well I know a few people in the military as well. I'll make some calls and see what we can do about obtaining more information.

Any other ideas or thoughts?”

All heads shook in the negative. It was clear that a monumental task such as this would require many more hours of thought and debate.

“Okay,” Carlos continued, “Spend as much time as you need developing whatever theories or ideas you can over the next few days. Remember, discussion *absolutely cannot* be allowed with anyone outside this room. Not only do your careers depend on that, but your reputation as well.”

“And mine along with it.” he thought

Chapter 11

“Come in Carlos” the man behind the desk was light-skinned for a Brazilian, his hair almost completely gray from the stresses of politics, but his chiseled jaw belied the sad fact that a politician had to be blessed with good looks to win the position regardless of his or her mental ability. His office, well adorned with cushioned chairs, framed landscapes, the enormous solid oak desk, and the gorgeous view of the Atlantic, showed that he was successful in that eternal chess game.

Carlos walked into the office of El Presidente Fernando with trepidation. He knew the stakes of this game were incredibly high, and that the risks to his career were even higher. They did the usual pleasantries, but Fernando kept them brief, he was a busy man.

“Your briefing was very impressive and even more brazen. Do you really mean to send a manned mission to a satellite that most other developed nations have written off, in the hopes of discovering something they haven’t? It’s been quite obvious since the end of the Apollo missions that the moon is just a PR move for every fledgling space agency.”

Carlos brought with him images from the satellite data which would be much too dangerous to transmit electronically. Being a politician, Fernando kept more control over his expression than the scientists back home, but the amazement was still visible in his eyes. Carlos described the real reason that the satellite had crashed, and went into as much detail as he thought prudent about the logistics of exploring the discovery in more detail.

“I can see now why you are willing to put so much effort into this. It sounds like something out of a cheap science fiction vid. A find such as this truly redefines our view of humanity. It...it sounds impossible, but here it is real as the chair I sit in. The possibility that ancient life existed on the moon....it's beyond anyone's imagination. And to think it's been right under the noses of half a dozen nations for 50 years. I can agree that it’s worth the risk. The question is....can we pull it off?”

“Well sir...” he wasn't feeling quite as confident as the report suggested, but as the man had said it was monumental. “There has been some chatter about a new power system that the Peruvian Air Force has been working on. But being that it’s secret and not within my department...I do not have clearance. That being said, if we can theoretically develop a power source which can lift a rocket up more cheaply, then it would

bring an elaborate mission such as this at least within the range of possibility.”

Fernando templed his fingers and sat looking pensive. It was clear from the look on his face that he understood the gravity of the situation and took it seriously.

I’ve heard similar rumors myself. But the Peruvians are not so kind to sharing their military secrets with us. I can make a call to Aduviri and see what he says.....He will certainly not share the information with a politician such as myself even in peacetime. But with SASA he may be more lenient. After all Aduviri was one of the leaders who helped push for the creation of SASA. As far as I am concerned, you have my full support. But I’m afraid that will not be of much help. As you said, a mission such as this requires a great deal of financing and resources.”

“I understand señor Fernando.” Carlos knew that the casual nature with which the minister spoke with him was a one-sided courtesy, “I will spend more time with my team exploring other avenues to get the resources we need.”

“Very good. You have my full support and I will do what I can to help you establish funding, but I can’t guarantee much.”

Chapter 12

“Come in young man.” Miguel waved to him from his desk. He was an older man dressed in a very nice suit and with a full head of grey hair. His round cheeks and gray mustache displayed a man of comfortable means.

“I want to congratulate you personally on the work you did for the satélite atmósfera de Venus. The gravitational assist calculations and the trajectories were very complex and if everything goes well with the splashdown I look forward to seeing the first particles from the Venusian atmosphere.”

What a relief, somehow it’s always expected that being called to the supervisor’s office is a bad sign and Tannin thought no different. But praise such as this was doubly unexpected.

“Thank you sir.” Tannin offered humbly, “But I hope you realize that I was just a member of the whole team. We did the calculations and simulations together.”

“I realize that Tannin. I’ve spoken with several members of the team and everyone is impressed with your work. It’s clear that you not only have the intelligence to be a successful satellite specialist but you also have the passion. Therefore after speaking with señor Zelega, I am offering you a full time position here at SASA.”

Tannin almost leaped out of his chair. It was coming true, it really was.

“Oh, thank you sir....I mean obrigado, muito obrigado.”

“I’m glad to see that your Portuguese is improving. Keep working on the accent.” The smile playing on his lips betrayed the humor of the comment. Don't get too excited. With this job comes great responsibility.” He sounded like the ridiculously overdone line from that old Spiderman movie, “I'm going to expect you to continue to show impressive results.

“Fill out the paperwork and we’ll see about getting your information processed over the next week.”

Tannin’s feet didn’t touch the carpet all the way back to his workstation. It was a dream come true.

Dedicating himself to unlocking all the secrets of the planets and the solar system. He couldn’t wait to tell

Claudio up in North America. Hell, he couldn't wait to tell *everyone*.

Chapter 13

When El Presidente Fernando calls on the phone. You drop what your doing and answer it. Which is exactly what Carlos did, despite the meeting he was preparing for in 10 minutes.

“Señor Presidente... it’s an honor to hear from you.”

“Bom dia Carlos. It seems the gossip is correct. The Peruvians do indeed have something called the Nazca rocket.¹ Consider yourself cleared for the information. They are going to transfer the young Jamaican cadet who developed the technology over to you in order to assist with the project. While I’m not cleared to know the details, the level of secrecy belies a great advancement. I look forward to seeing this technology used for something beyond warfare.”

He paused as he spoke quietly to someone in the room.

“Now I’m not a scientist or physicist, but if your people over there are as good as you’re always saying they are, then I’m confident enough to give you funding to develop the technology for satellite lift vehicles.” he paused again and Carlos heard a shuffling of papers.

“Do you feel that you have the manpower you need to accomplish this? Or do we need to bring in some outside help. I’m willing to divulge as much information...carefully of course, as we need to bring the other South American leaders on board.”

“Muito Obrigado.” Carlos respectfully addressed his superior “I believe that the less outside help we invite, the better able we will be to keep our little secret. Obviously any experts in the military would be essential, and they are already trained in keeping such information below the radar.”

“Wisely said, Carlos. I’m glad see that you are proving your worth at SASA. Play your cards right and you could come out of this a very successful man.

“Just be sure that this program puts out some real results. Tactical losses aside, losing that satellite had horrendous reverberations for SASA and I wont be very popular when word of your budget leaks out as I’m sure it will. If you make me look bad, you can be sure that you will become a very *unsuccessful* man.”

Despite Fernando’s warning, Carlos felt jubilant walking to the conference room. He had thought the crashed satellite would at the very least put a permanent red mark on his career. But the thought of funding for a completely new rocket motor, that was more than he could've imagined.

Chapter 14

“Captain Alejo wants to see you immediately.” the sergeant said cryptically before leaving the room.

Elenin didn't know what it was about, but praise was rarely given in the military, so she was not optimistic about this. Walking slowly and pensively towards his office, she reviewed what possible criticism he might have. With a sense of dread she thought of her brief relationship with Annette. They were careful, maybe too careful. As much as they still cared for each other, the tension of being caught become too overwhelming. On paper the military wasn't nearly as frightening as Jamaica was, but it was there nonetheless. And the memory of the fear, and the beatings, and other stories were still strong with her. Her thoughts were so convincing that she felt nothing but dread upon reaching Alejo's office.

“Dey wan me to go to Brazil to develop dis into an orbital vehicle??”

She was incredulous. On one hand it was the opportunity of a lifetime, to go where no woman had gone before (to use the cheap anecdote). But on the other hand it was many orders of magnitude to turn a small missile motor into an orbital rocket.

“Sir, what makes you tink dat a rookie cadet like myself could create an orbital rocket?”

“Elenin, your humility does not suit you. The motor which you developed is nothing short of genius. Besides, you wont be working by yourself of course. The South American Space Agency has the best scientists on the continent. You'll be sharing your ideas and working with them to ensure that this thing doesn't turn into a huge bomb. You're smart enough to know what an opportunity this is not just for you, but for all of us. But you also know that this technology is top secret. Even Jimenez, who asked about it, is not being given any details. That's why you're being transferred. I want you to be sure that the technology is only used within our joint interests at SASA.

Elenin went back to the barracks in a daze. Far from being in trouble, they wanted to promote her, possibly out of the air force. The motor that she'd developed was fine for sending a 90kg missile at a ship, but to get a rocket into orbit? That took kilonewtons of thrust? It was beyond imagination. But here she was with orders to transfer to Sao Paulo at the end of the week.

“Hell, my Spanish is just okay. Now I'm going to have to learn Portuguese.”

Chapter 15

"Welcome to the South American Space Agency Ms. Deville. My name is Cheput Nagasta and I'll be showing you around and answering any questions you have. As you may know, SASA has been launching satellites for well over a decade now and we have a number of successful projects on our resume. Our last satellite brought back the first ever samples of the Venusian atmosphere. There's even talk of sending up our own module for the ISS." he neglected to mention that there was no funding for that particular prospect. "We have the main facility here in Sao Paulo, but the real action is at the launch facility near Pelotas. Maybe you'll get to see a launch from the facility. Anyway, I'm told that there's a lot of excitement around your propulsion system and several of the physicists are looking to meet you. The team even has another Jamaican on board, maybe you know..."

"Excuse me, but with all due respect please don't give me the old standby that all Jamaicans must know each other."

"Oh, I appreciate that. But I believe the two of you graduated from the same Universidad..." as he rambled on Elenin saw the one person in the world she she had hoped to never be confronting again.

Chapter 16

It had been five years since Tannin had seen Elenin, but here she was plain as day. She had cut her hair a little shorter, she looked more muscular, and she was now wearing a more conservative suit, but she still looked great. She was walking straight towards him with one of the PR folks....Chaput something-or-other. He felt almost more shocked now than he did after getting that initial email from SASA.

“I....er.....canna believe you is really 'ere Elenin.”

He felt like he was back la Universidad and staring at Ms. Chacón.

What....what brings you 'ere to SASA?

Her sigh was barely audible over the background noise

“Well, de truth is I was transferred 'ere from de Peruvian Air Force.”

She thought about bringing up the propulsion system, but she didn't know who had clearance to the ‘top secret’ information.

“Dey seem to tink that de work I’ been doin dere will be useful to dem. What 'bout you? How did you end up 'ere?”

“Oh, well I was recruited straight out of la Universidad. It was quite ironic, I couldn’t have imagined dey’d want a troublemaker like me.” Seeing the look on Chaput’s face, he realized he was taking up valuable time. “Well it’s really good to see you, and hopefully you’ll be here long enough for us to benefit from your brilliant mind.”

That last part wasn't true of course. It wasn't particularly great to see her and he'd never known her well enough to guage her intelligence (unless you count the pranks). But it was professional courtesy.

“Dat’s very nice of you to say Tannin. I’m excited to be here and I’m learning so much about de program. Maybe I’ll see you around.”

And with that the two of them walked on down the corridor. Tannin was feeling so many things at the moment....trepidation at seeing the one person he’d a had the most tension with, guilt in remembering the last real conversation they’d had, and yes, some joy in talking with someone from back home.

Chapter 17

Carlos walked into the meeting room feeling both excitement and nervousness. While the prospects of the nazca drive were going to be almost as exciting as the satellite images, the stakes couldn't possibly be as high for these people as it was for him. The worst they could expect was unemployment, whereas he could face that as well as the public humiliation of being the scapegoat for the entire agency.

“Alright people. I don't need to tell you that this project is of utmost importance to the agency. The PR disaster resulting from the Lua probe has caused a big stir and we need a much bigger success to restore our image. Now the information we will be discussing is still considered top secret by the Peruvian navy, so I would like to reiterate that *nothing* leaves the walls of this facility.

“I would like to first introduce you to a rising star in the world of rocket propulsion, Ms. Elenin Deville. Cadet Deville has brought great attention to herself with a promising electric propulsion which has been used on numerous stealthy missiles. Ms. Deville, you have the floor.”

It was like an out of body experience walking up to the screen. She felt like she could see a clownish persona of herself from outside her body walking nervously across the room while the laser-pointer eyes of each scientist tracked her movements. She played a video approved by the navy for the occasion and nervously explained the intricacies of the drive. But she still didn't understand how it would be possible, even with this much talent, to scale up the drive to the level they were expecting. And yet as she concluded the looks on each person's face was not one of derision or disappointment, it was incredulousness.

“Your invention is nothing short of world-changing ma'am.” one of the younger scientists spoke up, “what do you think would be necessary to develop this into an orbital launch vehicle?”

Elenin opened and closed her mouth. It was the one question she feared the most. She couldn't think of any response which wouldn't make her look foolish and in over her head. As the director interrupted her thoughts, waves of relief broke over her.

“That would be your job. All of you.” Carlos interrupted. “I expect you all to work together to help Ms. Deville scale up this device for a test satellite. If this technology proves successful, we will no longer be dependent on buying equipment from Rússia or los Estados Unidos. We'll be able to *sell* equipment **to**

them.”

Chapter 18

The scientists who were not in the know about the more ambitious goals went straight to work. However Carlos kept Domingo and Miguel to discuss specifics relating to their lunar prospects.

“The Nazca rocket does indeed look like it has the potential to lift a lunar module into Earth orbit.”

Domingo offered, “And even without using the super capacitors, we should be able to augment the power required en route with solar panels. The biggest difficulty, will be creating a hole 30 meters below the surface.

“Could we use the Nazca technology to vaporize rock?” Miguel offered

“That’s very innovative Miguel. Normally I would be willing to explore such a notion. However I would prefer not to put all of our eggs into one basket. Especially without seeing how this technology develops.....let’s just keep that option on the back burner.”

They spent the remainder of the afternoon discussing some superficial logistics around the mission. How the spacecraft would be built, what the astronauts would need for the three day trip to lunar orbit, what kind of structure would be needed to protect the astronauts on arrival, etc.

“Well we don’t have enough funding to put a lot of man-hours into this. But lets keep the idea in our minds of what would be needed for a lunar lander, life support, exploratory equipment, etc.” Carlos smiled at them belying his casual nature. “Now one last minor subject that I would like to bring up. I would like to hear thoughts on a name for this project. Something obscure enough that we can refer to it around people who aren’t cleared.”

There was silence in the room for several minutes as the wheels in all three heads churned. The deafening quiet was finally interrupted by Miguel.

“What about Huitaca? She was a goddess of Muisca people who once lived in Columbia. And among

other things she was a lunar deity.”

“Yes, I’m familiar with the Muisca. That deity was also considered mischievous and very whimsical. You can call me superstitious, but I feel that given how much is riding on this, that kind of energy wouldn’t be synergistic. But I like your direction Miguel. I would propose the goddess Chía ‘the one who is *like* the moon.’ She is not a lunar goddess and the reference is quite obscure.”

Domingo finally spoke up, “That sounds reasonable. I don’t feel that the name is important, I just want to see us get there.” He tried his best to fit in among his superiors. Knowing that he was so agonizingly close to reaching the status of Miguel and many of the other supervisors.

Miguel had to fight back an initial blow to his ego. Even though he agreed with Domingo, the thought of a name he suggested being uttered by everyone connected with the project made him feel proud. But he also understood the chain of command, and despite Carlos’ illogical argument, he honestly didn’t have a better suggestion.

“I agree with Domingo. The name is not as important as making the project a success.”

“Very well. Thank you both for your excellent input. I value your opinion.”

Chapter 19

It had been a long and exhausting day. Endless calculations and material testing. Even with the brilliant minds working on it, the task still seemed Herculean. All she wanted was a hot shower and a long dreamless sleep. So Tannin was definitely the last person she wanted to see, despite his being the only other Jamaican in the agency.

“Hey Elenin, I is jus checkin ta see 'ow you be get'tin along 'ere. I was wondarin if you be int'rested in gett'in a cup o coffee an catching up?” He wasn't 100% sincere in the offer. But it was true that she was the only other Jamaican and he was really curious what had happened to her. She had just disappeared from la Universidad and nobody knew where she had gone.

She knew it would happen eventually, but it still caught her off guard. I mean sure, they'd gone to school together, but it's not like they'd been dating, or even pals. Besides there were still some bitter memories...on both sides. She started to think of a sarcastic retort. But then she remembered that she was just a technical advisor and thought it best not to let her emotions get her into trouble.

“Tanks Tannin. But I 'ope you realize dat while a days work for you 'ere is pretty run o da mill, I be completely exhausted. Dey 'ave me doing matarial testing an computa modeling fo hours on end. All I can tink of right now is sleep.”

“Okay, I understan'. I been workin on guidance systems for your drive an so dey given me clearance to read de powa to weight specs for it. I 'ope you realize how impressive ya work is, 'is a real game-changa. Dis project could revolutionize 'umanity's access to space an make a lot of otha goals more accessible. Next generation 'ubble telescopes, sola energy satellites....Hell, science fiction could become run 'o da mill. Anyway I really look fawud to seeing 'ow dis plays out.”

And then he was gone down the hall. She didn't quite know how to react to him. Sure they could talk about how things went in school, but it just made her uncomfortable. The guilt and shame of being gay would always be connected with Tannin. The years having to lie to her family, the long months being alone in the military. It was difficult enough just being female in such a male-dominated culture. She was

never able to have real relationship on *or* off base. At least not so far.

Chapter 20

Tannin wondered down to the fabrication shop mostly to visit his friend but also to check on construction of one of the models they were building for a wind tunnel test.. He'd made friends with several of the guys there, but Suello in particular was his favorite person to talk to. The man could build any kind of steel construct you could think of and the engineering was typically excellent.

“Hello der Suello.”

“Well well well, what's up Tannin Balloon?”

Tannin punched him in the arm for that one.

“I was jus' checkin ta see if dey fired you yet? I's hopin to grab some a deas cool toys.” he picked up what looked like a rular but with a hinged piece on it.

“Oh come on. You know I got Zelega in my back pocket.” he laughed.

“I got that model finished for ya. Jus don't smash it up too much ya know? It's not designed for a Jamaican's clumsy hands.”

They spent several minutes catching up on the latest fútbol stories before Tannin looked at the time and excused himself to get back to work.

“Hasta la pasta meu amigo.”

Chapter 21

“Elenin, I see the way you’re always looking at me out of the corner of your eye.”

Margarita was a ‘space artist.’ One of those people who could create realistic scenes of astronauts on Mars or Titan the same way painters like Aldo Lira create farm scenes. She was also almost as gorgeous as Ms. Chacón back in school. Her jet-black hair flowed like a robe down to her shoulder blades (on rare occasions that she let it down) or stayed captured in a beautiful ponytail. Her high cheekbones held an aura of royalty like she was descended from some Mayan prince. And her breasts, Elenin’s flat figure couldn’t hold a candle to her voluptuousness. Elenin couldn’t imagine how everyone in the department didn’t stare at Margarita.

“I....” Elenin didn’t know what to say. It was like one of those steamy romance novels where the girl you dream of actually asks *you* out. “I hope I don’t offend you.” she finally managed to get out.

“Me? I’m flattered. I was wondering if you were ever going to say something.”

“So you’re....um...”

“Yes, I’m a lesbian too.”

In a tidal wave of emotion, Elenin felt every raging feeling mix together. Desire, lust, shame, fear, frustration, hope, doubt. It all mixed together until she couldn’t think straight.

“I don’t know what to say. I....You’re a brilliant artist...and...”

“Me? I just make pretty drawings. You are the lady who’s causing gossip all over SASA. Nobody’s saying anything specific, but word is that you’re behind all the smiling faces among Carlos’ inner circle. He was practically beaming when he walked in here and pulled aside Alejandro to do a rendering for some new rocket. You also seem to have a lot of guys looking at you.” she paused seemingly to get her composure, “And I would be honored to have coffee with you.”

If she was blushing before, now her face must've been fire engine red.

"I would like that. I'd like that very much. Um, I don't know the city very well. I've just been taking breaks at the cafeteria."

"Oh, well there are dozens of wonderful cafes near the marketplace. After all this is the world capital of café. Let me know what day is comfortable for you and we'll find a good one."

Margarita gave her a slight squeeze on the shoulder, just friendly-like, but her hand lingered long enough to elicit tingles all over. Then she was gone, headed back to her department. Elenin didn't know how to feel. She was elated that such a beautiful woman had noticed her, but she was also terrified to go out in public with a girl. Even in Peru she had only met women in private. All the intimidation of Jamaica couldn't just be tossed off with words. She didn't know if she could do this. The entire rest of the day was a waste as she seesawed between joy and dread.

Chapter 22

Tannin sat in the testing lab running more calculations. The amount of energy this drive put out was enormous. It seemed that the smaller the rocket, the more difficult it was to control the drive enough to keep the satellite from being flung out into the Oort Cloud. If this thing could be scaled up a little more, it could have hauled all of the International Space Station components together and still use less power than the newest Soyuz rocket.

Jaunita was working on her own calculations and Tannin wondered out loud, “I wonda jus what de limits for this ting could be.”

Jaunita looked up from her computer, “It’s hard to say if there are any. We could lift solar power stations into geosynchronous orbit, we could send modules large enough to visit Mars, create our own space station....”

Juanita was one of those quiet co-workers who most people barely notice. But for all her modesty, she had the most beautiful legs Tannin had ever seen. Her light brown skin was like a mixture of bronze and copper with a dull shine that exuded health and vigor. Like most employees, she kept her hair cut short, just about shoulder length. It framed her face beautifully and Tannin had to constantly remind himself to keep his mind on his work.

“Oh sorry, I didn’t mean to interrupt you. But it really is mind-boggling. We really could do all de projects dat los Estados Unidos and Rússia are bragging dey want to do. A permanent moon base, maybe a trip to Titan.”

“Yeah, there can’t be anyone here who hasn’t read the sci-fi stories and dreamed of traveling through space with the same ease that we send cargo to Europe and China.”

“So what do you tink dey’ll want to do wid dis drive first once i’s tested?”

“Well,” she cocked her head to the side, looking *very* cute in the process. “I would think a base either in orbit or on the moon as a stopping point for more ambitious destinations.”

“Yeah. I was tinkering something like that. Like a station at EML-2. That would be really amazing.

“I’ve been hearing that the Estados Unidos has been trying to put a station at the Earth Moon Lagrange Point₂ for years.”

“Yeah but they’re too busy building aircraft carriers and missiles instead.”

Chapter 23

It had taken her many long evenings sitting in her apartment or walking along the promenade, just trying to work up the courage to go out on this date. The fear was like a deadly phantom huddling right behind her ear and whispering stories of dread. Even now having worked up the courage, she feared that everyone in the restaurant would be staring at her like the scientists did at that first SASA meeting.

But she struggled through it and found herself walking up to the place. The cafe was a small and obscure place in a suburb of Sao Paulo. Margarita was waiting at a table for two near the back, and Elenin appreciated the woman's tact. It seemed too good to be true that she was going on a date with a beautiful woman, an artist, *and* someone who could empathize with her background. It felt like she had walked into one of the cheap novels Juanita was always reading. If Margarita was pretty at work, she looked simply stunning outside the office. Her blouse was casual and frilly and an ocean wave carved in Ebony flowed down her shoulders.

"It's great to see you Elenin. I hope this place is comfortable for you."

"I like it very much. It's great to see you too." she glanced at the clock on the wall, "Have you been 'ere long?"

"Not at all, I like to stroll the feira and see what the artists are doing" at Elenin's puzzled expression she clarified, "Feira is our local street markets. I keep forgetting that you haven't been in Sao Paulo for very long."

"Well what kind of drawings are you working on for Zelega?" she thought it would be wise to start conversation with something safe.

"Why don't we talk about our lives outside of work." Margarita continued, "We spend far too much time at SASA as it is, and I really prefer to see people as more than just a career."

They talked for well over an hour. Margarita was incredible. Not only was she smart and understanding,

but she was very likable. Elenin swung back and forth between the wonderful conversation and those oceanic eyes. She felt drunk even with only one glass of wine.

Afterwards they strolled the marketplace for another hour just absorbing each others' company and the scenery.

"I hope that this doesn't make you too uncomfortable Elenin. I've had friends from Jamaica and have heard how horribly they treat gay people. I hope you realize that this is Brazil, and there is more understanding here."

"Well I...." she couldn't think of how to respond. It was like the day Margarita asked her out. She was so understanding. But at the same time it felt too good to be true. Could she really trust her with all the fear and distrust she felt? No, it was too soon for such heavy conversation. "Thank you. I can manage." She hoped the tension in her voice wasn't too obvious.

"Okay. I'm glad to have your company. You're a fun person to talk to." Then she looked at her watch and her expression changed.

"Oh. I really should get back to my chihuahua Elenin, but I've had a great time with you. Let's talk again soon."

The woman gave her a quick hug and drifted dance-like into the market. But one backward glance said everything. The interest was very mutual. Elenin floated 6 inches above the ground all the way back to her apartment. No internet, or vid-screen, she just sat on the couch dreaming of the girl with the midnight hair.

Chapter 25

It was almost 6 months before the Nazca drive was fully scaled up. The secret test firing was about to be launched in a remote part of Amapá. The slender missile flew with amazing grace and speed up through the atmosphere and finally detached its satellite when the speed of the rocket put it in orbit around the Earth. Carlos watched the video, taken from every possible angle, and felt giddy despite his outwardly calm demeanor as the craft soared ever higher into the heavens. Finally the rocket's mission complete, it fired one last quick burn and plunged back into the atmosphere to burn up. The test satellite, a small sphere with multiple cameras, began taking exquisite photos of Brazil and other parts of South America with wonderful resolution.

Cheers erupted throughout the control room.

“Señor Zelega. You'll be even more impressed when you learn that the entire launch consumed only 2 kilowatts of electricity.”

“What? Inconceivable!”

“You keep using that word señor. I do not think it means what you think it means.” he chuckled as he said it.

“Oh Miguel, stop it already with the old movie lines. This is serious.”

Word spread quickly throughout the department that a whole new era was opening up. The best news of all was that the millions of kilograms of expensive fuel was no longer necessary. Since most of the weight and therefore power necessary to lift a rocket was taken up in carrying fuel, the rocket was not only smaller and lighter, but many orders of magnitude cheaper. This last aspect was Carlos' privilege to relay to El Presidente.

Chapter 26

“Sir, thank you for taking time out of your busy schedule.” Carlos made the phone call brief, knowing that it wouldn’t be wise to tax the man’s schedule. “As you may have heard, the test was a complete success. The satellite was launched, and remains in orbit and the rocket was both 1/3 the size but also 20% of the cost of the conventionally-fueled rocket for Lua. If this progress can be built upon, we may supersede los Estados Unidos as the premier space program.

“Carlos, your news is most rewarding and I am very happy for all of your brilliant scientists as well as yourself. But do not become overconfident. We will never have the breadth of resources that the North Americans have. Our economy, as you know, is not as vibrant as it was at our last conversation. The skirmishes in Columbia and Ecuador have been indirectly pulling resources out of science and into the military. I’m saddened to tell you that we simply do not have the financing right now for the Chía program. As excited as I am about learning more about your find, the fact is that we are simply spread too thin right now to take on such a grandiose project.”

Carlos went from elation to depression almost instantly. His soul melted down onto the floor as the emptiness within him took over. He just stood there silently for a moment. But then a thought sparked briefly in his mind.

“Sir, if we can use the Nazca drive to offer an orbital delivery service much like the Rússians have, then perhaps SASA can provide it’s own funding for the project. We could lift satellites for Canada, Australia, Egypt....”

“That’s a fine idea. If SASA can provide self financing to cover R&D as well as implementation then I will be more than happy to provide infill funding as it becomes available.”

“Thank you sir. I admittedly can’t guarantee full self-financing. However I will work to create a service which will contribute to SASA’s budget.” Carlos paused, wondering if the man would entrust him with publicity. No, it was best to show humility and offer him the opportunity. “Sir, would you like to make a statement to the press regarding our success?”

“Carlos are you simply being humble or looking to give me extra work?”

Carlos stumbled. He hadn't anticipated this response, “N..no sir. I merely felt that a statement would carry more weight coming from your press secretary. I am completely capable of handling the publicity.”

“Good man. I have full confidence in you and your staff's salesmanship skills. Just be sure that this thing is secure. Our advantage will disintegrate to smoke if another nation like the Chinese discovers the technology.”

Chapter 27

“Louis my good friend.” she strolled into his office with a broad smile.

“Well well aren't we looking chipper.”

Louis was her closest friend at the department (not that she'd been around long enough to make a lot of friends). They'd connected on her first couple of days there and developed a very good rapport. It also helped that Louis had spent time in the Peruvian Navy. He was the only guy (aside from Tannin) who knew she was gay.

“Sounds like the date went well?”

“My god Louis, I's living in a romance novel. How often does a perfectly gorgeous woman like dat ask you out?”

“For me? Never.” he answered, his smile evaporating into the air. “I always wondered why someone like her didn't have a boyfriend.”

“Oh, I'm so sorry Louis. I didn't mean to gloat. I's just dat she makes me feel so 'appy.

“It's okay Elenin. I'm really happy for you two. You're a brilliant person, you deserve happiness.”

“Tanks my friend. A' you free far lunch? Do you 'ave time?”

“Well I do have time Elenin, but I'm not free. In fact I'm very expensive.”

She stuck her tongue out at him and pushed him. “Okay well why don' you get off yar backside and I'll buy you lunch.”

“Really?” his expression showed amazement “I've never seen you buy lunch since you got here.” but then realization hit “You're probably sending money back home, right?”

“Exatamente, meu amigo. But I'd like to celebrate this wonderful time with you.”

Chapter 28

The young woman strolled casually through Mercado Municipal. It was the nicest of the street markets and the prices reflected that. But she wasn't here to buy anything. Getting lost in the crowds she casually eyed pieces of merchandise (most of it cheap Ecuadorian knockoffs), pickled vegetables, cheeses and meats. As she casually meandered she became aware of an older man following her. She was surprised at how long it took for him to find her. She slowly made her way to the poorest section of the market, where nobody that she knew was likely to be, and found a small cafe. It was a greasy dive with a cheap plastic counter and a linoleum floor. The colors were all muted, as if every surface was too old and worn out to show any luster.

“Um plato plantanos, obrigado.” she said to the patron. The man took the order and went back.

After a few minutes the older man sat down at a table next to her, but with his back facing her.

“It took you awhile to find me,” she began.

“I was in no hurry. When you've been in the game as long as I have, you learn not to rush things.” he paused “What are you having?”

“Fried Plantains. I've developed a near obsession with them.”

“Yes, they're quite delicious. Watch out though. They'll ruin your lovely figure.” he went and ordered tea from the patron and then sat back down in the same spot. Without looking at the girl, he continued, “So what's the latest news?”

“SASA is still developing this Nazca drive. They did a test firing last week and it has no on board fuel supply. The rocket is said to be more powerful than current technology but only 1/3 the weight.

“Yes, we did hear about the test, but the rocket looked to be quite insignificant.”

Wanting to ensure that she wasn't deemed valueless, she continued, “Don't let the size deceive you. That small rocket was able to successfully put a satellite in orbit.”

“You're joking. From the grainy pictures we have, it looked to be only 10 meters tall.” he took a drink of his tea and continued, “Our smallest low-Earth orbit vehicle is 3 times as large.”

“Yes, the rocket was 9 meters tall and carried their advanced electric plasma motor. I can say that it's an electrically powered engine charged with super-capacitors. It was developed by a Jamaican woman who was in the Peruvian Air Force.”

“Yes I've heard of their secret missiles, but since my government doesn't see them as a threat, we have no people in the military there. Do you know what type of vehicles SASA is looking to develop with this

drive?"

"I'm sorry, they don't have such information available for me to see."

"We shouldn't stay here long. Make sure you bring something conclusive to our next meeting." He finished his tea and left.

Finishing her snack, she stayed a bit longer and sighed with relief. Knowing that there was no protection for her if she no longer proved useful. If the Russians suspected she might prove herself unworthy of the effort, they'd simply have an assassin take her out. It was a simple enough matter in South America. There were thousands of venomous animals in Brazil, so an accidental death scenario was easy to create.

She finished her snack, and strolled through the market a bit longer before heading home. It was going to be a long day at SASA tomorrow.

Chapter 29

Tannin wasn't sure if she caught him staring at her legs, but her hand on his shoulder was a little more than professional friendliness.

“Juanita, nice ta see you. 'Ow is de testing going on de directional trusters?”

“Oh they're putting out a nice amount of power, but I need some help on developing the proper control system for such a high-pressure environment.”

She wasn't kidding about pressure. He was feeling it deep in his gut.

“Listen, I got to get finished with de material testing on the mounting interface. Would you like to join me in the cafeteria and we can chat about it?”

He knew it was a big risk, both in terms of whether she'd take an interest in him *and* whether it would cause problems with work if she did. But he really did like talking with her.

They met near the end of the day and had sodas while he did his best to sound like he knew what he was talking about with materials technology.

“You seem to have a real gift for these calculations. I'm impressed with how easy it is for you to figure out solutions to all kinds of problems.” when she patted his hand it was like static electricity.

“Tanks Juanita. It's a lot of fun to talk to you. You're a very charming lady. And I hope dat Elenin and Domingo appreciate de huge amount of effort you're putting into dis project.”

“Oh of course they do.” She sounded unusually casual. “I really love working here and exploring the frontier of what we can do with space technology.”

The conversation was going so well, he was tempted to ask her out right then. But he was afraid it would sound rushed. He didn't want to give the impression of being desperate.

“Hey, would you like to have lunch here tomorrow if you can pull away from the materials testing lab?”
Would he? It was like asking if he'd like to visit the International Space Station. He did what he hoped was a good impression of a casual nod, but felt it was likely a failure. Thankfully Juanita didn't seem to notice.

She patted his hand once more in thanks for the help. “It's a pleasure to work with you.”
And she sauntered off towards her office while Tannin did his best not to stare at her backside.

Chapter 30

Carlos sighed, another day another meeting. At least this time they could talk about progress towards getting to the moon.

“So the bad news is that we don’t have the financing to take this technology as far as we would all like to.” there was muttering throughout the room and Carlos smiled broadly to ease the tension “But the good news is that El Presidente Fernando agrees with me that the best way to boost our revenue is to offer launch services to other countries. With this dynamic leap we can easily replace Rússia as the leading orbital launch program. As such I will be having a press conference on Thursday to bring us towards this goal and you are all invited to attend. I’ll have the graphics and media department create some artwork and a video montage. You all know Selena Selgado, I will be coordinating the graphics and pre-press announcement information with her. What I would like from all of you is the latest technical specs for whatever stage of the project you’re at so that we can provide accurate information...”

“Sir! You don’t mean to give away the details of the Nazca drive, do you?”

“Artise, please be patient.” Carlos responded with the poised calm of many years in administration. “You and I both know that señor Fernando would have my head on a plate if I did such a thing. The potential for South America is far too great. I simply want to provide accurate information to the many countries who will want to utilize our services for a cost savings. They’ll want at least some details on payload to energy, or in their case, cost ratio. We must reduce our burden on the Brazilian government as our primary financier if we want to develop the true potential for the technology.”

“Selena, once I have the necessary information I would like to coordinate with you and some of our media techs at the end of the day tomorrow.”

Chapter 31

Elenin opened her email and her stomach hit the floor.

Thank you for your long hours of devoted work to the Nazca project. As some of you may have heard, we are going to look to utilize this technology as a service to lift satellites for other countries. To that end we will be holding a press conference on Thursday and I would like for you all to be there. We will be sharing some vague information about the Nazca drive but emphasizing how much more efficient our rockets will be compared to the Soyuz. The press conference is set for 11:00am which should provide plenty of time for you to enjoy a small lunch afterward.

Did the director want to put her in front of the cameras? Or worse yet, did he want her to *speak* to the press? The thought turned her legs into water and her stomach into a hummingbird. It was difficult enough to speak in front of a dozen scientists, but in front of a camera??

She turned to one of the other scientists, “Maria? Did you get de email from señor Zelega?”

“Yes, of course. It's really exciting.” Elenin's expression must have betrayed her fears, because the woman's face became more serious. “Why, what's wrong dear?”

“Well, you don't think they'll be wanting me to speak to de reporters....do you?”

“Oh I doubt any of us will be allowed to. But why is that so bad? You did a great job describing the drive system to us. He'd probably just want to have full control over what details are released, and Zelega does speak fluent Portuguese *and* Spanish. The email simply asked everyone on the project to attend. There was no mention of speaking.”

She thanked Maria for her insight. She still felt a gnawing in her gut that she might have to face the public. It was the most frightening thing she experienced since her first day here.

What would she have done if they expected her to speak. The whole experience made her wonder what had changed. In university she had been the boldest one. Marie and Elena would be following her lead in taunting guys like Tannin just to prove she couldn't be intimidated. And now here she was a demure little intern looking for any escape possible from the limelight. Was it just living in a foreign country, or not being around her friends? It felt like more than that. Things had changed for her so rapidly when she left Jamaica. Maybe that's why she was never able to feel comfortable around Tannin. It was all just so damn confusing. She knew she was making a mountain out of a molehill, but why couldn't she just be fucking normal like everyone else. She ran into one of the small meeting rooms that was never used and cried for what seemed an eternity.

Chapter 32

“Sir with all respect, it's madness.” Miguel was incredulous. “I mean, sure the press conference was a success and the news on the vid is that there's a lot of excitement. But we've only had two successful test launches. A human test is far too soon, is it not?”

“Please be calm Miguel, I only asked how much time *you think would be needed* for a human test.” Carlos found that Miguel was both the most experienced but also the most realistic scientist on the team. His estimates were rarely as astronomically over budget as so many others in the department. “I just want to have a calm discussion with you on what kind of resources and finances would be necessary.”

“Well sir, it's very difficult to say. So far the propulsion systems appear to be running smoothly, but we're still talking about scaling this up by several orders of magnitude, which as you know has been..er..challenging. Humans simply require a huge amount of support to exist beyond Earth's confines.

“Don't I know it.”

“Well, the lack of fuel would save 2/3 of the weight that a conventional rocket would require. Materials and cost will change depending on how extravagant we get with the mission. But it shouldn't be much more expensive than lifting a satellite with a conventional rocket.”

“Okay, let Domingo and the Jamaicans on his team work on it. They've done a great job with the test vehicle so far and their time is less expensive than most of the staff. Don't of course mention anything beyond Earth orbit.”

“I wouldn't dream of it Sir.”

Chapter 33

Marcos Pontes was Brazil's greatest hero outside of fútbol. He was South America's first astronaut and the only one to have visited the Space Station. Though shorter in height, his short cropped graying hair did little to diminish his strong stature. Unlike some of his fellows from the navy, Marcos spent many hours staying in top physical shape. His powerful features made him a popular figurehead for Brazilian science. Still, walking into the office of Carlos Zelega was not something one did casually. Marcos, having primarily an aviation background through the Aeronotics Institute, didn't think his Navy experience would hold much merit with Zelega.

“Entredar Marcos. Thank you for being here so promptly.” Marcos sat promptly in one of the chairs facing the desk, “You probably know that I wouldn’t have asked you here if this matter wasn’t of great importance. We have a unique opportunity to bring prestige not only to SASA, but all of South America and I hope that you will be interested in being a part of it.”

With an introduction like that, Marcos knew that this briefing was about much more than just science experiments in a cramped capsule on board the ISS. I’m sure you saw the press conference and I’m well aware of your impressive skills as a pilot. Although we don’t have full funding at the moment, I would like to know what your thoughts are to be the first human test pilot for a Nazca powered rocket.”

“This....this is no joke sir?” it was an absurd statement to make, but it had to be said nonetheless.

“Marcos, you know me to be a man of my word. I would never make light of a situation such as this. I've already met with Fernando and he's pledged the support of the Leadership Council, if we can create sufficient revenue as a commercial launching facility. We're still working out details on the lift vehicle, and equipment needed. But as our most experienced astronaut, I would very much like to have you on this mission.”

“Well of course, I wouldn't miss it for anything. But what are the details that still need to be worked out?” As soon as he said it, he realized that he risked looking like an ignorant fool in front of Zelega.

“Well we’re still doing testing of larger scale rockets and the safety parameters that entails. I wont lie to you, the technology is still in it’s infancy.”

“Señor Zelega, for my country and for the program, it would be my privilege to be the test pilot.”

“Thank you Marcos, I knew we could count on you. We will continue developing the vehicle and, as you know, making an exhaustive round of tests before the final launch.”

As he watched the astronaut leave, Carlos was left feeling very impressed. Despite the man's courtesy, it was humbling to speak to a man so brave. He would do his best to ensure that Marcos' trust in him and the brilliant, but imperfect, scientists and engineers was not in vain.

Chapter 34

He stepped through the airlock door and made a final check on his tether. Finally he let the airlock door close and he began drifting away and up above the module. He made minor adjustments to his trajectory using the suit's jetpacks.

"I see de problem. A micrometeorite grazed de O2 scrubber, but it looks minor. I'll put some sealant on an' we can check de pressure readings."

He had only been working on the leak for a few minutes before alarm bells began ringing as the horrifying hiss of escaping air filled his ears in the otherwise dead quiet of space. Tannin's stomach turned into a pretzel and despite the zero-g must have fell into his foot.

"I'm losing pressure. I've been hit by a meteorite myself!"

"Can you get back to the command module?"

"I...my limbs feel like dey're waited down. I'm having a 'ard time moving. I'm trying de jetpacks."

In his panic, he hit the button too hard. The airlock was moving towards him, but it was coming faster and faster. Despite the large viewport on the suit, that one door began to fill his vision. The door opened, but his vector was off. His limbs weren't responding, and he was headed right for the module support strut. The sharp edged corner flew towards him with breathtaking speed. And the last thing he saw was a large crack on his visor as he slammed into the edge.

"Bem feito! You crashed and burned, man." Imendo came out from behind the back of the simulator with a very unhappy look on his young face. "What was that thing with your arms not working. You suddenly become a cripple?? You're third simulation Tannin. They're not even going to let you on the vomit comet, if you don't get past basic simulator tests."

Tannin stared at the floor. What in the world is wrong with him??? I should know to use the sealant gel, it's the first thing they talked about with EVA procedures.

He'd always fantasized about being a brave astronaut, but yet he could never get himself past the thought of being strapped to the front of a 50 meter explosion. Now with the possibility of much less dangerous

launches, his dreams of being the next Marcos Pontes or Buzz Aldrin, had felt less out of reach. He was given permission to spend time in the simulator and found himself looking like a fool.

“Oh crap. I guess I just panicked. De simulations feel very realistic.”

Imendo just looked at him sternly with his arms folded across his chest. “Cara, we all panic sometimes here on Earth, but there just isn’t room to panic on the ISS. You’ve just got to take a deep breath, no pun intended, and get your situation fixed.”

“I know I know. I just need practice. A few more times and I’ll get it right.”

“Well get your shit together man. They wont let you run the simulations forever.” He walked off back to his office without even a glance backwards.

Seeing the man's reaction, Tannin felt like more of a failure than ever. It still seemed like an impossible fantasy that he might one day ride one of the Nazca-powered rockets into orbit. But then it had seemed impossible back at la universidad to be working at SASA. Domingo had said that his admittance to the training program was a courtesy to his ingenious work. But it had also been clear that his chances of ever seeing Earth orbit were very remote. It was just too expensive to send any but the most highly trained and experienced pilots.

Chapter 35

“Sir, do you have a minute?” The middle-aged financial officer was portly and looked exactly like someone you would expect a person in his position to look like. A round man with bare fringes of hair at his temples. But he did keep a sharp eye on the budget, and was very trustworthy. A trait Carlos held in the highest regard.

“Of course, come in Ortiz.” Carlos motioned him to a chair. “Please tell me that you have good news to share today.” he said pleasantly.

Ortiz didn’t skip a beat. He was sharp as a tack.

“Sir, your gamble has paid off in spades. South Africa has signed a contract with us to launch two satellites over the next two years. That’s four countries now. Either you are a brilliant man or very very lucky.”

Carlos could never tell if he was just an ass-kisser. But the man was right, he was very lucky. He’d staked the entire Chía project on their ability to get financing as a commercial space ferry. And here it was, first Greece, Morocco, Turkey, and now South Africa too?

“You’re right, we are very lucky. And I should add that you are doing a wonderful job keeping us in that position.

Later that evening he went through the finances again and it looked as if, with the next year of commercial launches, the R&D budget would be more than covered. If the trend continued, the Chía project would easily have full funding. He was finally ready to move forward in a more concrete way with a manned test flight.

Chapter 36

Tannin was a little apprehensive as he made his way to Miguel's office. He'd never met the man, but he was one of the upper level scientific administrators and had the prestige of being in Carlos' inner circle. As he walked in, the small partly balding man was sitting behind a fairly nice desk. Behind him a whiteboard was filled with equations that Tannin recognized as a satellite equipment roster. The rest of the office was fairly plain. A nice space to be sure, with wonderful renderings of Saturn, another of Comet Shoemaker-Levy falling towards Jupiter, and one of an astronaut on Mars. But there was little vibrancy here. Tannin hoped he never became old and boring like that.

“Entradar Tannin.” the lead scientist offered. When Tannin was comfortably seated, he continued, “Many of us have been impressed at how quickly you have made yourself a valuable member of the team here.”

“Um, thank you sir. I really enjoy de experience.”

“Tannin, I realize how much you've learned about the Nazca drive's energy output and you've made very brilliant strides in developing vectors and guidance systems for other satellites. You have been the equal of many more seasoned employees.”

As he continued, Tannin didn't know where this was going. Were they going to switch him to another project, was he going to turn the conversation around to the simulator after all?

“Tannin, I realize that this will sound rushed, but we want you to work on calculations for a manned test flight.” He raised his hand as Tannin's mouth opened and closed like a tuna the fisherman bring in from the coast. “Now now, we don't yet have funding for this project, so SASA resources have to be spent very conservatively on this. I've invited you to join this opportunity not only because of your impressive work, but because we think it's a wonderful learning opportunity for you.”

“He means that I can work cheap because I have less seniority.” Tannin thought with only a little bitterness. But these trivial thoughts quickly took a back seat to the idea of a manned rocket. There were all kinds of

tests to be made, weight calculations, and on and on.

“...so you will be working directly with Xerja, Juanita and Elenin under the direction of señor Domingo. We're designating this the Viracocha program. Do you have any questions?”

Tannin was grinning from ear to ear. He never did have a good poker-face. He must've looked like a teenager after his first night with a hooker. “Does dat mean dat I can have full access to de supacomputer?” he asked pensively.

“Well of course. That's expected as part of the design development.”

Tannin paused. It was a bit odd that the agency was putting all it's eggs in one basket “Sir may I ask an odd question?”

“Go ahead.”

“Sir, it seems unusual to me dat many of our more grandiose plans are being kept static while we push fa more advances in de Nazca drive? With all de success we've had, why aren't we putting funds into some kind of reusable shuttle like los Estados Unidos had?”

“Tannin you are indeed a bright young man, and that's a very good question. All I can give you as an answer is that our funding is not so grandiose as you may think. Developing a new reusable vehicle is many times more expensive then sending a few satellites into orbit. Even the Rússians have abandoned their attempts for lack of funding. Los Estados Unidos was lucky enough to get theirs up and running at the height of their economic boom. Now funding is much more tight, for many nations, and we have to watch the costs carefully. Does that answer your question?”

It was a satisfactory answer. It also explained why they were so happy to have him. A senior mission specialist would cost 3 times what Tannin was earning.

“Yes sir. I will get started right away.”

“Not to worry Tannin, please finish your work with the Bochica satellite first and then report to señor Domingo when you’re ready. Oh, and make sure that you learn everything that you can from Elenin. We don't know how long we will have her expertise.”

Tannin glided back to his workspace seemingly on ice skates. All the years at La Universidad waiting to do something *really* exciting. Their very own manned rocket! Not just a guest of Soyuz or China's rockets, but a program specifically for them. We can really snub the Rússia and Estados Unidos now. They may have gotten things started, but with all their colonialism and sabor-rattling, the military was the only place technology seemed to take precedence there.

He was so lost in ideas that he almost ran into the doorpost. He gave Elenin a big hug and then grabbed Juanita and kissed her right on the lips. He only regained his composure when he saw both women looking at him wide eyed and slack jawed. Like some rural farmer staring at a UFO on the vid.

“We're going to have a manned rocket! SASA is going to have a full-fledged astronaut program.”

They finally got it.

Juanita was still beaming, and blushing. Either because of the news or because he kissed her. But Elenin looked like she was ready knock him on the ground.

He thought quick, “I'm sorry ladies. I didn't mean to be improper. I just got overly excited.”

Chapter 37

“Okay Tannin, so you a saying dat we need 1200 kiloNewtons o thrust far a 5000kg human module? Dat rally sounds ova'blown. We'a not trying to send dis ting to Jupita, we just want to get a stable Earth orbit.”

Tannin was trying to stay calm and diplomatic but it felt like they were in High School back home. Nothing he said seemed to be satisfactory enough, and of course it didn't help that he kept getting distracted by Jaunita. Progress was seemingly impossible.

“Elenin, I understan dat dis drive is your baby. We'a all indebted to you far de groundbreaking work you've done. But de fact is dat you're background is military projectiles. Please understand that we're not trying to blow someone up. We're trying to do just the opposite. I've gone tru de calculations several times and it matches de computer simulations perfectly. 1200 kilo-newtons will send de craft into a stable Earth orbit. Whoever goes up dere will make two or three orbits and den make a splashdown hopefully not too far out in de Atlantic.”

“Elenin, he's right. You're specialty is the engine which you are doing great with. But Tannin has done a very impressive job with the vectors and it looks correct.”

She shot Tannin a brief look which sent chills down his spine. Did she notice him looking at her? Either way it was very appreciated.

At the end of the day he finally got to talk with her without Elenin prodding him.

“Thanks for sticking up for me Juanita. It really helped.”

“No problem Tannin. I don't think she appreciates your genius.”

“I don' know. We known each other since la universidad, but she neva gives me even a centimeter. She seems to find pro'lem with everyting I do. It's really hard to be diplomatic and professional.”

“Well Tannin, you can't please all of the people all of the time. You just have to please yourself.”

Maybe it was possible to pull this off. They seemed to get along well after having lunch a couple of times. Hoping the silence wasn't betraying his internal turmoil, he dove in.

“Juanita, 'ow would you like to go see a concert tomorrow night. Cibelle is performing dis weekend.”

“Sure, that'd be fine.” she sounded a little too casual, but a yes was a yes.

“Great.” His insides were now doing somersaults and his throat felt too dry to speak, but he managed.

“Great. We can have some dinner after work and go from there.”

“Well I'm not going to wear work clothes to a concert.” she giggled as he stumbled through trying to apologize. “Don't worry Tannin, how about we meet at Giordos for dinner an hour or so before?”

“Dat sounds like a great idea. I'll see you den.”

He hurried out the door, not because he didn't want to spend another ten minutes gazing at her but he didn't trust himself to not dig his own grave.

Chapter 38

It wasn't just her legs. Juanita was charming and funny too. It almost felt like she was specifically choosing jokes that would be amusing to a foreigner like himself.

“Juanita,” he finally asked, “Your accent is just slightly different. How long have you lived in Sao Paulo?”

It was brief, like the flick of a knut, but she seemed to show real fear for a second. If he hadn't been gazing deeply into her eyes, he wouldn't have noticed it. But he dismissed it as nervousness.

“I spent much of my childhood in Mexico. Plus mi madre esta Tzotzil. That's an indigenous culture in southern Mexico.”

Tannin was fascinated. “I'd love to hear more. How much did you learn about your family's history?” But the girl feigned his inquiry.

“Oh, she never spoke much about it. Besides I'm much more interested in the future. I'm very interested in learning more about the space program. The idea that we might send our own astronauts into orbit, it's just dreamy.”

They spent hours talking more about rockets, the work he did on the Venus flyby. And even though he wasn't supposed to, Tannin talked about his tenuous work on the Viracocha project and Marcos Pontes.

“Are you scared to be working on such a high-stakes project?”

“Honestly I hadn't gotten far enough with it to consider that. It is humbling. But I'm only an intern, they wouldn't trust something that big exclusively to me. They just want me to start on it because I'm cheap. You've heard the buzz about funding being tight with the guerrilla fighting between Ecuador and Columbia.”

“Of course.” she winked at him and his stomach flopped over, “Do you think this technology has a chance

to be scaled up that much?"

"I wouldn't be working so hard on it if I didn't think so. I mean this thing started out as a 90kg missile from the Peruvian Navy, and now we've launched a satellite with it."

They continued talking for over an hour. Juanita soaked up everything he said like a desert cactus. But she spoke only a little about her background and family. Oh well, as much as he could gaze into her eyes for hours, he was probably boring her. Besides, they didn't want to miss the concert.

The music was great. Brazil had such a wonderful music culture. From loud rockin tunes to the more subdued traditional music. Finally it was over and he walked Juanita to the bus stop.

She gazed at him long enough to make him nervous, but not too long. Then she shook his hand and sauntered off toward the bus stop. He watched her go and gazed at her body longer than was probably respectful. But then he hadn't been with a woman since leaving Jamaica, and the women here were just breathtaking.

Ah well, he shook his head of it and went back to his apartment.

Chapter 39

“Entradar Miguel. What can I do for you.”

“Thank you for seeing me sir. You wanted a progress report on the Viracocha program. The kids have been doing an excellent job developing the technology. Tannin came up with the idea to use the drive to create a plasma which will both increase it's efficiency and provide excellent thrust. After all, we're not trying to create a stealth rocket like the Peruvians.”

“No, but it would be helpful to reduce international scrutiny.”

Miguel smiled knowingly at him. “Well anyway. They have a scaled prototype, but I feel that we've established the technology well enough to outsource much of the fabrication.”

“That sounds very sensible. A company like Embraer should be able to produce it more cheaply than we could. We just have to make sure that the technology isn't allowed to leak out.”

“Of course señor. I believe we can trust Domingo with this.”

“I agree with you my friend. I'll instruct him to bring a team out to the facility.”

Chapter 40

More than half of the technicians working on the nazca drive were gathered in Domingo's office when Elenin and Juanita arrived. It was obviously good news from the way he was smiling, but as far as what that was they were in the dark.

“Welcome bem-vindo senhoras e senhores. First off I would like to thank you for the many successful hours that you've spent developing the nazca drive so far. I'd like you to pack some things and make sure you have everything that you need. We're going to be heading to São José dos Campos on Monday. We'll be working at Embraer for awhile to help them get started on the prototype rocket engine.”

Juanita's eyes grew wide with amazement and hers probably did too. It was really happening. All the hours in the lab, dealing with Tannin, struggling with propulsion simulations, testing materials. Now they were going to help develop the real thing.

“I'll be going there with you to supervise. As you know, secrecy is of utmost importance on this project. We are going to insist that no more than three people are working on any related aspects of the project. So to that end, you will be helping to coordinate between departments.” And as with policy here at the agency, no materials physical or digital related to the drive can leave the building. He checked his computer and wrote down some information. Do you have any questions about this, and is there anything that you need from us here?”

“Um, how long do you expect we are going to be out there?” she asked (and Juanita nodded in agreement). She was thinking about Margarita and meeting her for coffee.

“Oh, I doubt we'll be there more than 10 days. We just want to coordinate with them until they can continue on their own. Besides Embraer operates a bus line to Sao Paolo which you can use if there's important business back here. Is there anything else?”

Nobody else responded and both women shook their heads which were still reeling from the news.

“Okay. Come to the office at your usual time, and see me as soon as you're ready to depart.”

As they walked back down the hall together she couldn't contain her excitement any longer.

“Isn't this exciting Elenin? We're going to be working at the plant where they actually build all of these

components *and*, we'll know more about the system than they will. I cannot wait to see the company. The buildings must be enormous and all of the computers, mock-ups, high-end testing equipment...and plenty of cute guys.”

“You tink dat dey 'ave better machines dan we do 'ere?” Elenin tried to ignore the last comment.

“Well, I always thought so,” she looked puzzled. You think not?”

“Come on, SASA is a continent-wide organizashun while Embraer is jus' a local arospace company. Dey surely will 'ave good quality machinery and intelligent people, but I doubt it will be radically diffarent dan 'ere. I'm jus excited about seeing dis technology going full-scale *and*” she emphasized “not for de purpose of killing people.”

Chapter 41

“Margarita...” Elenin stood nearly trembling next to the woman's desk. She didn't know how to begin. It was like one of those cheap teenage novels she read back home where the girl can't be away from her love for even a couple of days. It felt like the company trip to a factory only 170km away was far too long to be away from this incredible woman.

“Yes?” the pained expression must have been obvious

Finally she just blurted out, “They want me to go to São José dos Campos on Monday to work on a rocket motor. They're going to have Embraer do development work” it felt like she'd said too much. Like she was getting all weepy and emotional when their relationship was just blossoming.

“Well that sounds like a great opportunity. How long do you think it will take?”

“I'm not sure, Domingo implied it could be 10 or 12 days.”

“Oh, that doesn't sound bad. Some of the projects pull Domingo away for 3-4 weeks at a time. He does travel a lot.” as if feeling that wouldn't be enough reassurance, she continued, “besides there's bus service there and it's only 200km or so.”

“Yes, dat's what Domingo said.” she still felt sullen and confused about how to express her feelings.

“Tell you what Elenin, why don't I drive out there next Saturday and we'll spend the day at their ecology preserve. There are wonderful forests near Sao Jose.”

“Thanks Margarita. You really know the right things to say.” she put her hand on the woman's arm and let it sit there a minute.

In response she put her hand on Elenin's and they gazed at each other for several minutes.

“Let's spend some time together before you leave though.”

“You read my mind.” she looked longingly at the wonderful artist.

Chapter 42

Embraer was indeed a huge facility. They all got a quick tour which was far too superficial for them to take it all in. There were aircraft mockups, wind tunnels, computer simulations, 3D printers. But the one thing that SASA didn't have was an enormous hanger bay. It was obvious that any aircraft manufacturer would need one. But this place could practically fit a 747 inside. The place was simply cavernous. It wasn't so unusual for Elenin to get up close to these huge planes, but Tannin's eyes were as big as tortillas. Once the tour was finally over they were driven over to the R&D section to work with the best engineers that Embraer could offer. It was exciting for everyone involved. The techs were thrilled to learn about even a portion of the drive technology and the scientists were excited at the chance to help bring such an ambitious project forward.

Domingo was the only one who seemed to take it all in stride. He made sure that everyone had signed non-disclosure forms, and then he laid out task assignments to several three-person teams.

Tannin thankfully was not teamed up with Elenin. He was assigned to coordinate with a team developing the mounting system for the engines. He had learned an enormous amount about materials strength and the basic engineering involved. Rocketry was such a complex and fascinating subject, it was an exciting new adventure that he was thrilled to be a part of.

Chapter 43

“Shut it down, shut it down!!” the lead tech shouted in a near panic.

Alarms blared in a horrific chorus. The testing frame was showing catastrophic failure as stress fractures began spreading in half a dozen spots. The hot exhaust of the engine was noticeably tilting away from the blast shield. The engine hummed louder and louder as the giant framework strained under several million Newtons of force. Although the scaled up engine was significantly louder than the missile tested by the Peruvians, it was still several orders of magnitude quieter than any rocket motor ever used. This last fact caused some people to underestimate the potency of the machine.

It only took a split second, but it looked as if the whole mechanism was going to go shooting onto the runway

Tannin, Juanita, and the whole crew sat riveted to the blast-glass as the engine was finally shut down. The sighs of relief were almost as loud as the engine when the blue flame finally burned out.

As if for added emphasis, one of the reinforcing bars broke off and hit the ground.

“What the hell were you thinking!!” shouted Manuel. He was the main liason at the facility between the engineers and the SASA scientists.

“Do you have any idea how much damage could have been caused if that thing had been on even a half second longer? Not only would we have had to contend with tens of thousands of centavos⁵ worth of damage, we'd have exposed the work that's going on here to the public, *and*,” he raised his hand up for emphasis “we'd have destroyed the legitimacy of this technology the SASA folks are developing.”

Manuel must have noticed the shocked expressions of not only his own staff, but Tannin and the scientists as well. He regained his composure and told the technicians that he would set up a follow up meeting with them at 3:00pm

“In the meantime let's get this engine back to the shop. I want to check the entire assembly for damage and go over the power and pressure readings from every instant up until the thing was shut own. Cara! We're going to have to completely rebuild the reinforcing structure. I should've just had this thing set up against a cliff.”

Chapter 44

“Way ta go nuckl'ead.” Elenin punched Tannin lightly as she walked past.

“Me?! Hey wait a minute. Dis ting wasn' my fault, why you be blamin on me Elenin. I tol' de guys dis ting puts out a lot more power den it looks capable of...”

“Relax paadie. I'm just razzin you.” She left it at that and sauntered away.

Tannin just stood there puzzled. How was it that she could give him a look like she wanted to chop his head off a few days ago, and now be lightheartedly poking fun about a huge catastrophe. He turned to look at Esteban who knew about their tensions, he just shrugged.

“Esteban my mon. Eef I eva claim to 'ave an undestandin of women, you 'ave my pamission to shoot me.”

“Oh Tannin” he slapped the younger scientist on the shoulder “no man in his right mind would *ever* say such a thing.

They hitched a ride on one of the glorified golf carts and headed back to the main facility.

Chapter 45

His sigh of frustration didn't need explanation

“Okay people. So what have we learned so far” Domingo had gathered the team in one of the meeting rooms to discuss their next steps.

“Never trust the Embraer guys with dangerous technology?”

“Enrique, don't push it. I'm in a bad mood over this.”

“Sorry.”

“Sir, do we know when the readings are going to come in? Tannin and I spoke with several techs about the strength of that testing framework and they assured me that it would withstand 200 kiloNewtons of thrust. So either our engine is putting out much more than that, or their fabricators are woefully inadequate.”

“I think that this is not the time to pressure Manuel with any requests at the moment. I'm sure he's going to have his hands busy demoting or firing several people. But I would be very surprised if their fabricators failed to create a frame to withstand those kinds of forces plus the safety factor. This would mean an incredible amount of power indeed.

Domingo's phone rang and he paused the meeting to talk animatedly into the phone. While he spoke Tannin noticed that Elenin was smiling. She'd been unusually happy lately. Maybe she was taking delight in the thought of subjecting him to some yet unknown psychological torture. He didn't relish this prospect.

“Okay people. We have our answer. The last power reading from the engine was reading at almost 300 kilo-newtons! The safety factor still should have accounted for this. But it sounds like the Embraer folks are off the chopping block, but that still leaves the question of what put so much extra stress on the rigging. The good new for us is that we have an unimaginable amount of power. You should all be very proud. The electric-plasma design is exceeding not only our expectations, but the testing technology to boot. There'll be more than enough power from this rocket to create an entire space industry.”

As he finished, the team broke out in applause.

Chapter 46

“Elenin lovely, how is your day?”

“Oh I spent de day tinkin of you.” she loved the sound of the woman's sigh on the phone.

“Dat and almost' launching a rocket engine into a cargo plane at 90 kilometers per hour.”

Margarita gasped and Elenin explained the incident in the testing area the day before.

“Dese boys and dey're obsession wit power. I'll jus' never undastand it.”

“That makes two of us dear. Just remember, boys are just a confused and unfortunate group of people.”

She giggled at that.

“I know you can't talk too much about specifics. But do they know yet what the problem was?”

“No not yet. Dey be makin computa models of de presha readings from different parts of the retaining structure.”

“Elenin my dear. I'm not a physisist. Could you tell me what that is?”

“Oh, I'm sorry love. Well as you know, rocket motors put out a huge amount of thrust. In our case it was a couple hundred kilo-newtons (she knew the woman wasn't cleared for specifics). An for every action, dere's an equal an' opposite reaction. So to keep the engine from just flying off into the city, it needs a supa strong framework to resist that force. An das what almos failed.”

“Oh. That sounds horribly dangerous.”

“Yes we were all pretty scared.” She was so tired of talking about work though. “I can't wait ta be back wit you again Margarita.”

Just saying the name brought tingles to her arms.

“Same here Elenin. I'll have to make you some Ampanadas when you get back.”

“Oh that sounds excellent.” she didn't know what they were, but it didn't matter. As long as they could be together.”

Chapter 47

Carlos waited with mild impatience for him to answer

“Boa tarde sir.”

“Boa tarde Domingo. How much longer do you think you're team will be needed over there?”

Domingo must have sensed his impatience because he answered with no small amount of uncertainty.

“My apologies for the delay. I realize we're a few days late. There's been a snag in design work after one of the testing gantries almost destroyed itself. We used a gantry designed for testing Boeing's engines and they managed to turn it off just shortly before the thing ripped itself off the structure. There was metal fatigue in half a dozen places. Sir, we're producing about *290 kilo-newtons of thrust* with this engine.”

“So did those fools use a regular aircraft engine testing rig or something?” he'd have their heads if they did

“No sir. Several members of the team explained to them the high power output we expected and they added a huge amount of reinforcing to their strongest gantry. The safety factor should have kept everything in check. But there were stabilization issues to boot. The power output is wonderful. But the forces are not uniform. They're oscillating and that's what caused the steel to fatigue.”

It was not as good a news as he'd hoped, but it was a logical explanation. One couldn't expect perfect estimates from his team 100% of the time.

“I understand Domingo. How is the team holding up over there. Is everyone making nice, and more importantly are they proving trustworthy of maintaining secrecy?”

“Yes señor. I've given only portions of the job to each team with our own staff coordinating between them. So far there doesn't appear to be any notable problems.”

I'm glad to hear that you've made so much progress. Please send me an email when you have an ETA, and what news the Embraer folks will have for a production schedule.”

Chapter 48

It had taken all her strength to not just run into Margarita's arms the second she got back to SASA. They barely knew each other and yet she felt completely in love with the woman. It was surreal how much Margarita felt like some angel out of a television show.

They went out for coffee again after work and talked (as much as she could) about her trip. Of course the facility itself was no secret, so she could be open about the tour and some of the materials testing.

“I'm sure you'd be amazed at the huge scale of everything there. Sure we had C-130s and KC-135s in the air force, but I imagine you've never been inside a building which can swallow planes that big.”

Margarita didn't try to hide her amazement. She was genuinely impressed at the stories and all of the fancy planes.

“It really sounds amazing, the closest I ever get to the production vehicles is at a press conference.

Unfortunately since we're not part of the development team, they only tell us the vaguest details that we need to make pretty drawings.”

It was the first thing Margarita had ever said that revealed her as merely human. It was so difficult for Elenin to visualize Margarita as anything but a goddess that it was mildly shocking for her to say anything that required sympathy. She took the woman's hand in hers, “well *I* think that you are incredible. You're incredibly beautiful, incredibly talented, and incredibly empathetic....”she paused, wondering if it was too much. “And incredibly perfect. You always seem to know the right thing to say and do, that it's been humbling to spend time with you.”

“Me?!” Her mouth and her eyes both grew wide, “I'm merely an artist while you're developing the future. I mean SASA doesn't get the country's largest aerospace industry to build machines based on *my* ideas.”

“Look, we both have some amazing qualities. I feel thrilled to share yours and I'm grateful that you see value in me.” she squeezed the woman's hand.

Then they both started crying, for reasons neither of them could truly understand. It was a shared moment in time.

“Would you like to come back to my place for a glass of Beirão?” seeing Elenin's puzzled expression she briefly described the story of the liqueur.

“I'd love that.” and in her joy she forgot about Jamaica and walked out holding hands with the most beautiful woman in Brazil.

Chapter 49

The young woman sat down at a bus stop and after what seemed an eternity, the older man stood next to her. Though he acted as if he was checking the schedule he spoke clearly and directly.

“So it sounds as if SASA is doing quite well with it's commercial ventures” he began, a touch of sarcasm in his voice. “Have you been able to get anything concrete on the drive?”

“The security is quite extensive. They're guarding the nazca drive very very carefully. No written notes or data can leave the office....”

“You know that excuses do not impress me.”

She had to think fast, “I'm developing a model and a list of components from memory, but as you know the technology is still in it's infancy. Personally I think Zelega is pushing things way too fast with his commercial prospects. It would only take one accident with one of SASA's customers to shake confidence in this drive. They've only had a handful of successful launches.”

“Perhaps you can orchestrate such an occurrence. My director is becoming quite unhappy with the reports of so many countries signing contracts with SASA instead of us.”

“It should take very little effort to implement that. I don't have much access yet, but given how fragile the directional solenoids mounts are....”

“I'll let you concentrate on the details. But I want to be sure that our investment in you continues to be fruitful.”

“You can be sure that I wont disappoint you.”

“I'm sure that you wouldn't.” he replied as the bus drove up. He climbed aboard with obvious disinterest in where it was going.

Chapter 50

“Can you do a big favor for me?” the woman asked in a *very* sexy voice.

He sighed. He couldn't remember her name, but he never got tired of looking at her legs. She worked down the hall right across from the vending machines. She never talked to him long, but her voice was like a siren call. It was like his feet obeyed her of their own accord.

“What is it that you would like?” he asked. Realizing that she was probably using him, yet unable to control his own words.

“Can you call Zelega on the phone around 12:30 and tell him that there's a problem with SASA's local network and you'll need permission to fix something or another.”

He was incredulous, “Do you realize what you're asking?? You want me to interrupt the Director of the entire organization on his lunch break, so I can tell him bad news which isn't even true??! Why in the world would you want me to do that?”

“Shhh. It's a secret. Let's just say I'm working on a surprise for him and I'm looking to get a nice photograph of him outside near the mangrove trees. I'll need time to get his expression just right. Think of another excuse to call him if you must. You just need to keep him on the phone for 10 minutes or so. Pleeease. I *promise* that I'll make it worth your while.” she put extra emphasis on this last part. Telling himself that she couldn't possibly make it worth his while if Zelega gave him the boot, he grudgingly agreed.

Chapter 51

Carlos was eating lunch out on the patio of the cafeteria. It was one of his rare lunch breaks without a meeting attached. Usually he ate with one of the senior staff to discuss budget, PR, mission operations, or staff issues. Today was blessedly quiet as he sat next to a large mangrove tree. He'd made it a point of preventing the landscapers from removing it or trimming it too heavily despite its close proximity to the building. The shade was a wonderful blessing in the January heat.

His phone rang, and given the noise in the cafeteria he wandered over a few dozen meters to a quieter spot to answer it.

He barely listened to the conversation though. It was so peaceful and he really wasn't interested in being interrupted on his lunch break. But every time he tried to end the conversation the guy kept insisting that it would be just one more minute.

Finally after what seemed an interminable amount of time he just hung up on the guy.

Chapter 52

It worked! She felt like a James Bond as she grabbed the satchel and ran carefully over to a spot she'd staked out beneath a lush stand of shrubs. Hurriedly yanking out her camera, she took quick but carefully composed photos of every sheet of paper she could, including several labeled 'Top Secret.' There wasn't time to analyze anything. Just in case the network manager lost his spine, she paid another tech to call Zelega for some other small emergency. But he wasn't likely to let someone keep him on the phone for long on his lunch break, she knew he would be back as soon as possible.

Scanning carefully to see if anyone was in sight, she scampered quickly behind the tree and set the satchel as close as possible to the exact spot it had been.

She stayed in her hiding spot and looked through the images. The screen was too small to tell if she'd gotten anything on the nazca drive. But it was more important that she wasn't seen in the area in case Zelega noticed a problem.

Chapter 53

“Juanita you look like you been jogging.” Tannin could see that she was disheveled, but not unattractively so. There were a few insane health nuts who would exercise on their lunch break, even in the middle of summer.

“Oh, sorry. I don't mean to come back to the office looking like a pateta.” at Tannin's puzzled expression she continued, “Um, like a slob.”

Tannin was aghast. “Of course not. You look fine. Exercise is supa healthy.”

“Thanks, you're a real flatterer.” she rubbed his back affectionately and the vibrations ran all over his body.

It gave him the little jolt of confidence he needed, “Hey, would you like to join me for dinner tonight? I just found this place that serves Mexican Frijoles.”

“I'd love to.” she purred. But then her expression changed. “Um, but I'll be busy for the next two evenings. How about Thursday?”

“Das fine Juanita. Good luck with your, um, plans.”

She meandered down the hall, and he went up to the wind tunnel room still thinking excitedly about a date with the beautiful girl.

Chapter 54

They sat on the train together. Just two friends talking. But Elenin had to use all her strength not to spend the entire time staring into Margarita's eyes. She was wearing a low-cut blouse fitting for the summer weather and it sent electric shocks up and down her spine.

They got to the park and were early enough to get a nice space. But the amphitheatre was filling up quickly as the stage testing went on.

“I can't believe Juana Molina is giving a free concert. She's so talented and fun.” Margarita said dreamily.

“It's pretty incredible what she can do with that sound mixing.”

The woman certainly did seem to have talent.

“I'm really glad you invited me.” she couldn't really think of much to say. Just being with Margarita was a dream.

They talked about superficial stuff and past lives until the concert began.

The music was indeed fun to listen to. It was part Bjork, part Cibelle and a hint of rap. She didn't like all of the songs, but most of them were worthwhile.

After the concert they walked along the street browsing in store windows and finally went into a cafe for some frozen yogurt.

“Elenin, you've never talked much about your life in Jamaica. What is it like over there? Were you popular in school, did you get into fútbol or anything?”

Her expression showed nothing but genuine caring and it just constantly felt like the woman was too good to be true.

“Oh Margarita.” she laid a hand on the woman's arm, “I really appreciate 'ow much you care. But there's not a lot to talk about from home. My school was poor, my neighborhood was poor, de only activities I 'ad besides school was helping my mom cook de pepperpot soup far her food stand. My moma did all she could to help me get into da university. Di only real great ting about Jamaica is de amazing ocean. I wen swimmin all de time when I was young.” she paused “But what about you Margarita. What was it like back in Santa Fe?”

“Well Argentina is definitely a place of more opportunity. I grew up pretty far from the city, so there weren't a lot of other people to hang out with. I spent a lot of time at Laguna San Pedro just north of the city. I'd just stare up at the sky, or make paintings of the lake. It was very quiet.”

“Wow, I envy you that. It sounds like such a peaceful way to live.” she thought back to all the families with 5 or 6 children on her block and all the different music drifting out of each house.

Chapter 55

Her jaw hung in the air seemingly for a full five minutes as she stared at the screen. Amid the budget reports, the boring personnel files, and data from the Venus satellite, there it sat. One of the sheets which had been labeled 'Top Secret' proved itself to be *very* interesting.

“It looks as if we can soon move forward with the Chía program. Commercial lift contracts are increasing as word gets around of both our dependability and cost estimates. I've already approved some of the younger employees to do early stage design work on a lift vehicle for human test flights. If these tests prove successful then we should be able to secure funding for a lunar module. The question is whether we will have the Navy recruit long enough finalize a rocket more powerful than Apollo. I don't think that it's wise to have her develop the motor for drilling. I've put the other Jamaican to work on that. The nazca drive is the only technology that isn't prohibitively heavy and expensive to drill.

This is the last major hurdle to be overcome in order to reach the alien.....cavern for lack of a better term.

We can't spend SASA resources on it yet, but I've been spending a great deal of my time off the clock discussing with Miguel the logistics of drilling 30 meters below the Lunar surface in the vacuum of space. The challenges involved in that endeavor will make a lift vehicle seem like child's play. But one can only imagine what could lay hidden there. Samples of air these beings breathed, possible linguistic clues, alien ships, technology. It's simply world-changing.”

This wasn't just a new rocket design. They had something about aliens here. Incredible! She scanned through the other images, hoping to find something more concrete than just a vague reference.

Unfortunately Carlos wasn't that careless. She was lucky enough it seemed, to find this one reference. The rest was probably locked away somewhere. And unfortunately there were no details about the nazca drive other than power to weight calculations, though that in itself was somewhat useful.

Chapter 56

The scenery flew by more slowly than he'd like. The traffic in Sao Paolo was horrendous. How did anyone get anywhere in this city. "I should just get a bicycle" he thought.

The dance studio was recommended by one of the guys in the fabrication shop. He'd mentioned that he wanted to take Samba lessons so he could meet women (which was only partly true). He'd thought of asking Juanita to join him, but was too ashamed to admit that he couldn't dance in a city that almost worshiped it.

As he gazed out the window he saw her.

"No way!" he almost yelled, and even as such got a puzzled expression from the older woman next to him. There she was walking across the street, plain as day. Señora Bolom! She was short, wearing the same ornate dress, and there was no mistaking the long intricate pony tail. How in the world could a fortune teller from Jamaica be walking the streets of Sao Paolo??

He immediately got off the bus and ran down the street after her. It was almost impossible to see her, everyone was taller than she was and despite the beautiful dress, it didn't stand out here in Sao Paolo as much as it would in Jamaica. His heart banged a reggae chorus as he pushed his way through the crowd for what seemed an eternity, but despite a couple of snatches of gray hair, the woman was a butterfly fluttering just out of reach.

Time seemed to stretch out and his breathing became heavy as he squeezed past the nameless faces with increasing desperation, but after seeing no sign of her for several blocks, he had to admit defeat. The confusion swirled around him in endless circles as he finally sat his tired body down at a bus stop near the Rio Tiete.

He hadn't sat down more than five minutes before he saw her lovely face. Juanita was maneuvering her way through the crowd and strolling right towards him.

"I can't let her see me like this all disheveled and looking like a crazy person."

Thankfully there was a guy selling locally made hats. Despite the summer weather, Tannin found one that covered the ears and tried it on just before she strolled over to the nearby bus stop. He pretended to examine some artist's carvings hoping she wouldn't notice him less than a meter away.

Chapter 57

She pretended to read the bus schedule for well over 5 minutes before an older man sauntered up and sat at the bus stop.

“So what kind of news do you have.” the man asked as she stared at the schedule, but his tone belayed his waning patience.

“You'll never believe what incredible news I have for you.” she struggled to keep her excitement from showing “I was very lucky and managed to snap photos of some documents I got from Carlos Zelega's satchel.”

Now it was the older man's turn to try and hide his excitement

“Oh? And did you find any manufacturing drawings on the nazca drive?”

“Not so much,” but she quickly added, “I found a top secret set of papers describing why they are so intent on the nazca drive.”

“Well that much is obvious.” he replied sourly, “To put us out of business and make a profit for Francesco and Chavez.”

“Sir, please let me continue,” the ace up her sleeve gave her just a touch of bravado. “The reason Zelega is so intent on developing this drive is that they have evidence of something *alien* beneath the moon's surface.”

Now the man really did lose his composure, “If you think that creating some fantastic story will fool me like some...”

She stumbled back instinctively. “Sir, I have proof. There are photographs on my computer of the actual documents. They describe something called the Chía program and they're looking to send a manned

capsule to the lunar surface to dig down 30 meters to some alien cavern.”

“And what proof do they have that some cavern beneath the moon's surface has an alien element to it?

Hmm? Are there carvings of a giant face like the loonies who talk about Mars?”

“I'm sorry, but I didn't see information on that. But if Zelega is convinced, that should give it some credibility, would it not?”

“Yes, I suppose it would.” he paused and changed the subject “And what of sabotaging the drive. Have you been able to make progress on that?”

“Yes sir. Although the lift vehicles are being fabricated at Embraer, I was able to make adjustments to the mounting points on the construction drawings. It should appear as a minor adjustment to the technicians, but under the kind of stresses that this drive produces, it should prove quite catastrophic.”

“You've done very well. This should finally provide the boost we need to stay competitive. Keep up your efforts and we'll be in contact.”

As the older man finished his sentence, a bus pulled up and the woman got on board without looking back.

Chapter 58

“Sir, thank you for seeing me.”

“Of course Tannin, please sit down. Now what's on your mind?”

“Sir, I'm curious about the Chía program.”

Domingo's fists clenched and his brow furrowed like he was about to strangle Tannin right on the spot.

Although the man was middle aged, he was still almost 15cm taller.

“I...I'm sorry. I hope I didn't say anything to offend y..you.”

The man regained his composure

“I'm sorry Tannin. I'm not angry at you. But this information is very important. Muy importante.” he emphasized. “Please tell me the details on how you heard about this. You're not in any kind of trouble young man.”

“Well...” he stumbled, trying to recall the whole conversation, “I was browsing trew some street venda's wares....I was next to a bus stop. I saw Juanita walk over to de bus stop and even dough she looked like she was checking de schedule, she was obviously talking to an olda man. I couldn't hear much over de traffic noise, but I heard Zelega's name mentioned, I heard her talk about de nazca drive, I heard the words Chía program, and I heard alien cavern and 30 meters. There was also something...” he thought deeply trying to recall what she had said, “I also caught what sounded like Embraer, though I'm not sure, and mounting and sabotage...that part was really garbled”

“That's all that I can recall.”

The man cursed in Portuguese and let out an exasperated sigh.

Tannin pulled out his phone before continuing, “And given what I heard, I did my best to be careful and took a quick picture of dem as Juanita was getting on de bus. It's not very clear, but maybe it'll help.”

At this the older man finally seemed to show an emotion besides despair and anger, “Young man, you cannot know how helpful this is.”

His face brightened as he plugged the phone into his computer and copied the image. Finally a smile played across his face.

“Please wait outside Tannin. Be reassured, you absolutely did the right thing.” he looked at the clock and then continued, “I need to make a quick phone call.”

Chapter 59

“He what?!” Carlos slammed his fist hard enough against the desk to draw a bruise. “I want to know, how the hell did this happen?!”

He paused listening to Domingo recall what Tannin had said

“So we have a mole. Hell!” It took some doing, but he regained his composure “Okay first things first. I'll talk to Philippe and instruct him to track down Juanita and have her brought in. We'll get someone over to her apartment and see if there's anything on her computer. You go ahead and put our best photo editors on this picture the Jamaican boy took and boost the resolution. Put a halt on fabrication work at Embraer until we get things squared away... and...” he paused wondering if he was making an enormous mistake, “send the boy up to see me.”

The moment he put the phone down he started second guessing himself. The boy was not even a lead technician. He'd only been on board a couple of years, and there were supervisors much more experienced who were not trusted with knowledge of the Chía program. But on the one hand the boy was brilliant, and he'd obviously heard enough to infer what was going on without much help. They could either have him on their side or have him possibly working against SASA if he felt there was something big he was being excluded from.

Telling Tannin could breed jealousy and rivalry. He sighed out loud, it was a no-win situation and he was stuck in the middle. There was no solution to this mess which didn't involve some serious risk not only to himself and the agency, but possibly to the whole scientific community.

Chapter 60

“Well, Domingo told me that I wasn't in trouble.” But nothing he said to himself could pull his stomach up from his feet as the elevator rocketed him to the top floor of SASA. He'd only met the director in passing during the initial rocket test. But from Domingo's reaction this certainly didn't seem like ideal conditions in which to speak with him.

Tannin walked into the biggest office he'd ever seen. Two whole walls were filled with books and a huge desk dominated a third wall. It took all of his will to keep from just standing and gaping. He could fit three of the houses back home inside the huge office.

The director motioned him into one of the many chairs and despite himself he blurted out, “Sir I'm sorry. I really do love being here at SASA. It's an amazin oppatunity and ...”

Zelega raised his hand and spoke with composure developed over years working in administration. “Tannin you've done us a great service by bringing this information to light. The entire agency could have been compromised. It seems that you've single-handedly discovered a spy here and while we don't know what information and how much has been leaked out, it's clear that we must be more careful about this. To that end I will let you in on some very important information that is available to only a handful of scientists here at the agency.”

He passed a non-disclosure form and made it clear that this was extremely Top Secret. “Not only would your career be at risk if it was found that you had allowed this to leak out, but your entire life's reputation. I cannot emphasize enough how important this is for the entire organization.”

Tannin struggled to keep his hand from shaking as he signed the agreement and wondered if Zelega was talking about real aliens, or...but what else could it be? Tannin just sat there in baffled amazement as the director described the alien cavern and the true purpose of their development of the nazca drive, his jaw came unhinged and he was barely able to form a sentence.

“So....so this is real sir? I mean you know this truly?”

The man pulled out a set of pictures from an opened safe and passed them across.

“Well, all we have is the ground sonar telemetry, which you can see here. We definitely believe that it's worth a closer look. Now you know why the Lua satellite crashed. The question is...how are we going to proceed from here.” he paused as he put the infamous photograph back in the safe. “You've proven yourself an invaluable employee for someone so young. And I hear that you're working on your astronaut training to boot.”

Tannin's eyes fell as he recalled the four fatal mistakes he'd made already.

As if reading his mind the man continued, “I know you're still working at it, but your welcome to take all the time you need. I see great potential for you young man. If he has time, I'll ask Marcos if you can get some pointers from him..”

“Marcos Pontes??” he almost screamed out, “Sir that would be incredible!”

“Alright alright. Well as I said, you've done us a great service and you've more than earned it. You can take over Juanita's office so that you'll have more room to work. I can guarantee you she'll never have a job in aerospace again.”

With that Tannin's heart dropped. He'd really fallen for her. It was obvious that she'd be fired....or worse. But he tried not to think of that.

Chapter 61

The older man stepped into a phone booth. It was rarely used these days by anyone but the very poor, it also provided excellent anonymity.

“I met with our agent today.”

The voice on the other end was mixed with background noise to further mask the owner's identity.

“Yes, and has she been able to find something useful?”

“Yes, well she hasn't provided any details on the drive. I think she does show promise though. She found some Top Secret documents.”

“I'm only interested in the nazca drive. What do these documents show about it?”

“Well they're not about the drive. It's something about an alien cavern under the surface of the moon. It doesn't sound plausible to me. But she said she had photographs of the documents.”

“I will say this only one more time. I am only interested in the drive. I don't want to hear about aliens, chutlu monsters, or whatever. If she hasn't either slowed their progress by now or provided detailed information about the drive, then we'll look for someone else.”

“She did mention that she was planning to sabotage one of the rocket engines. But I have not heard news of any failure as of yet.”

“We do not have time to waste on her. The more successful launches that Zelega has, the less catastrophic a failed launch will appear.

“Really? You don't think she's worth a little more time? The alien thing does seem absurd, but I have to agree that it's doubtful Zelega would have secret documents about a hoax.”

“Do you truly want to ask me to repeat myself?”

He sighed heavily, “Okay. I'll check her apartment and if there isn't something worthwhile then I'll take

care of her.”

Chapter 62

The minute Tannin left his office, Carlos got on the phone.

“I need you to locate Juanita Amado immediately.”

“Of course it's an emergency! This is a top priority.”

“Why? Because we have reason to believe that she's selling secrets about our new drive.”

“It's not important how I know. Just find the woman and have her brought to me right away.”

While he waited to hear word from the head of security, he called his secretary and had him send up Elenin to find out how much Juanita may have found out. Then he went and dug around in his satchel looking for some notes and there it was staring him in the face.

'Top Secret'

“It looks as if we can soon move forward with the Chía program.

Commercial lift contracts are increasing as word gets around of both our dependability and cost estimates. I've already approved some of the younger employees to do early stage design work...”

“Idiota! How could I be so stupid.” He of course kept the satellite photos in the safe. But this document mentioned the Chía program *and* the alien origin and he was certain it had been at the back of the stack of papers in his satchel. But here it was in red ink sitting proudly on the top of the pile. Thinking back to his lunch outside last week, he remembered the phone call he got. It had seemed a little strained, but a lot of employees were intimidated to talk to him, so he'd thought nothing of it.

His thoughts were interrupted by a buz from his secretary.

“Sir, señora Deville is here to see you.”

“Obrigado. Send her in.”

“A young woman with shoulder length black hair and dark skin even for a Jamaican walked in.”

“Señora Deville. Thank you for coming so quickly. I know your busy and I wont take up too much of your time. How much time have you spent with señora Amado?”

“Juanita? I don't know her so well. You probably know that I've been working with her and Tannin on the Viracocha project. The two of them have been doing calculations on vectors and trajectories.”

“And how much do you think she knows about the drive system itself?” he asked. Doing his best to reveal as little as possible about the magnitude of the situation.”

“Well sir, as you know the air force was very clear that the technology was to be closely guarded. She did help with some of the development work and the materials testing. But señor Domingo and señor Miguel are the only ones here who have played a critical role in helping me develop the full scale rocket engine.”

“That is very good to hear señora.”

“Sir, is anything wrong?”

“Well let's just say that you will be working primarily with Tannin and Domingo for the time being. You can entrust Tannin with the engine details, I have full confidence and have included him in the group of employees with access.”

It was a gamble indeed. But the young man was the most gifted person of his age group at the agency. Before he could finish the conversation, the phone buzzed again.

“Excuse me señora. Thank you for your time.”

Once the woman had left, he picked up the phone only to hear Phillippe answer in a somber voice.

“Sir, I regret to inform you that señora Amado was found dead this morning.”

“What?!” He could not possibly have expected this turn of events. This was starting to feel like some dollar store spy novel. Do you know what happened to her?

“Well sir. The police found her in La Parque Estadual. She had a large amount of banana spider venom in her system when she was brought to the hospital.”

“Hmm, bitten by a wandering spider, only one day after having passed on internal secrets. Sounds very convenient.”

“Yes sir. The police are saying it's an accident. But it does seem convenient, if you say she was found passing secrets....”

“It definitely smells fishy. It's also a shame, she was very talented. Phillippe, I want to hear anything your boys or the police may have on that photograph, and I want you to get her computer from her apartment and bring it here at once.”

“Yes sir.”

The next task was to dig into this possible issue at Embraer. Hmm, mountings and drawings. Then a lightbulb went off in his head. Domingo had sent an updated set of construction drawings for the mounting mechanism to be approved by the techs over there. Damn! He couldn't entirely trust trade secrets to an international aerospace company, but now he wasn't sure who he could trust in his own agency. If he wasn't careful, this could turn him into a very paranoid man.

Chapter 63

As she walked back, her thoughts wandered between concern for Juanita, jealousy of Tannin for being all buddy buddy with the director of the whole damn agency, and a burning curiosity for what the whole situation was about.

“So Tannin. Wa's going on wit Juanita. What did you do to her? And 'ow is it you and Zelega are suddenly bes' friends?”

“What?!” it was so frustrating. Why did she just naturally assume that everything that happened was his fault.

He knew it would be the first thing to come up when he returned from Zelega's office. He told her the story of the previous day, (except of course about the alien part).

“Look. Zelega is jus' grateful dat I found de spy, an' it wasn't nobody's *fault* except maybe Juanita.” As soon as he said it, Tannin was filled with his own bubbling cauldron of emotions. He thought of what might happen to the girl, and whether he'd ever see her again.”

“So she was a spy?! Wow, and de great Tannin Boldóne, private eye cracked de case” she sarcastically responded.

“Elenin, why we got ta be enemies like dis. You de only Jamaican I know 'ere in Sao Paolo an we can no even have a seengl conversatun widout getting into a fight.”

“Okay. So you did a great job finding de mystery spy. I take it back, dey should give you a raise.

“You're dam right de should give me a raise!” he was losing his temper, and right now he just didn't care.

“Can you imagine what coulda 'appened if some uder country 'ad learned about de drive? We'd be back to buyin second-rate rocket engines from Rússia.”

Between the incredible discovery, his concern for Juanita, and Elenin's harping he was boiling over.

Finally he blurted out the only thing that he thought might impress her enough to quiet her (not realizing that he was only fueling her jealousy).

“An Zelega, did say I could get some pointers on my astronaut training from Marcos Pontes.” he countered

“So? Who's dat guy?”

“Seriously? You don' know Marcos Pontes? An here you be actin so smart. He was Brazil's first astronaut. He's been to de ISS and he was de first person to reach orbit on a SASA rocket.”

“Oh. Well I guess you becoming *real* chummy wit Zelega now.” It wasn't clear what was fueling her anger, but he was thinking that he'd better leave the room before he either said something he would really regret, or got his ass kicked.

“I was told dat you're trusted to share 'de details of my drive specifications. I hope Zelega isn't making a mistake on dat.”

And with that she left the room and Tannin went the other way just as quickly, knowing he was well past the boiling point now. Even though he believed he'd never let her down, it just seemed impossible to talk to the woman. He almost ran down several people on his way to the facility gym where he took out his fury at a punching bag. It took a good 40 minutes and he was soaking and exhausted before the rage was gone.

It was so eerie. What was it that made her act so mean. He'd tried to say nice things to her once in awhile, but everything he said just seemed to get her upset. It was like he could never do anything right no matter how hard he tried.

Chapter 64

It looked like the funding was looking good so far for the Viracocha project. But the numbers weren't as solid for anything beyond.....The phone rang interrupting his thoughts.

“Yes this is Zelega”

“Sir, you wanted to know about the data that the girl Juanita may have discovered?”

“Yes Philipe. What have you found?” he asked with anticipation

“Sir, I had one of the security guys go over there with the police and they said the apartment was trashed.”

“Filho da puta!” he blurted out. Then imagining the man's shocked expression he forced himself to calm down. “Okay, do you know if her laptop was stolen or if our security has been compromised?”

“No, I'm quite certain it hasn't. Juanita was very careful. We found the machine, but it was torched.

There's a small chance that she had data on a disk somewhere, and we're still looking, but I'm reasonably sure that the situation is under control.”

“Philipe, with all due respect, 'reasonably sure' is not going to cut it with el jeffe.”

“Well given the charges and the evidence, the police have given us permission to go through the place after they've finished their investigation. And since they don't suspect foul play, I don't expect them to take long.”

“Okay, that's good news. Be sure you go through that place with a fine toothed comb.”

Next was that message from Domingo.

“Hello Domingo. Yes what have you found?”

“Only a millimeter smaller? Mea deus! I highly doubt the folks at Embraer would've noticed that. I can't imagine what would've happened to the motor on our next launch if you hadn't checked....well let's not think of that.” under his breath he whispered thanks not only to the Jamaican boy who'd found out but to any god he could think of.

“Yes, we're very lucky to have caught this one. I want you and your boys to go over every set of construction drawings sent out to Embraer in the last two weeks. We absolutely cannot afford a disaster

right now.

What? No we're not of the woods yet. ”

“Philippe is still going over the girl's apartment in case she made a copy of the data somewhere.”

“Yes me too. I'll be on pins and needles until he's finished.”

Chapter 65

“Paadie, was up Claudio my man.”

“Yo, I be doin da big mon ting.”

“Whatchu doin wid youself?” Tannin asked, surprised despite their friendship, that the guy who used to hang out on his couch would be a big man at anything.

“Well I be designin concert halls

“You a lie. You no architect mon.”

“No, is a true. Not architecture. I do *acoustics*. Is all bout sound. You memba back home how I was always playin music on sometin. Well now I can make a whole buildin sing mon. I go in der and install panels to absorb or reflect vibrations, change de echo, or absorb sound waves. And I be gettin fat bills far it too mon. We jus finished a big concert hall in New Jersey.” he paused to talk to someone in the room, “An hey was wid you? Why you talkin to me on a Sataday, aint you got a date wid some sexy goodaz?”

At this Tannin thought back to Jaunita.

“Well I thought I was, but it aint gon happen,” he said sadly. “You wouldn't believe de shit I been doin 'ere.”

“Oh I totally believe you doin sheet mon. You full 'o dat.”

“Ya whateva Clouderella,” he knew his friend hated that old nickname and as such used it whenever he could.

“You lucky mon I can't knock you down ova da phone line..... Seriously tho. Was happenin?”

“Well, ya know I been workin at da South American Space Agency. An you remember Elenin. Dat girl always drive me nuts pullin pranks an shit. Well she be workin der. Got some crazy idea dat everyone's talkin bout.”

“So was dis idea das so crazy? We all crazy comin from de islan.”

Well you no believe dis. We doin dese rockets dat is so secret I can' even tell nobody no details. Some secret military stuff. But we be makin dem cheaper dan anyone else, an I be doin trajejectories and matarial tes'ing for des tings an de power is sick mon. Eef you look on de net, you see de press conference dat de head of SASA gave a few weeks back. So as I said, de stuff is all hush-hush. So dis girl I be workin with who got legs like a supermodel, we go on a coupla dates, an den I find out she be a spy tryin to get the secrets to someone else.”

“No way mon. Thas sick.”

“Ya mon. So de head of da whole agency he calls me in and says I done a good job findin out bout dis spy stuff. I tell ya, I be makin a name down h'er.”

“So Elenin be doin dis secreed stuff wid you?”

“Ya mon. Is totally stank havin wark wid her. But da tings we be findin out, just off da hook mon.”

“Well, when dis shit is not so secret no more, you tell me all bout how you was doing it first...kay?”

“You know it mon.”

“Ya, well gotta go. Da girl she can't be widout me too long.”

“Ha, you fool youself.”

“Oh, mon. If only you got a gal like dis....seriously. Supa good talkin you bro. Call again soon.”

Chapter 66

After finally getting out of the office, Elenin hurried over to Margarita's apartment. She had rented a movie called *Sevigne*, it was the best option she could think of given the rainy weather. And although there were plenty of other things she'd rather do with Margarita, she had pushed that thought aside.

Now she sat on Margarita's couch, playing with her beautiful hair while they watched the movie. It was about a woman who has to decide between her husband and a steamy lesbian affair. The English subtitles helped a lot as she was still struggling with Portuguese and got mixed up horribly between it and Spanish. But the hardest part was concentrating on the movie when she was sitting on the couch next to such an incredible woman. It was great to have the warmth of another person next to her. With so much formality at work and few co-workers that she could relate to it was a huge relief to be here with Margarita.

After the movie ended, they shared a couple of glasses of wine.

Suddenly she turned and spoke with a serious expression.

“Elenin, I know that we haven't spent so many months together, but you seem tense whenever we meet after work. Is the job *that* stressful for you?”

“Oh Margarita, let's not talk about work she pleaded. I spend so much time dwelling on rockets, strength to weight calculations, and computer simulations. Let's just *be* together.”

Sounding like a therapist the woman started rubbing her shoulders. “We can if you really want. But I feel bad to see you so tense. It's like you're always wound up in knots.”

Sighing as the massage worked its magic, she thought of how much she could say. “Well as you know, a lot of it is very hush hush. But the main thing that drives me nuts is that guy Tannin. He always seems to get under my skin. Like he goes off today about how he had found out there was a spy at SASA and how he was going through astronaut training and all that...” as she spoke she realized that as tough as it was she wasn't doing herself any favors by blaming externalities. But then she got to thinking, what was it really that made her so angry at him. It wasn't the fact that he'd discovered the mole, although she was just a little jealous. She always seemed to get worked up when he brought up something from back home. “That's not really it.....I just don't know. Somehow whenever I'm around that guy.....my anger just flares up.”

“Okay. Well is he a mean person? Did he do anything to you back home? Is he like a major asshole?” she paused for a minute. “I’ve only met him once, but he seemed friendly enough.”

“Well, not really. He’s tried to be nice....sometimes. But it’s...maybe because he always seems to have the right answer, while I have to work my ass off to get anywhere.... or maybe because he’s the first person to accuse me of being gay back home. I just can’t imagine he wouldn’t have known how dangerous it was for me if anyone found out. That was around the time I left for Peru.”

“And how did *he* find out? Did you come out to anyone else before then?”

“No, de funny ting is he said that a psychic told him, but das impossible. He was always into science. So my friends and I made up dis dare, we were always teasin nerdy guys like him. We kep proddin him 'bout it an callin him a coward until he went to see 'er. But it was probably just an educated guess. We had dis teacher back den, her name was Ms. Chacon. All de guys would be all gaga for her, and I guess I acted de same way. I mean of carse she was much older, but she was really built. Back home we call it 'goodaz.'

“But he didn’t *do* anything to you? Like attack you or anything?”

As soon as she said it there was something in the back of her mind that felt strange. If she hadn’t been really thinking about Jamaica, she would’ve missed it. She tried to grasp at what it was, but whatever the feeling it was like trying to grab at a dandelion seed.

“I...I don’t know. Dere’s just dis really angry feeling.”

“Okay, well I wont pressure you about it. But you know that things are never going to stop being difficult until you deal with this.”

Wriggling out of her lover’s arms, she excused herself and went to the bathroom. She’d said many times how much she disliked psychology. These days everyone was always running to them trying to get figured out. People just wanted someone to do the work *for* them. But she knew she could only avoid the subject for so long.

Chapter 67

“Señor, I was wondering if you knew what 'appened to Juanita. I 'aven't been able to reach her by phone an she's not been 'ere at work even to pick up 'er tings.”

“Oh Tannin. I am sorry to be the one to tell you this. Juanita has died.”

Just like that, the railroad train hit him. He didn't hear anything Miguel said for several minutes. He just sat and stared past the man's shoulder. How could she be gone, just like that?

“I'm sorry señor, what was dat?”

The man heaved a sad sigh, “Well the police found her in a park just west of town with banana spider venom in her. If you're not familiar with that, be glad you're not. It's among the most deadly animals in the world. It's a terrible accident.”

“Señor. I don't mean to soun disrespectful. But doesn't it soun too convenient dat shortly afta she is caught spying on us, de police find her dead?”

“Oh that's right, Carlos said that you were the one who heard that. Well Zelega has the impression that it's foul play, but nobody has a way to prove it. We're still looking for the man in that picture but there are no leads. As much as it saddens me, I can't offer you anything more. I'm very sorry young man.”

Not knowing what to do, Tannin spent more time in the gym working on the punching bag. It wasn't just losing the chance to be with such beautiful woman. It wasn't even the thought that she might have been taken from him just because she was 'inconvenient' to some spy agency, though that was a big part of it. The hardest part was that he would never know if she had liked him at all, or was just using him to get information. The more he thought back to their times together, the more it seemed that she was constantly changing the subject to the rocket. Was that just his newly biased thinking? Was he jading his own memories? It was so damn hard to tell. The only thing good about all these frustrations, was that he was getting in much better shape working out in the gym.

Chapter 68

Once again the team found itself at Embraer. This time it was only a day trip though. The facility had finally rebuilt a sturdy enough gantry framework and it was time for the maiden test.

The four of them stood in the booth watching as the final bolts were tightened and engineers crawled like ants over the entire structure double checking the stability. Finally when the green light was given, the blast shield was checked, the tarmac was cleared, and the power began flowing towards the machine. Thankfully this time the gantry held and the exhaust stayed straight at the center of the blast shield.

“Well, I must say that I'm impressed.” Domingo sat looking over the assembly with great care. “You folks have done an incredible job with the technology. *Thirty thousand* Newtons of thrust. This is a very worthwhile step towards getting Marcos into orbit.”

“Sir, thank you for the praise, but it wasn't just us. There were several other people helping with calculations, computer simulations, airframe design...”

“Yes Xiana. Believe me everyone will receive proper appreciation. But given the secrecy of the technology, it's been our preference to keep the number of people who are privy to the big picture to just a handful...”

“Wait a minute sir.” Tannin couldn't help but interrupt, “Did you say that Marcos is going to test this rocket? Morcos Pontes *himself*?!”

“Yes that's right. He told Carlos that he was excited for the opportunity.”

Tannin just stood there as the blood drained from every part of his body and fell to his feet. His mouth stopped working, and his eyes stood fixated on the engine straining with all it's might against the enormous framework.

“Don't worry Tannin. Not only will both Domingo and myself be checking and rechecking every aspect of the engine and the vehicle, but our top engineers will be going over the vehicle as well.”

“Oh don't worry Tannin,” Elenin teased him quietly, “You're only taking the life of your greatest hero in your hands, that's all.”

“Please excuse me.” he went off to an unused testing lab, put his head in his hands and just let his mind whirl. What could he do? Pontes was a legend in the industry and he was partly responsible for making sure the man remained safe on top of a fireball of plasma. It was terrifying.

Finally the engine whine cycled down and the test was complete.

They walked out of the observation booth to stand beneath the enormous engine.

“It is truly amazing.” Domingo observed, “Not only is it providing millions of Newtons of thrust, but it's holding rock-steady for a full 10 minutes. That should be more than enough time to reach orbit.”

“And the efficiency is truly stunning.” Miguel commented. “We'll leave the unit in place for now. I'm sure that Carlos and some of the senior staff will want to see this baby run.”

Chapter 69

It was just impossible. Here he was in the flesh. Tannin couldn't drag his jaw off the floor much less come up with something to say to the man.

“So I hear you're the newest rising star here at the agency.” Marcos put out his hand.

Tannin had to will his hand forward and yet couldn't keep the trembling out of his fingers.

“Y-yes sir. I've read all about your career sir. It's an honor to meet you.”

“Well that's quite flattering. I can't say that it's much to brag about compared to you.”

Was he really hearing this?? And from the first man in the whole continent to go into space??

“Sir, you can't be serious. I'm just a technician. I sit at a desk and do vectors and such...”

“Well then let's get working on your training. Keep at it and maybe we'll both be riding into space on one of these amazing new rockets.”

“Sir...I er...señor Pontes.” his brain was creating the sentences, but somehow the connection to his mouth was getting the hiccups. “I 'ave to confess sometin to you. I am only a technician and not fully in charge of de project. But I'm terribly scared. I mean if any of us make a mistake on the rocket, it could mean your death.”

The man smiled broadly and sat down, motioning for Tannin to do so as well.

“Young man. Each and every one of us is imperfect. You make mistakes, I make mistakes, Zelega makes mistakes. That's why there are hundreds of people working at SASA. Each person double checks the work of another and in this way we do a pretty good job of keeping ourselves out of trouble. There's no golden contract that Zelega gives me that guarantees I will complete the mission with no risk at all. Life would be boring that way. But we each do the best we can to not let the small chance of failure stop us from experiencing the thrills in life.”

It was like living in a dream. They spent almost an hour discussing everything from zero gravity and safety procedures to techniques for keeping cool under pressure (or sometimes no pressure).

It took awhile, but his simulator trainings were steadily improving and he was feeling more comfortable in both the VR machine and the g-force simulator. He was even reaching proficiency with getting in and out

of a space suit without looking like a chimpanzee.

Chapter Seventy

After being on hold for what seemed an eternity, he was finally put through to El Presidente Jimenez.

“Good morning sir. I'm happy to report good news to you.”

“Yes, it's about the drive. We've completed several full-scale tests of the engine and the airframe. Both are performing at or above expectations.”

“Yes sir, we're under budget to boot, though the margin is small. The engine is amazingly efficient. The largest cost for the test was reinforcing the support structure to handle the enormous power.”

“Well Pontes said that he would be honored to be the test pilot and I'm having my senior technicians go over all aspects of the rocket to ensure his safety.”

“I'm well aware of the risk sir. I've not forgotten about the Lua satellite. It's unfortunate that we couldn't just tell the public that it was intentional.”

“Yes of course sir. I wouldn't dream of allowing that information out.”

“Well I've been in constant contact with my financial officer and it looks like the income boost we're receiving as a launch supplier is quite lucrative. In addition to Greece, Morocco, Turkey, and South Africa, we've recently made contracts with South Korea, Italy, Sweden, Egypt, Saudi Arabia, and Mexico.”

“Yes, I imagine the Rússians are not the least bit happy about this.” as soon as he said it, he thought about the girl trying to leak information. Maybe it was the Russians who hired her. Obviously there was no need to tell President Jimenez any possibly incriminating events if it could be avoided.

“No sir, we haven't set an exact date for the official launch. But we will let you know as soon as we're close to completion of the launch vehicle.”

“Yes sir. Thank you sir.”

The conversation ended mercifully without any bad news. It looked like the incredible dream of both sending a Brazilian astronaut into space *and* investigating the alien cave was that much closer to reality.

Chapter 71

“Hey Tannin, you want to go watch Brazil's fútbol team kick some ass over at Guido's?”

“Huh?” he wasn't really paying attention, he was still daydreaming at times about Juanita. “Yah, sure. No pro'lem.”

He liked Johan. The man was one of the few people he could easily understand. He'd been born in Mexico, but went to college in Florida so he spoke English well but also got to hang out with lots of Caribbeans.

They headed down to Guido's which was one of the nicer bars in Sao Paulo. It was dimly lit by magenta lights around the perimeter and logos for various local beers decorated the walls. As they walked in, Johan waved to the bartender. The two had been friends for many years. That's why he liked this place so much. They chatted a while before the game about work and stuff. Johan was a tech in data recovery. Any data needed from any of the satellites orbiting the Earth had to go through his team to be converted to images and data.

“It's especially difficult to get the infrared info from the Hubble. Downloading that, converting it, then saving multiple copies and all. Man it's a royal pain you know?”

“No mon. I never knew dat....”

He was about to finish when he caught sight of the SASA logo on the news vid.

“Hol up a second. Dey got SASA on de news.”

“...as more and more countries are signing up to have the South American Space Agency launch their satellites. Despite competition from Rússia's space agency, SASA continues to sign contracts. Their revolutionary new rockets and the drive system it runs on have cut costs up to a third for an average satellite. SASA's PR spokesperson says that this funding increase has allowed them to begin development of their first manned launch.....”

“Ah sheet!” he exclaimed as the bartender switched the channel to the fútbol game. He'd have to go look

up the news story later. For now he and Johan could watch as Brazil's world renowned fútbol team made Argentina eat crow once again. The whole bar was in an uproar, with lots of celebratory drinks going around.

“I cannot believe that. Dos Argentinians don't even know how to make a goal. Ha.”

“Seriously, Brazil has the best fútbol team in the world. It's almost pathetic how easy they win.”

They each had a couple more drinks to celebrate and wandered off separately.

Realizing he forgot his backpack at the office, Tannin went back and looked up the news article while he was there. It only took a few minutes to find.

“has allowed them to begin development of their first manned launch vehicle with the new engine. The Viracocha program, as it's being called will involve only a one-stage rocket, which is set to be built by our own Embraer Aerospace. A decision contested by Kaisara of Argentina which contends that Embraer won the contract in a no-bid contest. PR director Selena Selgado has confirmed that Marco Pontes is expected to be the test pilot for the first manned flight of the new drive. If SASA can continue to build on the success of this program, they could open up a new golden age of space faring based in the Southern Hemisphere.”

Chapter 72

“Welcome senior Zelega. It is a pleasure to have your visit to our facility.”

The older man had put his best face forward for the visit. And it wasn't surprising. Embraer stood to make an enormous profit if these orbital launch vehicles took off.

They stood outside under the chilly August sky next to the enormous Yuku rocket.⁴ Final testing was still being done on the capsule.

“The rocket looks very well constructed.” Carlos thought this was a fine neutral comment.

“How is the safety testing progressing on the two units?”

“Oh excellently señor. My team has brought in a group of the best inspectors from the Peruvian Air Force. They are, after all, the people most familiar with the technology.”

Carlos was impressed. The man clearly understood the best way to certify the sturdiness of the rocket without compromising the secrecy.

“You've shown true wisdom in that choice. And have you tested the thrust to full power?”

“Absolutamente! We built a special testing frame and ran it up to 300 kiloNewtons.”

“Thats it?! Manuel, you've got a man's life and over a billion centavos riding on this project. I don't want to see this man burn up in the atmosphere if there's a problem. This leaves the barest edge of a safety margin. I don't want to see this rocket leave the facility unless you can prove to me that it's capable of 400 kiloNewtons of thrust.”

He stopped and regained his composure, “My apologies for the loss of temper. I understand that your team is doing an extraordinary amount of work and that the technology is cutting edge. Please realize that we did our own test of the drive, as you may remember, and brought the power up to 500 kiloNewtons of thrust. I would like to see at least proof of 400 from this motor before we risk Pontes' life and our reputation.”

The man sighed under his breath, “Yes señor. I will see to it personally. Now would you like to see the orbital module?”

“Yes I would love that.”

Section II

Chapter 73

Finally weeks leading to the launch date were rolling away. The launch vehicle was finished and testing of the Nuxute capsule, was nearing completion. The moon's orbit would be bringing it to it's closest perigee in just under a month. Crews in Pelotas were hurriedly reinforcing the launch tower which was originally designed for smaller unmanned rockets. Several members of the support team were at the Embraer facility to run final checks on the capsule to ensure that everything was within safety parameters. Marcos was also there to familiarize himself with the newer controls. Domingo invited him to view the capsule and the rocket system.

“Marcos I'm interested in hearing any feedback you have on the capsule. If there are any reasonable changes, we'll see if they can be accommodated.”

“It's such a relief to see control systems written in Portuguese.” he commented while looking over the capsule. “I really disliked being in the dark about what was going on during launch on the Soyuz.”

“What do you think of the capsule design?” it was the first time that he'd been able to talk with Marcos in view of the real thing.

“Your team has done a very impressive job, señor. The simulator does not do justice to the sophistication of this design. I feel confident that this will be a safe and uneventful mission.”

To Domingo it sounded like some kind of prepared public statement. “Marcos, do you have any reservations? We want to know that you have confidence in the design and the mission, otherwise we will lose that sense of trust.”

“Well Domingo, you tested the rocket to full power? And it held steady for a full 10 minutes?”

“Yes we did Marcos.”

“Okay. Well then I am satisfied.”

Chapter 74

The huge rocket stood like an Egyptian obolisk in the late morning sun. It's gleaming metal hide became like a second sun to those last few workers finishing up the preparations. The road leading to the Pelotas launch facility was busy with diplomatic limousines as various politicians and a few generals from the Peruvian air force made their way to the momentous event.

“T-minus 4 hours 20 minutes and counting.

The whole team was given seats of honor (as close as was considered safe) for the launch. Tannin thankfully was seated next to Maria and Xiana rather than next to Elenin. In front of them were Carlos and a bunch of politicians and dignitaries. President Jimenez, Hugo Chavez, President Fernandez, Mendieta Othalo of the Mexican space agency, even the Jamaican Prime Minister Portia Simpson-Miller came. Carlos and Elenin both had received personal congratulations from the Prime Minister which was almost as overwhelming as meeting Marcos for the first time.

Finally all cameras were on Marcos as he took the lift up to the capsule and stepped inside. Tannin couldn't get over the realization that he had helped design the rocket which was sending this man into Earth orbit. He'd probably said as much to everyone here at least once. Despite his excitement, he still had intense concern for Marcos' safety.

The control room was a congested swarm of activity. Technicians were nearly drowning each other out reading off technical readings and measurements. Carlos stood at the back of the control room. He thought longingly of his younger days when he had a more direct involvement in satellite launches. For now he watched the activity with a trained ear, listening to anything that sounded dangerous.

“All systems are normal sir. Rocket mass is at 250,000 kg. power systems are looking normal...”

“What about those high winds we were seeing a few hours ago?”

“They seem to have died down at least to within operational levels. It'll be a bumpy ride, but he should make it señor.”

“Okay. You have a green light.”

Carlos had been watching the wind speeds with dismay. On the one hand he had to be careful both for the sake of Marcos' life but also the reputation of the program. But on the other hand if he was too conservative and delayed the launch, it would put a huge inconvenience on the dignitaries who were here to see South America's first manned space launch.

After what seemed an eternity, the technician began the final countdown.

“Dez, nove....” the main engines began warming up and the gantry was lifted out of place. The peripheral clamps loosened and folded away “oito, sete, seis,” the rumble from the motors began to vibrate across the plain, “cinco, quatro, três, dois, um” The engines cycled up to full power and the huge rocket slowly lifted off the pad. It took only a few seconds for it to shrink to the size of a car as it rose higher and faster into the morning air.

“We have a successful liftoff!” cheers erupted throughout the crowd as the technician's words echoed from the speakers.

Even Carlos with his normally reserved demeanor was smiling and patting the technicians on the back.

After a few minutes, one of the technicians addressed him, “Sir, we have Marcos first transmission.”

“Thank you to the brilliant and courageous men and women of the South American Space Agency. We have taken the first steps toward continuing humanity's indelible progress beyond our planet.”

“He must have researched that line for weeks.” thought Carlos as he brought out several bottles of champagne and gave carefully measured amounts to everyone in the room. He still needed them to keep a sharp eye on the capsule for the next few hours.

Chapter 75

Up in the capsule, Marcos relished the sight of the living Earth below. He never got tired of looking at the magnificent sight. It had indeed been a bumpy liftoff. He'd have to take Zelega to task for that. But it wasn't any worse than some of the brutal Soyuz launches. He checked his readings and confirmed with mission control that he had successfully achieved orbit. With the initial mission requirements satisfied, he took a several minutes to just sit and relish the awesome sight of that great blue marble and all the myriad life it supported. His only task while up in orbit was to release a series of micro satellites which were designed and built by universities all over South and Central America. There were some very innovative designs created. One satellite documented the solar wind's interaction with Earth's magnetic poles, another tested a new solar panel's performance in the high-intensity vacuum of orbit, and one satellite was going to monitor the ability of a bacteria to see if it could multiply in space.

He held his breath as he watched the sun fade behind the glowing Earth. In only a few minutes he would see that sun reappear on the far side. It was truly a momentous experience and worth every second of worry, politics, and technical data.

Chapter 76

“I can't believe you helped launch a human being into space.” Margarita said dreamily as she toyed with Elenin's hair. “I still can't believe it went so perfectly.”

The restaurant was nearly deserted on such a cold August night. Which was all the more comforting.

“I still can't believe the man was foolish enough to put his life in our hands.” that got both of them laughing which was partly induced by the fancy cachaca drinks.

“So now that you've gotten your rocket built, what does Zelega have you working on now?” she said after a mouthful of swordfish.

“Well Margarita, it's odd. I would 'ave thought dat de program would be expanding to a reusable shuttle, or a module for de ISS. But instead dey wan me to develop a more powerful rocket but dey're not telling me what it would be used for. All dey're saying is dat it's very big. They want to lift 70,000 kg into orbit and still have power to spare.” she paused and took a stab at her chicken. “Dat's bigger dan de Apollo missions”

“Wow. Maybe you'll be the first lesbian on Mars.” she started giggling uncontrollably.

Elenin was very grateful that Margarita wasn't an annoying drunk like some of the guys back in the air force. They both laughed together and cuddled throughout dinner.

“You know Margarita,” she took on a serious tone. “I really love you.” It was thrilling to finally be at a point in their relationship where she felt she could say that without sounding creepy.

“Oh Elenin sweetheart, I love you too.”

They held hands for what seemed forever while splurging on a huge piece of devil's food cake.

“Will you still love me though when this cake doubles the size of my ass?” Margarita asked after a mouthful.

“I'll love you twice as much squared.” and she started giggling again. Being with Margarita made her feel younger than when she was in La Universidad.

Chapter 77

Carlos walked into the room in boisterous spirits. Now he didn't dwell on the drab materials or budget reports. He was twenty years younger and letting his mind roam the galaxy, dreaming of alien spacecraft and warp drives.

“We all have cause for celebration today. In just a couple of years with the help of the new drive system we've gone from a 'third world' space agency lifting one or two satellites a year to a respected player in the world space society, surpassing Rússia as the world's leading orbital lift service. Señor Pontes, your position as a national hero is reinvigorated and the PR bust from the lunar satellite is a forgotten memory in the public eye.”

Carlos was beaming more regularly than ever as he spoke to a larger group now about their ultimate goal. Marcos had been as equally amazed as everyone else when he saw the images from the lunar satellite. Now he was exhilarated by the chance to find out once and for all what greater secrets lay ahead.

Okay. How are designs coming along for the Nuxute descent vehicle?”

Xiana took her turn now. “We have a solid design which is closely modeled on the Apollo lander but incorporating the nazca drive and more updated computer systems. It should be a much more comfortable ride for the astronauts given the decades of research into maintaining human biology in zero-G.”

They spent the next 90 minutes discussing mission logistics, capsule design requirements, and life support. It was an exhaustive list of equipment and task requirements.

“Okay Xiana you work with Maria and Miguel on the lunar descent module, Luís you can develop the shelter and airlock, Domingo I want you to supervise Elenin's development of the main rocket. Oh and check in to see how Tannin is doing with the drill.”

“I would like to bring up a suggestion,” Luís spoke up, seemingly with an as-yet undemonstrated confidence. “The Apollo program contained three segments, the Command Module, Service Module, and Lander. If we launched something similar to the Rússiaian L3 into lunar orbit we would have a continuous

feedback from the site.”

Sounding very impressed, Xiana's spoke up. “Luís you should speak up more often. You have quite an encyclopedic knowledge of spacecraft design. Could you elaborate on the Rússian program?”

Luís, blushing a bit from embarrassment, fumbled for a minute before continuing. “Well the Rússians didn't actually land cosmonauts on the moon, but they did have a program in place during the 1960s towards that end. They developed early versions of the Soyuz lift vehicle and a satellite program starting with the L1 which would circumnavigate the moon and provide data which would be followed by the landing of an unmanned L3 which would contain a reserve lander and two rovers. The lander would be a backup escape vehicle for the manned mission. It is my suggestion that we launch just such a satellite to remain in orbit for the dual purpose of facilitating communication and to maintain a backup escape vehicle. If they experience any kind of malfunction...”

“Or hostile aliens.”

Everyone stared steely-eyed at Esteban until he slunk down in his chair.

“As I was saying, the lander hopefully would be unnecessary but you must admit that given the danger of being without direct communication it would be worthwhile for the astronauts to have a craft in orbit which could also get them home.”

Carlos was very impressed.

“Folks, this is wonderful feedback. I believe that we'll publicize the launch of the lunar satellite with the cover story that it's an exploratory mission to follow up on NASA's Lunar Prospector spacecraft. In fact that's partly true because if we're going to have a moon landing on the far side then the interaction of the Earth's magnetic field is something that we're going to have to study.”

Now it was time for Carlos to let some of the supervisors share the stress and responsibility.

“Okay, Francesco, how many people do you think are minimally needed to develop a mission such as this? I'm happy to let you take charge of personnel. Obviously we do not want to increase the number of people in the know if it's at all avoidable.

“Obrigado señor Zelega. Well so far we have myself, Esteban, Maria, Luís. Miguel, Domingo, Artise, Xiana, and Domingo...”

“Don't forget the young Jamaican...Tannin,” as soon as Carlos said it there were audible gasps from those who hadn't heard about the security leak.

“I realize that that most of you find it radical to share such sensitive information with a 2 year veteran at the agency.” Carlos briefly filled them in on the events surrounding Tannin's discovery of the leak, “and while I recognize that it's risky, I see great potential in the young man. I have also made the need for secrecy *very* clear to him.”

Now it was Francesco's turn to be both surprised and impressed, “well with a recommendation like that it sounds like you would want him on the team, is that right?”

Carlos saw the effort to shift the responsibility and wisely let the man tread water on his own, “I have my own opinion Francesco. But I will give you freedom to make your choices.”

“Very well sir. I would include everyone except for Artise and Maria who have been the least involved in the development of the nazca drive.”

Domingo spoke up next, “Sir, you brought up the issue of the security leak with the woman Juanita. Has there been any word on the search of the girl's apartment? We would be devastated if the data that she obtained were to turn up somewhere.”

“I must apologize. Yes Philipe followed my instructions and thoroughly searched the place for any copies or data cards. There was nothing found in the apartment, but there was a data card found in the machine which nobody else saw. She must have been in the process of trying to copy the data when she discovered that she was in danger. The card was not catastrophically damaged and there was one image on it. Which means that her attempt to share the data was not successful.” with his response there was an audible sigh of relief around the room.

“Thank you, and now if there are no other issues I have a phone meeting with 'El Jefe' in little over an hour

to brief him on our progress.” there were a few snickers around the room at that.

Chapter 78

“Boa tarde El Presidente.”

“Boa tarde Carlos. I hear through the news organizations that you are doing a very successful job of moving forward.”

“Obrigado sir. Yes we have been very lucky in securing numerous contracts not only with space faring countries but even with some of the larger universities. The cost of lofting satellites has become very much more affordable.”

“You are too modest Carlos. You deserve to take credit for assembling a wonderful team over there and you have impressed myself and many other local leaders.”

Carlos was taken aback by the praise. President Fernandez did not have a history of being so complimentary with the scientific community. This was quite an impressive shift.

“Muito obrigado sir. I am very proud of my staff. We have developed enough funding to begin mission planning and development for the Chía project. I should be able to begin planning with Embraer on vehicle design and development in a few months. We're really doing it sir.”

“I am very glad to hear that. Your progress is praiseworthy and I look forward to attending the launch when that point is reached.”

“Absolutely sir. I will keep you appraised.”

Chapter 79

Tannin was called into another supervisor's office. This time it was someone he'd never met before. Someone named Francisco. It was a huge relief after the conversation with Zelega to not feel so much dread about these increasingly frequent summonses. This had to be about the alien project, but he didn't know how it would involve him. He walked into an office not dissimilar to Domingo's but with more space art on the walls.

“Boa dia Tannin, come on in,” the project leader said with a smile.”

“Obrigado señor.”

His tone changed to a more serious and somber note, “Tannin I'm told by Zelega that you have been included in the group which is in the know about the Chía project. While I may not agree with the man's opinion, the decision is made. He obviously thinks that your capable of both maintaining the secrecy of the mission and continuing to play an essential role in it's development. I hope that he has been crystal clear with you how much is at stake with this project. Not only with regards to it's secrecy, but also it's success. The reputation of this entire agency could be put in jeopardy if something were to go wrong here.

“Yes sir. Señor Zelega 'as definitely made de impotance of dis mission clear. I will not let you down.”

“I am sure that you wont Tannin. To that end, I'm giving you the opportunity to work on a new application of the nazca drive.”

Tannin must have shown some surprise at this. The man backtracked and explained a bit first.

“As Carlos mentioned to you, the cavern which was discovered is estimated to be 30 meters below the lunar surface. I don't know how familiar you are with drilling technology, but here on Earth, drilling typically uses water, and plenty of it, to keep the equipment cool. That wont be possible on the moon of course. Therefore we need to develop a means of getting down there without transporting huge amounts of coolant. I'm putting you on a team with Domingo and Maria to develop either a nazca-powered drill, or an equally viable alternative.”

“Thank you sir. I'm flattered by dis oppatunity.”

Of course. Now Carlos isn't thrilled about putting all of our eggs in one basket with the engine, but there will be a backup drive system for the mission so if something god forbid does go wrong it wont be a catastrophe.”

“Really señor? De lander is going to have a backup drive too?”

“Well no. But as you of course realize, it's not possible to have direct line of sight communication with the far side of the moon. So we need at least a satellite to relay the radio signals. So rather than create a piece of equipment for that purpose alone, we're planning to send a small nazca powered lander into orbit ahead of time. In addition to having the drive system, it will also have radio equipment to relay messages to the team over there.”

“If I may ask, is dis to be a manned mission, and are you looking to create a hole lage enough for a 'uman to descend tru?”

“That's a good question young man.” he paused as if debating how much to say but after a moment he continued, “we are in fact looking to make this a manned mission. However to be honest we haven't deemed it safe enough to allow anyone to descend into the cavern. There's simply no telling what could be down there.”

“Dat makes sense. Who knows, maybe de act of drilling down into de cavun could destabilize de ceiling or someting. So 'ow is it dat you and Domingo ah putting me on dis project without Elenin? Does dis mean dat she will be leaving SASA?”

It was odd that they wanted him to work on the drive without her inclusion. Though he wasn't sure if her absence made him feel better or worse. It was after all a very complicated drive.

“Tannin, your understanding of the mission challenges is impressive. No Tannin, your friend will be continuing to work with Miguel on a larger and more powerful lift vehicle based on the drive for the purpose of lifting the lunar module into orbit. Now please report to Domingo and let's see what options can

be developed.”

Chapter 80

Working with Domingo was worlds easier than working with Elenin or Juanita. The former was always stressing him out and criticizing him and it was hard to concentrate when he was always wanting to drink in the sight of Juanita. They first ruled out all of the drilling technologies which required copious amounts of water or other coolant, then they eliminated the fringe technologies which were too new to be reliable. Unfortunately there wasn't much left besides the nazca drive. Eventually both had to admit that it was the most viable option.

“Da big question sir, is wheder o' not we can use the launch motor to also drill de hole.”

“Tannin, you can call me Domingo. And I do not see how that would be possible. The configuration of the motor which you developed with Elenin has been designed for thrust. However in order to create a hole to the cavern, we must convert the outward pressure into either heat or rotational velocity.”

“Yes si..Domingo, howeva if we use rotational velocity den we still need some way to keep de drill su'face cool enough.”

He thought for a minute about the research he'd been doing on drilling options.

“De Slovaks 'ave come up wid someting called electric plasma drilling. Is not so efficient, but das because dey 'aven't perfected de magnetic fields so well. If we can use de nazca drive to create de electric field instead of directing it for thrust, den we should 'ave a drill dat can work widout lubrication an would vaporize de rock instead of letting debris pile around de work area.”

“Very good work Tannin. Let's develop that idea further and bring it to Francesco and the others.”

Chapter 81

He had to control his breathing and hold the panic down as he fought the drowning instinct. The water rose above his chin and mouth and finally above his line of sight as he was lowered underwater by the crane. Despite having a bubble of air around his head and the suit, it was still disconcerting to be lowered into the water this way. Whenever he'd gone swimming back home he'd just closed his eyes and jumped in. But

being lowered gradually served only to exacerbate his survival instincts. Gradually though, was successful in keeping calm and focused on the readings within the suit. Air pressure -normal, life support time - 6 hours, temperature - 22 degrees Celsius. Everything was operating perfectly.

“This is Tannin Boldone, all systems are functioning perfectly.”

“We read you loud and clear Tannin.”

Okay, radio check is fine too. Now on to the task at hand. He had one hour to maneuver to the capsule and repair whatever was preventing the communications antennae from rotating. While he was aware of what the problem was, he wasn't told where the antennae was located on the capsule. It was expected that he knew enough about the module to find it on his own, and this time he'd be using real tools and working on a real (though retired) capsule. It took longer than he expected to make his way to the right spot. While maneuvering thrusters would help him in space, they wouldn't work properly in a marine environment. He found the servo motor and was able to free the piece of debris which had been jammed in there for the sake of the test. He also calibrated the antennae so that it could face the ship.

It didn't take long and the air reserve was less than one third depleted when he radioed that he would be coming up in a few minutes.

His thoughts were interrupted by a flash of color just inches from his face. He swatted at whatever it was instinctively and was faced with what looked like a flattened crocodile staring at him through his visor. The body looped multiple times around his leg and despite his neutral buoyancy, was pulling him down with amazing speed. The thing was enormous, not that he could get much detail with the limited vision his suit offered, but he set his visor-cam to continuous record as he wrestled to keep from being dragged too far down.

“Control ship, dis is Tannin, I seem to have made a new frien' down here. It looks like he wants me to stay and visit for awhile.”

“Tannin, don't play around. You know full well there are two more people waiting to go down for their test. Come on, we've got a schedule to keep.”

“Um. Why don you tell dat to dis guy.”

He radioed them the images from his camera as he tried to wrestle the enormous serpent off of himself. Finally having no success with the limited mobility of the suit, he resorted to unclipping the neutral buoyancy weights that had been strapped to his waist. The remainder of air reserves was enough to give the creature more of a struggle, his descent slowed to almost zero.

“Meu Deus Tannin! That thing looks enormous. We'll get a diver down there to assist you.”

“Thanks a lot. I've dropped de neutral buoyancy weights an' my air reserves are giving de creature quite a struggle. If I keep breathing shallowly, de air I have left should tire de thing out.”

Finally the creature must have realized that it wouldn't be able to eat this particular animal and uncoiled itself. Tannin moved himself around to film the creature as it stretched itself and swam away.

“Are you okay young man?”

Louis, the manager of the simulation exercise pulled off his helmet for him as the crew quickly removed the camera to see what the creature looked like.

“I'm fine, thanks. Dat ting was amazin. It must'a had de strength of a shark.”

The whole group crowded around the screen as Tannin's camera showed what looked like a snake, but with the flattened crocodile-like head. It appeared to be over 2 meters long and almost 10 centimeters thick.

Not surprisingly nobody else was interested in performing the test that day, so they headed back to shore. Perhaps this was the reason that the other countries performed their neutral buoyancy tests in a pool rather than in the ocean.

Chapter 82

This time the meeting room was mostly empty. Only Carlos, Fernando, Miguel, Domingo, and Maria were there. None of them were smiling.

Carlos used his best disarming shrug to soften the blow. Well it's taken some time, but I finally received detailed telemetry from the Lunar Reconnaissance Orbiter. I'm afraid it doesn't look good. The largest flat area within a reasonable distance from the cavern is a large crater about 40 meters across.

“It looks like Marcos will need to spend plenty of extra time in the simulator.”

“No kidding. I'm wondering if it would've been easier if the cavern had been underneath one of the poles.”

Hoping for some good news, Carlos asked pensively, “Okay, what else do we have?”

Thankfully Miguel had some, “Sir we do have the simulator calibrations running. All I have to do is plug in the data from the NASA satellite and Marcos can spend as much time in the simulator as he needs.

“Okay, how are the orbiter designs coming along?”

Miguel pulled out a sheaf of paper, “Sir, my team has the basic schematics worked out. We have enough room for three astronauts, components for life support, food water oxygen, and a generous storage area for anything interesting in the cavern..”

“How long do you expect the trip to take with the nazca drive?”

“Well sir, conventional rockets took 3 days. Elenin tells me that her rockets will lift with more efficiency in the atmosphere, but that the time to reach the moon will not improve much beyond that. Given that, I estimate it may take two or two and a half days to travel from Earth orbit to Lunar orbit.

“Okay it sounds like we're on track. So we'll get the simulator up to date with the LRO data, get Marcos to put in copious hours, and...who else are you thinking for going up there?”

Miguel raised his hand, “How about Christopho Diaz?”

“I would suggest Franchesca Adolpho.”

“Very good suggestions. And as a backup I would like to suggest young Tannin.”

At that the room exploded with interruptions.

“Sir, you can't be serious.”

“Now now people. I'm only suggesting him as a backup. He's already volunteered for astronaut training, he has an impressive intellectual background, and most importantly by having him we don't have to expand the number of people who are aware of the drive. After all, it's not like we have a great number of astronauts in the program so far. SASA is still fairly new.”

“But sir, he has no flight experience. With all due respect, shouldn't all the crew members have a thousand hours of time inside a cockpit case something goes wrong.”

“Hmm. Yes, that's a very good suggestion. I'll make sure he spends time in a flight simulator and get him crunching on a pilot's license.”

He knew it was an unpopular decision, and honestly he wasn't entirely sure himself why. But it just felt right to have the young man on this mission. He seemed to have an instinctive gift for problem solving in a wide variety of fields.

Chapter 83

What in the world was he doing here? It simply made no sense. But the email had made it very clear that this was considered a priority. Besides, it felt like he was getting paid to play a video game. He spent several hours in the simulator learning to teach his muscles to instinctively respond to what his mind already knew about avionics and physics. It took a few weeks, but he was eventually able to get the Neiva⁷ trainer to perform comfortably. But then he had to learn to practice on the larger Embraer jets as well as some European planes.

After awhile he started to recognize the handling of the different aircraft and the power available in each. But it was awhile before he came near anything in real life. After all, his only experience with planes thus far was the one that brought him to Brazil in the first place.

Finally one of the test pilots, a woman named Tania gave him permission to get into the cockpit of a real plane. It was the same Neiva trainer he'd started on in the simulator, and he wasn't ashamed to admit his fear at having real world control of the plane.

“Okay Tannin. I know that you're nervous and that's just fine. You can see that I have a whole set of controls, so I'll be able to take over at any time. Don't worry, I won't have you taking off and landing right away. I'll keep the controls for the first few flights and let you get comfortable with level flying before we go into other maneuvers.”

Her words were only mild assurance as he looked over the cockpit which unfortunately didn't look as familiar as he hoped. They taxied down the runway and he had to fight that familiar sinking in his stomach as Tania increased the speed and the nose tilted up. The ground dropped away and soon she handed the controls over to him.

“Now Tannin, I want you to just do some turning right and left and then changing our altitude. You don't have to worry, this airspace is just used for some of the wealthy private plane owners so there won't be any other traffic today.”

It actually wasn't too bad for just flying at altitude. He practiced banking, ascending and descending several times until Tania felt he could handle the plane. It was just exhilarating to feel the little plane turning and moving at his command.

“Wow Tania, dis is truly incredible. I's totally differen dan being in de simulator. De whole plane moves with just de barest turning of de controls.”

“Yes it sure is. There's nothing like the feeling of playing with these little planes and enjoying the sheer thrill of banking and maneuvering the aircraft.

After some time letting him get used to the controls, she became more serious. “Okay Tannin, now we'll give you a little challenge. Go ahead and line up the plane for landing. Don't worry, I'll take over for the actual landing itself. That's the hardest part. Just do a wide bank until you have a straight path to the runway. ”

It took some time but he got the plane lined up and on a descent path. He had to be careful to keep from overcompensating with the controls, but Tania had an approving look on her face.

“Okay, that's great for now. I'll go ahead and grab...” she moved the control yoke more and more violently to no effect. Finally she spoke with rising fear, “Tannin, my yoke doesn't respond. You'll have to take her back up so we can switch seats.”

“Well let me see if I can ease her down.” he gently pushed the nose down and felt increasingly confident as the plane slowly descended.

“Tannin, you really don't have the experience to be landing so early on.” but the plane continued to stay lined up with the runway and the descent speed was fine.

“Watch your speed boy. You've got to slow it down.”

He missed the first and second marker, but touched down on the third marker, reversed the power, and coasted to a stop. It wasn't until the plane finally stopped that he started shaking uncontrollably.

“I...I don't know how I did dat.”

Suddenly Tania gave him a big hug and all he could do was grasp her in disbelief.

“Tannin, that was really incredible. I've never seen anybody land a plane so well with just flight simulator

experience. You made a very professional landing.”

As she finished speaking Tannin noticed that *she* was shaking a little too.

“Were you scared Tania?” and as soon as he said it, the enormity of the situation hit him, “Oh my got! I landed de plane. I landed de dam plane! By myself.”

For several minutes they just sat looking at each other, the bond of serious danger having played it's effect. Then Tania regained herself and showed him how to taxi the plane around.

“You can be damn sure I'm going give the service crew a serious piece of my mind when we get back.” They switched seats and she flew the plane with much less joltiness back to the Embraer facility.

“Hey would you want to 'ave some lunch when we get back. It's been a long morning”

“Oh thanks Tannin. But I do have a boyfriend....I hope you didn't get the wrong impression.”

Now it was his turn to be uncomfortable, “Oh..um I wasn't asking you out. I just wanted to know if you wanted to share company...you know friends.”

“Oh, well I guess that's okay.

Chapter 84

“Hi Mudda. 'Is so good ta tak to you.”

“Ya, I made some supa good friends 'ere an de job is doin good.”

“Oh you saw it on de televisun? Wasn't dat an amazin launch?”

“Ya de launch wen wid no pro'lem atall. It worked out pufect. An 'ow are you an me bruda doin?”

“Das good ta hear. An you getting de checks dat I sen you?”

“O' couse I don 'ave to. But you'is no makin enuf at de fruit stand fa de two o' you.”

“I is fine. De apar'mens are supa cheap 'ere.” not that she was telling the truth on that one. But it was more important for her mom to believe that she wasn't a burden.

“No mudda, I don 'ave a boyfrien. No worry is no pro'lem.”

“Momma, I *is happy*. You don 'ave ta worry. I go' friends an a good job, I be makin 'istory momma.”

“Yes” she sighed, but not too loudly “I be goin ta church.”

“What?!” she was shocked, “Ow did you know Tannin was workin dere too?” of course it was easy enough to suspect. Her mom was nice, but if the woman spent as much time selling fruit as she did talking gossip, they would be living in luxury.”

“Ya, is true. De boy is a pain in my arse, bu' he be mos' respected at SASA. He be a big mon ova 'ere.”

“What de I mean? Dey got 'im workin on some secret pro'ect dat I no 'ave access to. But *is my damn engine!*”

“I don' know momma. Nobody der is talkin 'bout it to me. All I know is dey got me workin on an even bigar rocket engine den de las one. Dis one could send someone to da moon an still 'ave power ta spare.”

“Na momma, dey wouldn't be goin to da moon. Dey's notin der. De North Americans spen' billions sending guys der an all dey had te show far it was a bunch 'o rocks.

“Well ya, but if I push dem too 'ard dey might be sendin me back to Peru an I..” she almost said she couldn't bear to leave Margarita “I be really getting ta like Sao Paolo.”

“Well is excitin enough jus ta be playin an integral role in de develo'ment o de space agency.”

“Oh okay mom. Well is good ta talk wid you too.”

“I luv you both.”

As much as she loved her mom, it was challenging to both reassure her that she was doing well at the job and also to continue hiding her relationship. One of these days her mom was going to get suspicious that

she didn't have a boyfriend.

Chapter 85

It was only a split second, but he felt the vibration on the floor and heard the slightest creak. There was someone behind him.

Tannin almost jumped out of his skin when the voice came up behind him.

“Sorry there young man. I didn't mean to startle you. I just came by to see how your progress is going.”

It took several seconds for him to settle his heartbeat.

“Oh, I must've just been caught up in de simulation.” he moved aside so Domingo could get a look at the screen.

“So what do we have here.” Domingo grabbed a chair

“Well señ...Domingo, I started working on using de heat from Elenin's drive to melt de rock. It has plenty o' power for dat, but de rock would have to be heated to a gaseous state or it would jus re-solidify when de heat dissipates. There's simply no material dat can survive contact with molten rock. So I worked out dis rotational jet dat can shoot sand or some kind of abrasive.”

“That's very good Tannin. Have you worked on a physical model yet?”

“Well das de next step. I am just watching de computer simulation to test de pressure readings.”

“Okay well, I want you to move forward with testing. This looks very feasible.”

And just like that he was gone.

“I gotta keep from being so tied up with the computer.”

Tannin went down to the fabrication shop. It was always fun to visit his friends there.

“Hello der Suello.”

“Oh hi Tannin. What's new with you today?”

“Well, I been told not to spend my whole life sittin in front of de computer.”

“Who, by the boss man. Hell I could'a told you that without you getting fired.” this gave them both a bit of a laugh.

“So what brings you down to my dungeon good man?”

“Ah well I need a mockup of a small converter to transfer the force of dat engine and direct it into a kind of high abrasive sandblaster.”

“Oh man. You can't be serious.”

“No you're right. I can't be Sirius. A human can't be a binary star, much less de brightest in de Northern sky.” it was a regular joke between the two of them. “Does dat soun like sometin you can do?”

“Oh hell I could have that done in an hour.” the man gave his famous sarcastic grin.

“Well great. And while your at it could you turn a kilogram o' dat steel into gold far me?”

Now the two were making fake punches at each other.

“So what scale am I making this super blaster of yours. And more importantly are you going to use it for evil or for good.”

“Hmm. Well if you still 'ave de first copy of de model engine you made for Elenin, dat should work fine. I'll set it up against one of de nearby cliffs an see what kind of power it can put out.”

“Sounds great. Just be careful you don't take out the foundation of some of those expensive cliffside houses. They'll ship you back to Jamaica before you can say, 'I didna tink dat eet wud do dat.'”

“You know what my friend, you do a shitty impression of de Jamaican accent mon.”

He left his friend in the shop and headed back to work on the calculations that Suello couldn't be allowed to see. If this thing worked as well as the computer simulations, not only would they get down to the cavern effortlessly, but they could apply this to all kinds of fields. Oil wells, water well digging, house foundations, it would be a huge advancement.

Chapter 86

“Miguel my good man. Tell me how the work is going.”

The man sat on one of the comfortable chairs and templed his fingers with a satisfied look on his face.

“We're doing very well in terms of progress Carlos. The rocket is nearly finished over at Embraer, the testing has gone extremely well. The Nuxute capsule is going through final design and development. You must've seen the communications signals from the Nubupe capsule. It should be reaching lunar orbit in a few days. I've scheduled some time with NASA to have Marcos, Christopho, and....and I guess Tannin as well to get some time on the vomit comet. It wont come cheap I'm afraid, but we need to make sure the young man especially is as prepared as he can be.”

Expressing his surprise Carlos sat forward, “What about Franchesca? Is there anything wrong with her?”

Now it was Miguel's turn to be surprised, “you didn't hear? She and her husband are going to be having a baby. She's just gotten confirmation from her doctor that she's about to enter her second trimester. We both agreed that it would be far too dangerous for her to take on a mission with so many unknowns in her condition.”

“Well well. I guess that puts our young Jamaican prodigy in the seat.” I can't say I'm without reservation.

“Sir, there's still time to change your mind. I'm sure we could find someone from the military...”

Now Carlos almost became angry, “and tell them what? Go through the whole revelation with yet another potential security leak? Tell them the details about the drive, which we're responsible for keeping secret. Tell them about an alien cavern and hope they can keep *that quiet too*? No, I may have my reservations, but I think that sending the Jamaican boy up there is less of a risk than sending someone with no experience with the technology.

Speaking of Tannin, what kind of progress is he making with a drill?”

“Well, he and Domingo haven't been able to come up with an option besides the nazca drive. But the boy has taken an invention developed in Europe called electric plasma drilling and adapted that to use Elenin's motor. So far his small scale tests have been quite successful.”

“That's great news. I believe that boy will dissuade all of our reservations.

Now we should start thinking about a launch date. The moon is expected to reach perigee in a about a month. Do you think we can be ready by then?”

“Yes señor. I believe it will be possible.”

“Wonderful. Then let's keep things running smoothly and give Jimenez another great show.”

Section III

Chapter 87

The day that they had all been waiting for was finally here. It was completely surreal to them all, but most of all to Tannin. Nobody was more amazed than he to be actually standing in the elevator and watching the crows, the launchpad, and the enormous boosters fall away below as the comparatively diminutive capsule came down to meet them. He couldn't believe the luck he'd had when he heard that the other astronaut had become pregnant. If not for that, he would be out there in the audience just watching.

Marcos went in first, then Christopho, and finally Tannin went in last. As large as the capsule felt when they were designing it, the space now felt very cramped with the three of them inside. The three gravity chairs had just enough room for a little leg room against the enormously crowded instrument panels. As they got strapped in and settled, Marcos as the captain contacted mission control on the headset. Then each of them assisted with the preflight checklist. All lights were green and systems were normal. But then there was a snag.

“Mission control, all systems are in the green and ready for go.” Marcos put the controller on speaker so they could all listen to the countdown hands-free.

“Hey guys, either you three have gained a lot of weight or there's something strange with the mass indicator. I'm showing nearly 50kg unaccounted for since the rocket was set in place.”

“Concern showed on both of their faces, typically even a small increase in mass could threaten a mission, as fuel was typically the tightest of resources. But with this rocket, there was no serious concern about lifting added weight.”

“It's not a major concern with the nazca drive. But we'll make an additional sweep of the capsule.” Then Marcos turned to Cristopho and Tannin, “Okay guys. Let's carefully look for any unaccounted items or weight which was misappropriated.”

“Maybe it was those calzones you were eating yesterday” Christopho elbowed Marcos in the ribs and gave

him a devilish grin.

“Yea, but you should look at your own stomach before ragging on me.” Marcos could give as well as he could take.

But after 15 minutes of searching, they only turned up the basic essentials like food, and computer systems and life-support.

Marcos turned back to the microphone, “Mission, we don't see anything out of place here. It's not a big deal nowadays. We'll be running the engines partially on solar power once we hit orbit anyway.”

The controller's voice came back on the speaker, “Okay guys. It looks good from here. President Jimenez is watching, so let's give him a brilliant show.”

He then started the countdown as before and Tannin's stomach began vibrating even before the engines warmed up. But once they did, the whole structure shook with the force of it.

“...cinco, quatro, três, dois, um” The engines cycled up to full power just like last time and the huge rocket slowly lifted off the pad. But this time Tannin wasn't just watching it, he was living it. Despite his impression of the complexity of liftoff, there wasn't a lot to do during takeoff. This was mainly because each of them seemed to weigh a ton due to the triple g-force they had to suffer through. Tannin couldn't move anything but his eyelids as he was pressed like a lead weight into the back of his gravity-chair. It was the most terrifying and exhilarating 5 minutes of his entire life. On one hand he prayed the terrible pressure would end, but on the other the excitement was worth every microsecond of discomfort.

Finally the pressure began to ease off and as strongly as the pressure forced them into the chairs, now the lack of pressure was just as surreal.

This wasn't just a few seconds of weightlessness like the vomit-comet, this was full on orbital zero-g.

“You guys, I am so indebted to everyone. Both of you, and de folks on de ground. Dis is de most amazing experience I 'ave eva had. It's jus incredible and beautiful.”

This time it was Cristopho who spoke for them. “Tannin I'm sure I speak for both of us when I say that we are both very thrilled and privileged to have you on board. I wish you a long list of amazing experiences just like this.” When he finished, he looked over at Marcos who nodded.

Tannin spent the next hour glued to the one tiny window taking picture after picture as the great blue and white orb spun beneath them. In the meantime, the two seasoned astronauts went through the final checklist before increasing speed.

“Okay, mission control we're looking great up here. All readings are normal. Altitude 2000 kilometers, speed 7.6 meters per second, oxygen levels normal, solar panel extension..” he checked the computer readings and checked with Tannin for confirmation out of the window, “extension normal.

“Sounds great. You three have a safe ride up there and we look forward to writing a new page in the history books. You are cleared to break orbit at your discretion.”

“Thank you mission control”

Cristopho looked over at Tannin who was still glued to the window, and commented gruffly, “Hey there... yo Tannin.” seeing the boy jump he was satisfied that he'd gotten his attention, “Time to get to work boy. I've been told that you're a wiz with orbital parameters and velocities. So let's have you give a go at it and let us know what's the optimal time to break orbit.

“Um, yes sir. Sorry senhores.”

Getting to the computer he did some calculations as he watched their position relative to the Earth and the Moon. It took about 10 minutes to do the initial math and double check everything.

“Senhores, if we break orbit at 0908.14 hundred hours and increase our velocity to 11.2 kilometers per second we should be nicely on track to head towards the leeward side of the satellite and fall into orbit.”

“What do you think Marcos, it sounds good to me.”

The captain nodded his head and gave Tannin a thumbs up.

Tannin couldn't stop grinning. It was just so incredible up here. And the other two astronauts were very kind.

After about two hours they fired the drive and increased speed as Tannin suggested. Now it was really happening. They were on their way to becoming the first South Americans to reach Earth's satellite.

Chapter 88

“Marcos. I know that you've had a lot of input, along with Tannin here, on the capsule design. Can either of you tell me what this cubby is next to the aft equipment bay? I mean we do have plenty of power with these awesome engines, but I can't imagine they would design anything extraneous.”

Tannin looked at the oblong cabinet and wondered. Somehow he'd never thought to ask about it. He just shook his head.

“I remember there was extra room allocated for samples given the extreme nature of this mission.” he looked quizzically at Christopho, “Why do you ask?”

“Well, when I pushed off from it a few minutes ago it felt like there was some kind of resonance in there.”

“Okay, well feel free to take a look señor.”

The subcommander pushed himself back over to the cabinet and released the pressure latch.

“Filho da puta! It's that Jamaican girl, Elenin.” he shouted

“You've got to be kidding me? Here??”

Tannin was the first person to get over the incredulousness of it. “Well get her out of there.”

What happened next was impossible for any of them to describe, but none of them would be the same.

Chapter 89

She had no idea how long she'd been out for. It was pitch dark in the tiny compartment and her body had been turned to soup by the launch. It was the most terrifying experience she'd ever been through....

That was until now.

Dazed, befuddled, and not a little disoriented by the low oxygen levels, she felt like she was dreaming. It was strange, but it felt very familiar and *very* terrifying. Something told her she was in terrible danger, that this nightmare was far worse than anything a book or movie could portray. Her body was filling with adrenaline, but in the cramped space there was no release for it.

Suddenly the inky blackness was pierced by a light. It was dim, and showed just a vague silhouette. A face, man's face looked down at her and all she heard was cursing, her name and 'get her' before a hand grabbed for her and started yanking.

In an instant she knew what was happening. *They had found her.* She thought that the hiding spot was safe, that nobody could possibly find it. But now her one last hope was extinguished, just as her own life soon would be. And no amount of Ju Jitsu could protect her against such horror.

But as she was being dragged out she focused her attention on the face, the man's face. As soon as her limbs were free she attacked.

Her fists and legs were a whirlwind of motion. She barely registered the fact that her body was not responding properly or that she wasn't actually touching the floor. She just grabbed onto whatever she could and focused her rage on that man's face.

Chapter 90

It took both of them the better part of ten minutes to pry her powerful arms away from poor Christopho. He was barely more than a blood soaked hulk. They managed with all their effort to get her into a gravity chair and strap her in. Marcos used his powerful arms to hold her while Tannin managed to find some security netting to hold her in place. It was less dangerous to have an oxygen tank shift at this point than to keep this raving woman secured.

Finally they got her secured and Marcos found a sedative from the med kit and put her out. It was getting hard to see as globules of blood floated throughout the air.

They both turned their attention to Christopho. He was moaning and just floated in a fetal position. “Christopho! Can you hear me?” Marcos held his shoulders and looked into his eye. One of them was pushed so far in that it wasn't recognizable. His nose was equally unrecognizable. His cheek looked like it had shifted and his arms were covered with blood. He moaned feebly but they couldn't get anything else from him.

“What in de hell happen do dat crazy woman?! I've known de girl since she's a kid an she neva done sometin so 'orrible.”

“We'll deal with that maniac later Tannin. Do you have any medical background? We've got to assess what can be done for poor Christopho.”

“Well les get him into de chair an I'll see if dere's a way to test for internal bleeding.”

“I don't know if that's possible, but please do your best. I'm going to have to get in contact with mission control and see if we can get the hell back to Sao Paolo.”

“Is not possible at dis point...”

“Just worry about Christopho! We'll deal with that later.”

Looking over the man, it was hard to say what wasn't injured. He'd been facing towards the compartment when she attacked. So his lower body was okay. But his chest and shoulders were horribly bruised, there would certainly be a few broken ribs. His left shoulder was bent at a sickening angle, which had to mean a broken clavicle. And his head was just horrible.

“Christoph, are you able to 'ere me at all? If you can undastand me can you blink your right eye twice.” There was no change in the man's expression or movements. The moaning had stopped, but that probably meant that he'd simply fallen unconscious.

“Christoph! Come on mon! You gotta stay wid me 'ere!” He tried pinching one of the few unbruised parts of his arm. But there was no response.”

After what seemed like an hour, Marcos came back to the corner where he was working.

“The guys are incredulous. It took me almost 15 minutes to explain the situation between them interrupting and Zelega coming into the conversation..” He looked down at the grotesque remnants of a once proud man.

“Do you think there's anything that can be done for him?”

“Señor, I can't even get a response from 'im. Is like he's in a coma or sometin. If he was at a 'ospital sure they'd take x-rays, an get 'im into a cast. But we don 'ave anytin like dat 'ere.”

“Do you think he'll survive re-entry?”

“Señor, wit all due respect. It's not possible to get back to Earth anytime soon. De drive does 'ave a lot of power, but we're headin towards de moon at almost 12 kilometers per second. We can't jus stop and turn around.” Marcos wanted to be angry at him, but the pain in the young man's eyes was genuine. And he was right too. Even with the best case scenerio, it wouldn't be possible to get medical attention for several days.

“Señor, I am not a doctor or expert, but I would be surprised if he survived until tomorrow.”

His words seemed to echo in the small compartment and reverberate in his head, repeating over and over.

Marcos spoke now very slowly, letting each word have specific emphasis, “Are you telling me young man, that on this historic mission – the first for all of South America – we are going to have the first extra terrestrial murder? *And*, that we are going to have to share a 13 cubic meter capsule with that witch?”

Tannin couldn't manage to look the man in the eye. He felt like he'd let the man down. Like if he'd known more about Elenin, he'd be able to predict what she might do.

“I'm very sorry señor. If dere was some other option, I would be very happy to suggest it.”

He turned back to Christopho. He laid his hand on the man's chest and felt his exceedingly shallow breathing.

“Perhaps we can give Christopho a sedative to slow his breathing an give his body more chance to heal itself.”

The man looked pensive. “Tannin, he's already most likely in a coma. I don't see how it would help him.”

They looked at each other for several minutes.

“Are you sure he's still breathing? I don't see his chest moving anymore.”

Tannin got a small piece of metal and held it against the man's disjointed jaw. But even after several seconds there was no trace of fog. Both of them took turns feeling for a heartbeat without success.

Tannin performed as much CPR as he could without risk of injuring the man even more. But it was impossible to tell without medical equipment whether his organs were functional or not. With his ribs looking so bad, he might have punctured both lungs.

Chapter 91

The burden fell on Marcos' shoulders to announce the sad news to Sao Paolo.

“Sao Paolo control. This is Marcos Pontes do you read?”

“Yes Marcos. This is Carlos, what is your situation?”

“Sir, I am very sad to report to you that Christopho has perished from his wounds. We estimate that he passed away at 11:20 hours.”

“This is insane! How in the hell could this have happened.” the director paused “Wait a minute. What's the state of this woman? Is she still secured?”

“Yes señor. We gave her a tranquilizer and she's strapped to a gravity chair.”

There was quite a bit of cursing at the other end before the director came back on.

“And what of your velocity. I'm guessing that you're too far out return to Earth yet, can you swing around the moon and return to Earth orbit?”

“Let us get back to you on that. We'll have to go through some calculations first.”

Marcos signed off and the two just looked at each other.

“So what do we do now sir?”

“Well the first thing we've got to do is clean every surface of this capsule as carefully as possible. As it is we have a huge contamination problem from all this blood floating in the air. Anything that floats into a computer component can wreak havoc. Grab any extra cloths that you can and scrub every surface. We have to be thorough about this.”

They spent nearly an hour wiping every part of the control panels and screens. They even waved clothes

around the room to catch what remaining globules were still floating. It was a sickening experience. As they were finishing up, their thoughts were interrupted by a high-pitched scream. Elenin had woken up and she was staring horrified at the disfigured form of Christopho.

“Shut you! You just shut the hell up!” Marcos slapped her hard across the jaw. The sudden violence cut her off like a mouse trap. But only for a moment.

“Just what the hell is going on here!”

“You. Young lady have no damn right to ask anything. You just sit there and keep your damn mouth closed.”

Tannin just stared at the two of them. He didn't know what to think. On one hand the woman had just had some kind of psychotic episode and beaten to death one of SASA's best astronauts, on the other she seemed to have no idea what she'd done and was a shocked and scared woman.

There seemed to be no rhyme or reason to it.

Marcos looked at Tannin and sadly remarked, “I'm afraid that we are going to have to escort Christopho to the airlock and provide him with a funeral among the stars.”

There had been no sign of life or activity in the man for over 10 minutes. They checked heartbeat, respiration and eye response. Marcos checked with Zelega and they conversed for several minutes about the man's condition, the procedure for releasing his remains, and whether to proceed with the mission. The last part elicited the most heated discussion. Unfortunately Tannin only heard Marcos' part of the conversation though.

“Sir, I realize that the chance of success is greatly reduced. But I don't think that chance is at zero. We still have two able-bodied and intelligent people who are fully trained...”

“I disagree sir. If poor Christopho is no longer consuming oxygen, then we've only had extra consumption for 3 hours which is within the safety factor.”

“Well we had no idea how long it would take to reach lunar orbit with the capsule because we didn't know

what speeds it would be capable of. The estimate on oxygen consumption was a very conservative one.” he looked over at Tannin with a very serious expression and whispered “Tannin, get me our exact position. And hurry.”

“Yes sir I'm listening.”

“But señor. Are you saying that you'd rather waste millions of centavos at this point? We may not get a second chance at this.”

Tannin checked the computer and did the most accurate guesstimate he could without being obsessive. He wrote it down and handed it to Marcos. The whole conversation was sounding more and more unsettling by the minute.

“Yes. Sir you'll be amazed to know that we've only been traveling for 3 hours and we're already 1/10 of the way there. That means the trip should take a little over one day. We'll have plenty of food/water/air to spare.”

“Don't worry señor. I can keep her out of the way.”

There was a long pause this time before he finally spoke. “Um..I understand sir.”

Finally the conversation ended. Marcos looked like he'd aged a year since the situation began. His eyes were red as he looked at Tannin and the heavy burden of the situation was clearly visible on his face.

Tannin put an arm on his shoulder and for the first time in his life decided that he didn't envy the man one bit. But nothing could have prepared him for what he said next.

“Well Tannin. I hope that you've been happy with your life so far.”

“What?! What in de world do you mean?”

“Well Zelega wants us to circle the moon and return to Earth orbit, scrubbing the mission. I told him that I thought we had the means to carry on and that we could still be successful. He told me that there was nothing he could do from Sao Paolo to stop us if we decided to do so. But, he said, if weren't completely successful that we should not return at all. I'm afraid he may have been serious.”

“Just what in the hell do you mean?!” Elenin's eyes were as big as saucers and it looked like she was beginning to understand the situation.”

“Lady, the next time you open your mouth, I swear I'll let you join poor Christopho in the depths of space.”

“Marcos, please.” Tannin raised his hand in a bid to calm down the captain. “Let me talk to her for awhile. Maybe we can figure this whole thing out.”

“Tannin, if that's the way you want to spend your 30 hours in space. But first I'll need your hand delivering Christopho's remains to the airlock. After that, it's your time. This could be the last time any of us see our homes...”

“Hey wait.” Tannin popped up and almost hit his head on the upper bulkhead. He was still getting used to the physics of space.”

“Whether we succeed or not, there's no that he can prevent us from returning safely. We've got the most incredible blackmail option in the world.” he looked at Marcos uncomprehendingly.

“He means my drive system.” obviously they had both reached the same conclusion.

“Why....you're right. If SASA doesn't want to help us down, there's no question the Rússians or los Estados Unidos would.”

Chapter 92

It was a grim task to bring Christopho's body to the airlock. He still looked like he could be sleeping. But there was no movement of any kind and his body was noticeably cool. Tannin kept hoping he would blink, or make some kind of movement. But unfortunately there was no such thing. Once he was set inside, they cycled the air out and released the outer hatch. Neither of them had the tenacity to look out the window to see what happened to him. He was just there one minute and then gone the next. For the first time since they reached orbit, Tannin had no desire whatsoever to see the view out the small window.

Marcos spent time going over their supplies, checking and rechecking systems, and going over Tannin's estimates of their position and velocity. While he did this, Tannin went over to talk to Elenin. It was an unenviable task, given how she'd treated him their entire lives. But even with they're tense history, he couldn't imagine the woman would do something like that out of malice. Hell, she hadn't even known the guy. There had to be something behind it.

“Elenin. I know you a' scared. I'm scared a w'ole lot too. An I know you is confused an not so sure 'bout what 'appened. But are you willing to talk wid me about what 'appened to you in dere?” he pointed to the still open sample bin.

Something had obviously changed in her. For the first time in their lives, she looked at him with real honest fear. Not just the kind of fear you get from seeing a shark in the water. But the kind that comes from realizing that everything you've ever known to be true in your life has evaporated.

“Tannin. I...I don't know how to describe it.”

He couldn't believe it. For the first time he was seeing her as a vulnerable human being. He held her hand and tried to give her support. At first she reacted like it was a hot coal. But with some some gentle coaxing she let him take her hand.

“Tannin....I jus wanted ta find out what all dis hush hush enagy was all about. I fudged de velocity calculations to enshar dat de team would provide an extra 4 days worth of life support. I figard once we

were out in orbit you'd 'ave no choice but ta fill me in. I was so jealous of you, getting de astronaut trainin, finding de spy, an de pat on de back from Zelega. I figured dat I'd neva get de chance to ride in dese rockets any otha way.”

“I understand Elenin. I don't think anyone with access to the technology would give up the chance to try what you did.”

“Yeah, except you didn't take into account that you were risking *all* of our lives.”

For the first time since he'd known Marcos, he shot him a look of pure anger. As much as he worshiped the man, he needed Elenin to feel trust or they'd never get to the bottom of this. Thankfully it looked like he got the point, because he returned to the computer and didn't look up again.

“It's okay Elenin. Go on.”

“Well, de blastoff musta knocked me out. I knew dere would be high g-farces, but I could no' have imagined 'ow much it would hurt....Anyway I felt totally disoriented when I came to. All I knew was dat I was cold, groggy, and stuck in a cramped box. I saw de door open and de faint light drifting in. All of a sudden, I was relivin some kind of memory. It wasn't sometin I ever remembered, you know consciously. But it all came flooding back. I was back home in Jamaica. It was de same night after I was teasin you 'bout de psychic. Des guys were looking far me. De must've 'eard what you said Tannin. Cause dey called me cunt, an lots o' other names. You know what it's like for gay people in Jamaica. Dere are rape gangs dat do noting but attack anyone dey think is gay. Anyway, I was hiding in dis hole. I didn't even know what it 'ad been used for. I must'a been in dere for an hour. But dey found me. Dose assholes found me! Dey yanked me out an I 'eard dem saying, “Dat's de bitch. It's Elenin. Get her. We'll show you what you *really* need. You jus need someone to show you what it's *supposed* to be like.” Dey raped me. But no' just once. Dey gang raped me. Ova an ova again. I 'eard one of dem saying I needed his big one in me. I was bleeding, I was crying, I begged dem. But dey ignored me. I didn't even know 'ow long it went on. Eventually I fell blessedly unconscious. When I came to I was in a bed. I didn't see de pason who 'elped me. I jus saw dat my worst wounds were bandaged an some clothes were on de foot of de bed. Der was a bucket with a damp cloth draped over it and another big glass of water.

I neva even tanked de person. I was so scared an 'umiliated. I jus drank all de water, got de clothes on and ran....more like 'obbled away. I snuck back in my 'house an stole some money. I didn't 'ave much, but I was able to make my way to Cuba. I worked dere at a fruit stan' for awhile but it wasn't far enough away. I saved up what money I could and gave it to a sailor to take me out to South America. An, well you know de rest of it....Somehow I blanked out all dat 'appened. All I knew when I finally made it to Peru was dat I needed to be somewhere dat I could fight. Fight hard and strong against dose boys. *Dose goddamned boys!*”

Tannin couldn't believe what he was hearing. Here he had always seen Elenin as a mean-spirited woman who just wouldn't give him a centimeter to save her life. This Elenin was totally different. She was human, and she was scared.

“Maybe das why we didn't get along so well at SASA.”

“Yeah, I guess you musta thought I was mad at you far exposing me. Part of it may 'ave been dat. But maybe I was jus puttin my anger at dose assholes onto you.”

She took a deep breath and paused for a minute before going on.

“Anyway. So I was in dat sample bay, an I saw a someone looking in at me but couldn't see anything because de light was behind him. I jus 'eard my name, some cursing, and someone say, “Get her.” It was like living the same horror all ova again. So when he dragged me out, I fought wit everyting I had. I took all de rage dat was held up inside me an I took it out on dat poor man. It wasn't until I woke up in de chair dat I saw what I 'ad done. I am so so very sorry. To both of you...and to dat poor man's family. I am terribly sorry. Der is noting in de world dat I can do to make up far dat.”

“Well Elenin, you a' not on dat world anymore. You a' out in de stars. An we make up de rules 'ere. Don't we Marcos?” he shot the captain a look that said he should agree.

Marcos looked visibly shocked. It hadn't seemed possible before this instant that anything could shock the man. It took a long moment before he nodded his head in agreement. Then he shocked the two of them by pushing off from the console and giving Elenin a hug which Tannin shared.

“Elenin. No man can ever understand what an experience like that is like. Or what it can do to a person. I

can only believe that it would change you forever.”

They just stood in silence for a long while. It was a shared moment out beyond the range of Earth, Jamaica, prejudices, and religion.

Finally Tannin broke the silence. “So what de fortune teller said about you is true. Dat you really were gay.”

“Oh come on Tannin. 'ow could dat fortune teller way back den 'ave known sometin I didn't tell anyone else until I was in Peru?”

“Well. Elenin, you a' not going to believe dis...”

“Oh Tannin, for gods sake, we're drifting in a capsule on the way to the lunar surface. At this point I'd believe we're on our way to meet little green men.”

Tannin shot Marcos a knowing smile and told both of them the story of what happened to him all those years ago. He told them about how he'd seen, or thought he'd seen the woman while sitting on the bus and it was his pursuit of her that led him to the bus stop that Juanita had been going to.

“Well Tannin. Is definitely true dat you be farder from 'ome den you eva thought possible. Maybe dis is where you make some world-changin decision.”

“Well....um dat does make sense. But what could it mean? Choose right?”

They all looked at each other and shook their heads at the same time.

Finally Marcos made the defining moment, “Wow, this must be what's like to watch the Twilight Zone while tripping on acid.”

They all cracked up laughing. It was just the release that they all needed. The laughter went on seemingly

forever until Tannin's stomach ached. Finally they were all able to relate to each other as human beings again. And they all knew that the mission would have been an utter failure otherwise.

Chapter 93

They all took a long nap in the gravity chairs. The seats weren't really comfortable enough to sleep soundly, but it was at least possible to close your eyes and drift off for an hour or so at a time. Marcos' sleep was the most fitful. While the two Jamaicans had each other to be consoled, he had nobody. There were a thousand questions spiraling around in his mind. How would he tell Selena, Christopho's wife, that he would never come home. Worse yet, how could he tell her he died in the weirdest and most futile manner. What was he to make of that insane story of Tannin's. That the fate of all they knew rested on his shoulders? It was ridiculous, but so many other things had worked out to allow him to be here. Hell, he was one of the youngest astronauts in history. And what about the woman. He knew almost nothing about her, except what she shared with Tannin. On a mission like this where you never knew which crew member would have your life in their hands. Given what she'd done, how in the world could he trust her to take any kind of part in this mission? And even on the ridiculous chance that they succeeded, would Zelega even want to talk to him? Would he be the one person to put a permanent stain on SASA's astronaut program?

It was futile. Even if he were laying on a feather bed, there was no way he was going to sleep. Unfortunately this wasn't a vacation. He wouldn't get much rest once they entered lunar orbit. Finally he got up and took a mild sedative, which allowed him to get at least a few hours of dreamless sleep.

Chapter 94

“Tannin please verify our position.”

Marcos was testing the thrusters on the lander and several other systems. He seemed to be doing this almost obsessively. Tannin wasn't sure if he was being obsessive about ensuring the success of the mission or because he didn't want to address Elenin.

“Yes, señor. At this point we stand to enter lunar orbit in just over 4 hours. We should adjust our trajectory by 3 degrees to account for the satellite's position. We've gotten here much earlier than predicted.”

“That's very good news. Both for us and our oxygen reserves as well as for this engine. It's quite astounding to think we can travel between Earth orbit and lunar orbit in, maybe 28 hours.” he smiled for the first time since they'd gone to sleep.

Whenever he wasn't performing tasks for Marcos, Tannin just sat at the window staring into the vastness of space. He watched the moon grow from the size of a coffee cup to the size of his outstretched hands. It was enormous. And the constellations. There was no spot on Earth where the milky way stretched out in such awesome clarity.

Chapter 95

“Tannin, señor Pontes, I realize dat you have every right to say no. But given our situashun, can I ask to know what all de secrecy was about dis mission? I mean you could keep me confined in de capsule, but I hope dat you wont do dat.”

Marcos looked at her with a mix of emotions that neither of them could read. He didn't answer right away, but looked at her for what seemed an eternity. “Elenin, your here and I can't do anything about that. But do not think that because you reached this position in such an unseemly manner, that I will make you an honorary crew member. All you need to know is that we are going to enter lunar orbit, make a soft landing on the surface, take some readings and samples, drill down a little to explore under the surface, and god-willing return to Earth.”

The woman looked more downhearted than Tannin had ever seen her in his life. It was unnecessarily cruel, he thought, for Marcos to speak to her like that. Despite what had happened.

Chapter 96

She was getting a little worried. Elenin hadn't called in several days and she wasn't at the office. Whenever she tried reaching the woman on her cellphone the 'caller is out of range' automatic response came back. For crying out loud, the woman was on the Cista cell network. Where in the world could she be that was out of range? She finally sat down and started sorting the mail. And then she saw it. As soon as the letter from Elenin came into view she knew it was bad news. She tried not to be a pessimist, but they'd had many conversations about the woman's discomfort with relationships. This wouldn't be the first time she let a wonderful loving experience die because of whatever had happened in her past. She hurriedly opened the letter and her dread turned into incredulity as her eyes scanned down the page and then reread it three times.

My dearest love. Please know that it is with a heavy heart that I write this to you. Know that you are my soulmate and I will love you forever. By the time you read this, I will be farther away than either of us could ever imagine. If by some unbelievable miracle I return to Sao Paolo alive, you will be sure that I will cover your face with kisses.

There is something really strange about this secret mission that SASA is working on and if they are not going to let me in on their plans, then I am taking the only option left. They're not going to take *my invention* and just leave me sitting out in the cold. So tonight I will be climbing aboard the rocket and hiding myself in the samples bin. Don't worry about life support. I gave them very pessimistic projections of the speed, so they've certainly made provisions for twice as much food/water/oxygen as we're going to need. Whatever is going on, I aim to find out and make sure that Tannin and those arrogant fools don't create an international disaster in orbit.

The only regret I have is that you won't be there to cuddle with on those long dark nights in space. Who knows, maybe I'll go down in the history books as the first woman (and first Jamaican) to land on Mars or something. Please don't be angry at me.....I have to do this. After all someone has to keep these boys from screwing up, right?

She couldn't figure out which emotion would take over. It felt like she was experiencing them all at once.

Hurt, rage, depression, jealousy, fear. In the end she just cried for hours and slammed her fists into the couch cushions.

It took several hours before she was cried out. Her eyes were bloodshot and her hands were raw. Did that mad woman have any idea how many different ways her beautiful soul could be extinguished from such a childish act? Hell they could put her out the airlock just out of spite. She didn't think Tannin could do such a thing, but Marcos had a military background and she had no idea what he was capable of.

Chapter 97

“Okay Tannin I need you to read me descent altitudes every 10 meters and speed every $\frac{1}{2}$ kilometer per second.”

Tannin tore himself away from the viewport. The moon now filled the entire horizon. He checked the computer readings and did a radar check to verify.

“Señor, we are at 300 kilometers and falling with a speed of 6.8 kilometers per second.”

“Damn, we've got to slow this thing down. Tannin, set the directional thrusters to rotate us another 200 degrees clockwise and double check that the thruster is facing 5 degrees off our heading.”

Tannin did as he was told and watched the forecast orbital path shift towards an elliptical orbit. But they were still going much too fast for the orbit to be stable. The capsule hummed with the firing of two short bursts of the drive. The predicted heading shifted towards the moon, but they still needed more thrust to reduce speed.

“Señor, I suggest one more 3 second burst.”

A brief shuddering in the capsule confirmed Marcos' agreement. The forecast path now showed them overshooting slightly but being pulled back into an elliptical orbit. They made a few more minor corrections and created a stable orbit 150 kilometers above the surface. Tannin checked the location of the Nubupe relay capsule and checked that its systems were functional.

“Señor Marcos, I am happy to report that we have achieved a stable orbit.”

They all cheered at the sound of that.

Chapter 98

The lunar terrain flew past below them at hundreds of meters per second. Marcos was now fully engaged with his task of controlling the thrusters to slow their descent. The capsule shuddered as the rockets burned at full throttle until their descent was down to 20 meters per second. Tannin longed to watch the entire scene through the small viewport, but he had to be careful to read off their altitude, speed, and relative position to the landing site. As he sounded the readings, the capsule bucked and tilted in response to the course corrections. As much skill as Marcos had, there was a vast difference between flying a Mig fighter and landing a spacecraft under 1/6th G.

Soon the landing sight appeared up ahead and the module slowed down to almost zero relative to the ground. The thrusters fired almost continuously in 1 second bursts to keep their descent in check and with an audible sigh of relief they touched down with a hard thump. Unable to overcome his awe, Tannin pushed over to the captain and gave him a hug.

“Dat was a great landing señor.”

“Thanks Tannin. It was the most difficult that I've ever performed in my life.” He used Nabupe to relay communications with Sao Paolo confirming a successful touchdown.

They spent the next half hour powering down all non-essential systems and having a small meal in the blessed gravity. It was such a relief to know that when you put your food container down, it actually stayed down.

Chapter 99

“Señor Marcos...”

“The captain interrupted him, “Oh Tannin, stop being so damn official. We've been all but excommunicated from SASA, and we're millions of kilometers from Earth. Just call me Marcos.”

“Um..okay. Marcos, do you 'ave a memorable line that you're going to say when you step out.”

The captain thought about it a bit before replying, “Tannin, why don't you step out first....but *I'm going to be extra careful* double checking your suit.”

If they hadn't been in a cramped capsule with only 1/6th Earth gravity holding them down, Tannin would've jumped up and down. It was an unbelievable act of goodwill. He almost refused to accept it, but then he knew that would only upset the man.

“Oh tank you so much Marcos! Dat is such an honor dat you bestow on me. Mui obrigado.”

“Why don't we each go out and stretch our legs, take some photographs for Carlos and the boys, and then we'll pull out the ground sonar and see how far we are exactly from the perimeter. Maybe now that we're down on the surface we'll be able to distinguish any height deviations and cut down our drilling distance.”

“Dat sounds like a great idea Se...Marcos. I can't wait to take pictures out der.” Out of the corner of his eye he saw the look of bitterness on Elenin's face. It would be horrible for her to sacrifice everything in her life only end up sitting in a capsule only 2 meters from the Moon's surface. “Marcos, what do you tink about letting Elenin take a walk out on the surface? She might be able to use de suit dat's been assigned to me..” he could see a flash of anger float like a cloud across Marcos' face and wondered if he was asking too much of the man.

But after a few minutes it passed. Marcos was silent for several minutes while Tannin and Elenin both tensely waited his response.

“That's a very tough decision. My military training tells me that rewarding absurd behavior such as you've shown young lady is a very poor decision. On the other hand....you've shown geat tenacity in coming here

and you have been the mother of the nazca engine. Let me think it over while we test the equipment and I'll get back to you both.”

They took turns getting into the bulky spacesuits and checking each others' pressure readings. Then each took turns going through the airlock.

Chapter 100

A dozen emotions were fighting for control. She was left all alone in the capsule and belted in place (though at least they'd taken the restraining net off). It was infuriating that Marcos wouldn't answer right away and left her wondering if she'd be stuck in a metal box barely 2 meters from the lunar surface while the two *men* went gallivanting around on the surface like a pair of children. But on the other hand she was grateful to Tannin for reading her face and offering to give her a chance. It was strange, she'd filled herself with hatred for so many years that she didn't know how to feel anything else for him. The only good thing about being left alone was that she could meditate on this new realization. It wasn't Tannin she hated, or even men in general. It was those horrible creatures who destroyed her pride, her independence, and her sense of self.

She'd read about suppressed memories in an intro to psych class back in la Universidad, but it all just sounded esoteric. It explained why she had such an impossible time making it work with women. Any time she felt like she was close to falling in love with someone, the old fear would rear its ugly head and squelch her chances.

She thought to all the tentative forays she'd made. The women she'd tried to get close to, but in the end she would make some excuse that it couldn't work between them. All those years of anger and fear, all that potential lost...

“Oh Margarita. How I wish I could tell you all dis and hold you in my arms right now.” She missed the woman even more now that she realized they might never be together again.

Chapter 101

Tannin struggled out of the airlock. Although he only weighed 14 kilos, there was no simulator available which could help him adjust beforehand to 1/6th gravity. He almost fell on his face before grabbing the ladder. “What a historic moment that would be,” he thought. “The first step on the moon and then a faceplant.”

Marcos followed him out of the airlock and they both stretched gratefully in the open.

It was awesome. They had to step cautiously because the sun's rays were just starting to shine over the horizon. The stark contrast and harsh lines were, for lack of a better term, otherworldly. On the night side it was like staring into the gaping maw of a black hole. But where the sun's rays touched the surface, there was an eerie landscape pockmarked by a thousand craters. He felt like he was walking along inside of a photographic negative.

“Tannin, testing. Is your radio working properly?” the sudden sound in the empty silence startled him briefly. But then he saw the man tapping his visor and pointing up mimicking an antennae. Tannin turned on his mic and replied that he could hear just fine. He was amazed at the sheer emptiness out here. On the far side there was nothing but the endless expanse of the milky way. It was awe inspiring.

“Hey Tannin. Check your hair and make pretty for the camera.”

Tannin made motions to his helmet like he was slicking back his hair. They took turns taking photos of each other with the lander and with the lunar landscape for several minutes.

“Okay young man, I want you to be very careful where you step. We're getting out earlier than is ideal and you could easily fall several meters in the pitch black shadows. I'll need you to get the ground sonar and we'll start checking the readings to see how close that satellite put us.”

Tannin opened the hatch on the side of the hull and began tugging at the machine. It took some doing, but he finally freed it. As he did, the sight of his suit ruffling in the wind puzzled him. It took several moments for his brain to register. What could cause wind on an airless satellite? “Air leak! We got an air leak, an Elenin's still in der!”

No sooner had the words escaped his mouth than Marcos took over his position. "I'll seal the leak, you get in there and make sure that girl doesn't die on us."

Tannin moved as fast as his clumsy body could in the low gravity and hurled himself with one motion up the ladder to the airlock. "Man I could play a mean game of basketball out here." he threw the thought aside as soon as it popped up. He had to make sure Elenin was alright. He'd never let forgive himself if she was hurt out here.

Chapter 102

She was shouting before she even walked in. His secretary was right behind her with an apologetic look on her eyes. He waved her off and let the woman in.

“Zelega, how in the hell could this have happened!” She looked like she was ready to take something from his desk and pound him with it, but thought better of it and just glared at him from across the desk.

“My Elenin is on board that rocket on some secret mission that even most of the techs don't know about and nobody will say anything. Can you even tell me if she's safe?!”

Carlos was furious himself. How in the world did some space artist working in an isolated department find out about the Chía project? The security on this was beginning to look like swiss cheese. Thankfully he understood well what happened when two people got angry at the same time.

“Now um...Margarita” thank god he at least got her name right “can you please tell me how you got this information?” He knew playing ignorant would only buy him a few moments.

She threw a letter that she'd been clutching in her hands on the desk and pointed to it. “Read it Zelega. Read it and understand how much you screwed up!”

He read the letter, then read it again and sighed heavily. Well these two must be dating. That would explain it. “Well I guess the cat's out of the bag...”

“You're damn right it is. How in the world could you let her do such a thing?”

“Please, please Margarita. Could you have a seat? I will answer as many of your questions as possible.” he sat down himself inviting her to a chair.

“Now as you know Elenin was not invited to be on this mission. She didn't have astronaut training or even a particularly scientific background. Her specialty was the engine design. There's no way that any of us could have predicted that she would sneak aboard the ship.”

“Well where in the world are they?” she asked, exasperation seeping from her eyes as a shower of tears.

“Margarita, I cannot tell you everything. But I can tell you that the craft is on the way to the moon. The

mission is only slated to be for a few days. She might be back within 6 to ten days.” (Of course she'll be in a very small isolated prison cell if she does return.) “Honestly I can understand your frustration, but please understand that I would never have let this happen if I had had any inkling of an idea she would do this.”

The woman's fury finally abated and she sat there pensive for a long moment.

“Will she be in trouble when she gets back?”

“Ha!” he thought. “She'll be lucky if she isn't put away for the rest of her life.” He maintained his poker face, “I really don't know what will happen to her when she returns. A lot will depend on how the mission goes and on public opinion.”

“Well, is there a chance that I could send a communication to her?”

Realizing how much this would de-escalate the situation, he agreed. “Of course you may. I'll make arrangements with one of the communications officers and get you access to a text feed. You realize of course that communication from her end will have to be reviewed to prevent leak of sensitive information.” Through gritted teeth she responded, “Of course.”

And with that she got up and walked out without another word.

Carlos sighed heavily. This was getting to be a real three-ring circus. If he'd known how insane this would be, he'd have just opted for an unmanned rover and left it at that.

Chapter 103

It took an eternity for the airlock to cycle. He ripped his helmet off and immediately felt lightheaded. The oxygen must've been screaming out of that leak. He grabbed an emergency O₂ bottle and took a couple of breaths. Then he ran over to Elenin and noticed she'd tried pulling the straps off before she passed out. He put the bottle over her face and turned on the pressure. There was no response for several seconds. He finally accepted grudgingly that he'd have to give her CPR.

“God I hope she doesn't knock my head off for this.” he thought. He took a breath from the bottle and breathed it into her mouth before pushing down three times below her ribcage. Then he took another breath and repeated.

The second time also got no response and he was getting really scared. He took a third and breathed into her mouth, then he felt something move. Her lips, she was.....what? She was kissing him. He recoiled back in shock. Now he was panting not just because of the thin air in the cabin.

“What de hell is dat for?!” he demanded. You a lesbian, aren't you?”

“She smiled mischievously, “yeah, I am. But de look on your face was *totally* worth de ick factor.” Then she pulled the straps off and gave him a big hug.

“Tannin. I'm sorry, it wasn't jus' a joke. I feel terrible for de way I treated you all dese years. De time sitting alone in de capsule really gave me a chance to think. You done so much to try to be my friend, and I...I jus lashed out at you. Please accept my apology an let us be friends.”

He didn't know what to say. Here was the woman who had made fun of him, riled him, and criticized every decision he'd ever made and now she was standing here literally with open arms. He cautiously put his arms around her and returned her hug.

“Tank you Elenin. You a very proud woman an it must'a taken a lot of courage to do dat.”

The silence was interrupted by Marcos clearing his throat and Tannin quickly backed away from Elenin.

“Okay kids. Let's try to act professional here. We're still on a mission and we should act like it.” he winked at the two of them to bely his humor. The relief at seeing everyone alive must have boosted his

mood significantly.

“I'm very relieved to see that you are okay Elenin.” he paused and hoped he wasn't going to make enemies of Francesca, Carlos, and perhaps his own family. “Elenin, your right. Each of us is risking our lives up here and it seems only fair that you take a few minutes to enjoy the lunar surface.

She smiled from ear to ear and enthusiastically nodded her head.

“Tank you señor! I am so very sorry about the circumstances dat led to dis. But I will not let you down.”

“Well be that as it may, you've never had astronaut training, a pre-flight physical, or flight experience. So I'm going to keep you near me where I can keep an eye on you.

“I undastand señor.”

“Marcos, before we go out again. Don' you tink it would be a good idea if we checked de interior wall where de air leak came from?”

“Yes Tannin. I'm very glad you thought of that. You check that Elenin can fit comfortably into a suit and I'll work on the capsule wall.

Once they were all out of the airlock, Tannin went to the surface while Marcos helped her down from above. It didn't take her long to become comfortable in the low gravity.

“At least she didn't almost faceplant.” Tannin thought to himself. They took some more pictures and dug up some rocks for the now empty sample bin.

After she'd had a good long visit out on the surface, Elenin went back to the airlock.

“Tank you Marcos. Dis experience is worth a hundred lifetimes.”

Chapter 104

Tannin and Marcos retrieved the sonar equipment and they began to check the readings. It took over an hour of monotonous work to locate the cavern. The whole time he kept getting distracted by that woman. Here she'd killed his friend's husband, and he was returning the act by giving her the honor of being the first woman to walk on the moon. He felt so confused between guilt and shame on one hand, and the grudging realization that they'd most likely fail without a third person. This mission simply *had* to succeed. Besides, that story of hers was outa this world. What man could ever imagine what it was like to go through something like that.

His thoughts were interrupted by readings that indicated that they'd finally located the cavern. It was 29 meters below and stretched out for god knew how long. As he carefully moved around the area, it became clear that this was the closest spot that they'd be able to access the site and that the strange rectangles formed a perimeter ring approximately 5 meters in from the edge.

He looked over at the Jamaican as they put the last marker forming the edge of the cavern. He couldn't believe the sheer size of the thing.

“Okay boys and girls. Let's see if there's anyplace that we can put a lander down within this perimeter. Remember, we're going to need reasonably flat ground for at least a three or four square meters.”

They spent another 15 minutes or so spread out around the area and found one that was on the edge of the zone. It was a small plateau which dropped off a few meters in each direction. It was barely 4 meters but it was the best they had.

As they looked it over, Tannin's voice came over the radio.

“Sen...Marcos if we dig de 'ole down at dis spot, we can enlarge de work cavity toward de cavern an dig de final hole at a slight angle down so dat it will end up within de cavern.”

“That sounds like an excellent idea. Okay. I'll give it a shot landing on this postage stamp.”

Chapter 105

They each cycled through the airlock and Marcos went through the checklist to take off and move the craft over to their agreed landing site.

“I hope you can do dis Marcos.” Tannin said, wishing he'd thought of something more supportive.”

“Just strap yourselves in. I'll do my best.”

The capsule vibrated as the drive warmed up and they floated above the surface like a helicopter. Marcos held the controls too tightly while Tannin gave him readings from the viewport. The craft rocked and jolted, but he managed to bring them down in the middle of the plateau.

Tannin and Marcos returned outside and removed the nazca excavator. They positioned it as close to the edge as they could manage. Even in the weak gravity the thing seemed to weigh 30 kilos. Marcos set the stabilizers to keep it vertical and they moved off to a safe distance as the timed ignition roared to life. Of course for them the only indication something was happening was a faint blue light below the motor and the vibrations pulsing through the ground.

After what seemed like an eternity, but was actually only 30 minutes, the drill created a hole that was roughly 6 meters deep.

“Marcos, have you thought about 'ow we can rotate de machine to dig sideways and create a cavity? De machine only makes a 'ole as big as itself.”

“Ah yes, you weren't in the meeting at that time. Unfortunately the one drawback of this design is that it's bulky and can't dig anything bigger than itself. I'm afraid that we're going to have to do some enlarging of the hole by hand.”

“But señor, de 'ole is barely more dan a meter wide.”

“Do you feel uncomfortable working in that kind of environment?”

“Yes, I'm ashamed to say I don't feel I could do it.” Tannin looked down, struggling with feelings of failure. He knew that part of the astronaut training involved testing for claustrophobia. He had managed to get through that one, but just barely. By the time they'd pulled him out of the simulator he'd felt like he was ready to go insane. It was only a miracle that he'd managed to hide it.

Thankfully they were all fairly small, but realistically Elenin would be the better pick.

“Why don't we let Elenin take a look and see if she'd be comfortable?”

“Are you kiddin me?! That's what got poor Christopho killed in the first place. I can't even believe you're suggesting that! Besides she has absolutely no astronaut training of any sort. Do you think she could maneuver in a small hole in the suit without tearing it?”

“Seño...Marcos we could at least ask her.”

“It's no problem Tannin. I can do it.”

Tannin had hoped that Marcos had forgiven Elenin, or at least come to terms with it. But obviously there was still some bitterness in the air.

“Marcos, um did you know him well? Christopho.”

“The sigh was audible even over the radio. His wife and I were good friends. I didn't know Christopho so much outside of SASA, but his wife thought the world of him. They had their problems, sure. But Francesca always managed to find a way to de-escalate any disagreement. She's a lovely person.” there was a long silence before he continued, “I just hope Carlos is able to be tactful about the situation with her.”

They opened the other outside hatch and pulled tools which looked to Tannin like a drill on steroids with an eggbeater on the end. Marcos handed those to him and took out a large hammer and some other tools. Tannin set the tools down at the edge of the hole and moved over to open another door in the craft and

started unraveling a winch line. Marcos connected the over sized carabeener to a loop at his belt and instructed Tannin to very carefully lower him into the hole. All Tannin could see once he got below ground was a glow in the hole from Marcos' helmet lights and some slight vibrations caused by the 'hammer drill.'

Chapter 106

Marcos was only below the surface for 20 minutes when Tannin heard a crackling on the radio.

“Tannin, are you dere? I just got an indication dat dere's a message being routed from SASA.”

“Yes Elenin. I read you.” he looked down to see if Marcos had heard, but there was no indication. “What does it say?”

“Well I don't know this equipment. Remember I'm a stowaway. So they never gave me the specs on the capsule design.”

“Marcos, can you hear us on the radio?”

The vibration stopped briefly “Yes Tannin, what is it?”

“Señor, Elenin jus' radioed me to say dat she got an indicator, there's a message being routed from SASA. Do you want me to go 'elp her to access it?”

“Tannin, what do you think. I'm in a hole 3 meters down below the surface in almost pitch blackness and that girl is in a lit, oxygenated cabin. Where do you think your skills are most needed.”

He didn't need to say anything more. Now that he knew the two of them could talk without Marcos hearing the conversation, he told her what he said and what the situation was regarding him and Christopho's widow.

“God Tannin. I feel so 'orrible. Der is noting I can do here dat can make de situation right....is dere?”

“I don' know Elenin. You can be nice to him, but is really up to 'im to come to terms with de situation.”

Marcos came back onto his radio and interrupted the conversation

“Tannin, I need you to pull me up. I've created a large enough cavity for the engine to be set on it's side. Well let it run for a few minutes rotating it periodically. That should get us a hole in due time.”
Tannin grabbed a tripod to run the cable over and turned on the motor to slowly lift the back to the surface.

“Damn, it's like the darkest inky black down there.”

He stretched and jumped around for a few minutes in obvious glee at being out of the cramped quarters. Then they slowly and carefully winched the engine back down into the hole. Then Marcos reattached the winch cable to himself and went down the hole head first. He spent several minutes as his light jittered around until finally Tannin heard his signal to be pulled up. He slowly raised the cable, and when Marcos was safely back on the surface, the blue light and vibration returned as the engine was restarted. They waited several minutes and then he went back down and rotated the engine. It was slow and uneventful work. But finally Tannin felt he could brave the hole for a the few minutes it took.

“Señor, I would like to try it now.”

“Ah, you're feeling brave now kid? Okay. When this blast is done, we'll send you down there.”

It was a terrible feeling to be lowered into a tiny hole head first. But it was the only way that a person could access the device. It felt like he was being set into a grave. Even with his helmet lights, the rock wall was only visible in a small radius. The surface was incredibly smooth from the plasma cutter. It almost looked in the reflected light like a water hewn shaft. And then he saw it.

“Marcos, hold up a second!” The rock wall was interrupted by a band of what looked like a pale limestone. It's surface was more glassy smooth than the rest of the rock. He ran his gloved fingers over it and felt no friction at all. It felt like....but it couldn't be.

“Sir, I don't know if this is accurate or not, but I think we've found water ice down 'ere. I'll 'ave to take a sample container down, but it sure looks like ice.”

“That would be an incredible find. How wide is the band?”

“Well, my lights are only showing a portion of it, but it stretches well beyond what I can see. I'll go ahead

and rotate the engine and get a sample on the next descent.”

He started falling down lower as the line was slowly released until he was within reach of the engine and called for Marcos to stop again. As uncomfortable as it was with the blood rushing to his head, the scene was unbelievable. The rotating of the engine had created an arc of perfectly circular holes radiating out from the central shaft. Each hole was of an unknown depth as his lights could only pierce about a meter into the inky blackness. But the walls had that same perfectly smooth sheen as if they were using a water jet. Not wanting to try Marcos' patience, he struggled to rotate the heavy machine and called to be pulled back up.

Chapter 107

“Marcos, is' amazin down dere. De walls are so perfectly smooth, an de blackness...der are jus' no words to describe it.”

“It's pretty incredible isn't it.” he switched his mike over to all frequencies “Elenin, can you hear me?”

“Yes señor. I hear you perfectly. What can I help you with?”

“I need you to put some beakers into the airlock and evacuate the air from it. We're going to bring back some samples.”

They took the vials and Tannin was lowered back down into the hole. First he went down all the way and rotated the engine, but on the way up he stopped by the band of ice and took a sample. When he struck it, the material shaved off just like ice and crumbled into crystals at the bottom of the vial. He didn't need any tests to show that they'd just found oxygen, and water enough to last for months here as long as they had the energy to separate the hydrogen from the oxygen.

Once he reached the surface and they capped the vials, he went down again and set the engine to run for several minutes before returning to the capsule.

“Elenin, you are neva going to believe it. We found wata undaneath de surface!”

As her eyes grew wide in surprise, Marcos tried to sober his jubulance. “Now Tannin, we have to run a scan on it and...”

“But look señor, tell me it hasn't melted a little in der.”

Sure enough when Marcos held it to the light, there was a tiny amount of liquid in the bottom of the container where he was holding it.

“Well god damn. You my young friend have made the greatest discovery since the launching of the

Hubble.” he ruffled Tannin's hair in a sign of affection and went over to the workstation to put some drops under the microscope.

Meanwhile Tannin went over to the control console to see the message. “Here Elenin. Let's see what that transmission from SASA turned out to be. With Marcos' permission, we're going to have some great news for them.”

“Hold your horses there Tannin. Let me do some tests and then we'll be able to send them more detailed information.”

Chapter 108

Tannin went through some commands on the subroutine to bring up the transmission data from SASA and both he and Elenin watched as the text transmission showed up on the screen. But then Elenin took in a sharp breath and Tannin looked away as he saw that it was a private transmission.

My dearest Elenin. I must admit that I was furious when I first read your letter. I miss you so terribly already. I can't begin to understand what you must be going through up there, and they won't tell me a thing other than that you headed to the moon. But I think I can understand what drove you to do it. Please know that I love you now and always will. Carlos says that it's possible you'll be back within a week to ten days, and while this sounds very optimistic, I hold onto the thought of having you in my arms and hearing whatever fanciful discoveries come out of this mission.

He respectfully gave her time to read and digest the message, but it was clear that she would need help. Her crying wasn't the single tear of movie scene, but the chest shaking sobs of a woman in real pain. Finally not knowing what else to do, he pulled her up gently and gave her a hug. But he wasn't expecting her reaction, she grasped him like a life raft and clung to him while her whole body was wracked with sobbing. He stroked the back of her head and whispered soothing sounds to her until she finally quieted down.

"I'm okay now Tannin. Thank you so much for being supportive. You are a true friend."

"Do you want to talk about it Elenin? I may not be much, but I guess we're all you've got out here." he gestured towards Marcos who must've heard what was going on, but respectfully stayed focused on the microscope.

"I...I miss her so terribly. She's the first woman that I've ever been able to love. She's like something out of those romance novels. And the insanity of it is that I don't even know what dis mission is! I don't know what kind of dangers we're facing besides the obvious suffocation. And thanks to you both for saving me from that."

she patted Tannin's hand. "All I know is dat we're sitting on de moon's surface an drilling down some long distance to find...what water? Das not a big secret. NASA discovered dat a couple decades ago an dey still 'aven't done anyting with it.

Chapter 109

Finally Marcos walked over from the microscope and sat down in the gravity chair next to Elenin. His face was somber as he related the true cause for their quest. As he spoke, the woman's face went from red to ash grey. He actually thought she might faint. But she managed to keep her composure as she turned to Tannin.

“You both believe dis? Even though de only proof is a fuzzy picture sitting in Zelega's office? 'aven't you two eva heard of Photoshop?”

Even Tannin almost blew up at her over that. But he thought of all the pain she'd been through and held his tongue. “Elenin. I can't tink of a single reason for Carlos to deceive us on dis an create a 'hole mission who's sole objective is to prove de find right or wrong.”

“Unless he's jus' tryin to get everyone to believe it so dat he'll get mo' funding from Jimenez, Chavez and de res' of dem. Politicians can be more gullible den scientists.”

“Elenin, we've just been outside the capsule with the ground sonar. The cavern is here,” he pointed down “right beneath our feet. And there are the same rectangular shapes located an equal distance from the perimeter for as far as we've measured.”

At that incredulousness finally sank in. “Dios mío! So we *really are* lookin for little green men. An you neva tol me notin.” she punched Tannin lightly in the arm.

Even though it was only teasing, Marcos still jumped up instinctively. It was clear that he was willing to let her participate, but he hadn't forgotten her violent capabilities.

“I'm glad to know that you know how to pull your punches young lady.”

“Oh señor Pontes. I cannot ever be able to make up for what 'appened. But please undastan from de bottom of my heart dat I grieve far de man de same as you an I would do anyting if I could take it back.”

In a surprising gesture to both of them he reached over and patted her arm. “I know that dear. I won't lie to you and say that I don't feel conflicted and frustrated. But you're right, we can't change the past. We both know that you were in an extreme situation. I will do what I can to treat you with respect, but I hope you'll understand if I act....extra cautiously.”

It was a new experience for both of them to hear him share his feelings and it made a big impact on both of them. But the intimacy was brief.

“Tannin, do you want to join me again with the excavation?”

“Sure. I'll be right there.”

But Elenin grabbed his arm, “Tannin. Before you go out, can you give me instructions on the subroutines necessary for transmitting? I would like to send a reply to Margarita.”

Marcos called to her before putting on his helmet “Just be aware that Carlos will most likely have someone review it to make sure that you don't reveal any specifics of the mission. While you're at it Elenin. Why don't you relay our findings of ice, I mean a lot of ice, about 3 meters beneath the surface. That should win us some brownie points with Carlos.”

Tannin showed her how to operate the transmission console and send the message before he too went and followed Marcos out the airlock

Chapter 110

Tannin and Marcos spent several more hours working to open up a circular cavity roughly 8 meters across. Then they maneuvered the machine downward until a space tall enough to stand in was formed. Tannin's arms were aching and his breathing was growing short. Even in 1/6th gravity, the engine was terribly cumbersome after 5 hours of work.

“Don't push yourself too hard kid. We're almost finished here and then we'll get a good rest.” Marcos was good about keeping him reassured and not letting the fatigue get him down.

Tannin was in the process of rotating the engine again. They only needed two or three more firings before the cavity was complete. But something went wrong. One minute he was pushing the engine into position, the next he was sailing through the air towards the rocky floor. Terror gripped him briefly as he wondered if he'd just made a fatal mistake.

His training kicked in and his first thought was to check his suit's pressure. Luckily he hadn't hit too hard or skidded too much to compromise the suit. His head was still throbbing from being shaken around, but otherwise he seemed to have suffered only minor bruising.

“Señor, I seem to have tripped down here, but I'm okay.”

“What? Tannin, have you checked your suit? Your pressure readings?”

“Yes señor..Marcos. Pressure is holding and I'm just a little shaken up but nothing broken.”

The sigh of relief was easily audible in his helmet.

“Well I'm pulling you up and ordering you immediately back to the capsule. You're tired, and I insist that you get some good long rest and we'll check your suit later. Nothing on this mission is worth dying for.”

Tannin left the engine in the cavity and Marcos carefully pulled him up.

“Alright Tannin. That's quite a bit of work for one day. Let's go back where it's warm and get us some sleep.”

“You don't have to twist my arm Marcos. I'm exhausted.”

Despite the weak gravity, the two of them practically dragged their feet getting back to the airlock.

Chapter 111

He was finally able to make time to get through some long awaiting emails, but unfortunately was again interrupted.

“Señor, there's a message being forwarded to you from one of the satellites.”

Carlos didn't like the sound of that. If it was being forwarded to him, there was only one mission it could be from. And he was more and more convinced that it was best to forget all about that particular mission.

Message from capsule I following message two parts

part I

Dear señor Zelega.

It is with great trepidation that I send this to you. I deeply hope that you can find it in your heart to accept me as part of this great adventure...”

He didn't need to read any further to know who was sending this.

“Filho da puta! They've got that bitch involved in the mission now!”

He simply couldn't believe it. There was simply no way that this project could get any worse. How in the world could his long honed personnel instincts have been so misguided? He'd bet the success of the mission, not to mention his personal reputation on those two. And now they see fit to not only take this crazy woman along to the moon's surface, but apparently she was considered a member of the crew. It was just absurd. He took a long sigh and an ample drink from his hidden flask before he continued.

...as part of this adventure. It has taken a great deal of introspection and empathy for the three of us to reach an understang and trust. Anyway, that is only a personal request. I do not expect to escape punishment upon returning to Earth, but while out here I will make every effort to ensure a successful conclusion to the mission.

The first and most exciting news that we have to share with you is that Tannin has discovered water ice. By that I mean a great deal of water ice, aproximately 2 meters below the lunar surface. We do not know how far the layer extends or if it is a local feature. But the layer is roughly one meter thick. Marcos has analyzed a couple of

drops but a superficial analysis did not present anything beyond Hydrogen and Oxygen. There are no organic compounds.

Currently the two of them are opening a cavity roughly 5 meters below the surface within which we plan to build a staging area. We look forward to sending you further good news as our work continues.

Part II

To Margarita

My dearest. It's been said that this transmission will likely be reviewed for possible leaking of sensitive information. I guess señor Zelega has no reason to trust me after what I've done, and I can't blame him. But please know that you are in my thoughts every day and hope in some way to make this up to you. Your note was touching and made me cry. I miss you in every way and hope that there will be some way that we can be together soon.

all my love

Elenin

“I wonder if they're all singing kumbaya up there.” he thought bitterly. The news of frozen water did little to boost his mood. He did his best to put aside his frustration and focus on the bare logistics. So they'd lost an experienced crew member and gained a completely inexperienced propulsion expert. He had faith that Marcos could supervise both of the novices and hopefully keep them from doing something fatal. It sounded like they were making rapid progress on creating a staging area which would give them some breathing room and a greater measure of safety.

Chapter 112

When they got back to the capsule, Elenin told them that there was another message from SASA.

Marcos sat down at the terminal “I doubt this one will be from Margarita Elenin. But if there's something for you I will certainly let you know.

Communication

Marcos:

As you know, I'm not at all happy that you have chosen to continue this foolhardy mission. You must know that you're putting not only your own reputation on the line, but SASA's as well.

That being said, the discovery of ice on the moon is a momentous one and this has brought great jubilation within the agency. I insist that you continue to keep a sharp eye on that Elenin lady. I would prefer if she was restrained for the remainder of the mission.

Obviously none of the political leaders know of the recent...developments and I plan to keep it that way on the slim chance that you give SASA enough good news to compensate for this. In the meantime I will assume no unnecessary communication until you reach the cavern.

My thanks to you and Tannin for your diligence.

Carlos Zelega

“Well I guess he's cleared up that situation.”

Tannin walked over to the screen. “Is it anything confidential?”

Marcos pulled away from the terminal. “No, but it's not very good news.” under his breath he whispered “I wouldn't share this with the lady.”

“Share what? Is it something about Margarita?”

Marcos cursed under his breath, “May I remind you Elenin, that you are here without anyone's permission.

Your access to information is on a need to know basis.”

He didn't like being short with her, but the memo would only cause her more distress.

“Sorry Elenin. But you wouldn't benefit from hearing anything Zelega has to say.”

She frowned, and nodded in knowing agreement. Obviously it was lucky enough that the three of them were able to have an understanding.

Chapter 113

Marcos and Tannin had fallen into an exhaustive sleep and were obviously sleeping more soundly than they had since leaving Earth. They looked so peaceful, as if all the troubles of their lives had been sent back to Earth.

While the two of them slept, Elenin busied herself with examining what she could of the lunar rocks and the water sample.

As she worked, her thoughts drifted off to Margarita. She dreamed of laying next to her and stroking that wave of midnight hair. As she thought about the woman, the thought persisted in her mind that even if by some miracle they returned safely to Earth it was unlikely that she would go anywhere but to prison. It was obvious since the night she sneaked into the lift vehicle. But she'd pushed the thought away each time.

Now sitting alone in a lunar capsule hundreds of thousands of kilometers from Earth, she laid her head in her arms and cried. It didn't feel like there was any other way out of this situation. She drifted off to sleep with dreams of both loving Margarita and of sitting in a deep dark hole.

Chapter 114

When everyone was awake, Marcos went over Tannin's suit with a keen eye while the other two ate 'breakfast.'

“Tannin you are one ridiculously lucky kid.” he remarked as the young man looked his way “I would've expected a fall on the sharp rocks out here to tear a gaping hole in that suit.”

“But señor. I was in de cavern remember? De engine softens de rock leaving a smooth walled cavity in it's wake.”

Elenin also was watching him intently “señor Marcos, can I ask what de next step is here? I would love to be able to help in some way.”

Tannin almost expected Marcos to snap at her like he did the night before, but he just calmly reviewed for her the steps involved in setting up the inflatable workspace.

“Yes Elenin. Well once we get the 'tent' out of it's compartment, I'm going to finish the last few passes with the engine that our clumsy friend here missed.” he winked at Tannin. “Then once the floor is smoothed out, we'll gently lower the fabric down into the cavity. We have three cylinders of oxygen in a storage compartment and we'll use them to pressurize the tent. This will give us much needed extra work space. There's an airlock built into the tent which we will use for the purpose of drilling. For the entire drilling operation we want the access hole to remain in total vacuum. Remember that we only have one shot at keeping the environment in that cavern pure. Once the drill gets to within 15cm of the space, then we'll pull it out and drop a very small explosive charge to break the final piece away. I'll be supervising that portion carefully and we'll be sure to have all instruments fully on line.

Chapter 115

All three of them were secured in their suits and Marcos double checked the seals on the two younger Jamaicans. They then took turns exiting the airlock and once again stood on the satellite's surface.

“Okay Tannin I want you to lower me into the cavity and Elenin I want you to watch everything he does. I don't want the term 'crash course' to become a reality for us. Once you've lowered me down, get to work pulling the tent out of it's cabinet and unravel it so that it will pass safely through the hole.

Tannin located the cubby that the tent was stored in and they unlocked the door.

“Wow Elenin, dis rocket 'as more secret compartments dan a James Bond car.”

That gave them both a chuckle as they carefully worked to unfold the huge tent. It was clumsy work in the suits and even harder to get the fabric, as heavy as it was, to stay put in the light gravity. After what seemed an eternity, they got the fabric stretched out and rolled it into a tube that could fit down the hole. Once Marcos radioed to them the all clear, they began pushing it down the hole. It drifted down like a worm into the ground.

There wasn't much to do while Marcos set up the shelter, so the two went exploring.

“Wow Tannin. It's simply unbelievable out here. I feel like I could reach out and touch each and every star.”

Tannin chuckled, “That sounds like a line I heard in a movie.”

“Wow Tannin, way to ruin de moment. No wonder you can't get a girlfriend. Someone needs to teach you 'bout women one of dese days.” she punched him lightheartedly on the shoulder.

“I do jus' fine Elenin.” he shot back. “Really, we're out 'ere in a place most people have only dreamed of going fa decades an you going to act like we a in la escuela again?” But he softened his tone. “You are

right tho. Is absolutely amazin. Dey's been a few times Marcos has to ask me to pull 'im up twice because I'm jus starin out dere.”

Tannin spent the time pointing out constellations that he knew while they waited for Marcos to request the air cylinders. It was a wonderful moment that they were able to share.

Finally Marcos called to them over the radio and Tannin winched up the line in order to send down the cylinders one by one.

“Okay, Elenin I need you to go back into the capsule and begin packing all of the testing equipment into their storage boxes. There are also a series of collapsible tables secured to the wall next to the infamous sample bin. Start on that and Tannin you can help ferry the supplies down here.”

They got to work and things went surprisingly smooth. The airlock opened and several boxes stood in the doorway. Tannin pulled out several loads and took items one by one over to the edge of the hole. The lighter items he could just drop down and let them fall feather-like to the tent. But the heavier collapsible tables he send down with the winch. After a few hours they were all getting low on oxygen reserves.

“Marcos. Our air supplies are getting low. We're going to head back to the capsule.”

It only took a moment for him to confirm his agreement.

Chapter 116

After a few hours' rest, Tannin and Elenin suited up and made their way back to the hole.

“Marcos? We'd like to come down there and see how things are progressing.”

“No problem kids. But one of you has to stay on the surface to help operate the winch.”

“Elenin, since we've all been leaving you out of the fun, you go ahead and check it out.”

Her expression was almost loving as she patted his shoulder. He showed her how to connect the winch line to the carabiner on her waist. Then he lowered her down and watched her headlamp shrink and dim until she was lost from sight.

While she was down there he spent more time photographing Mars and the sea of constellations. He could really understand now what it must've been like for ancient priests to look up at the sky and attempt to carve meaning from the patterns of blazing lights in the night sky. He also really wish he'd brought a telescope out here.

He decided that it would be wise to check in on the other two.

“Marcos, how is everything going down there? Did Elenin make it alright?”

“Yes Tannin, we're both fine. Why don't you go to the capsule and see if there is any other equipment that you think we might need. Of course I'll also need you to let the drilling engine down here as well.”

Chapter 117

The work wasn't very exciting but it didn't look like it would take long. The sonar was reading 3 meters left to go and with the speed of the engine, Marcos would have to be very quick and careful to cut the engine at just the right time.

“Marcos, I'm reading now 1.5 meters, now .75 meters, okay and...stop.”

His finger had been on the button and he halted the digging with barely a quarter meter left.

“Okay. I'll be double checking the seal. Make sure we have six of those canisters ready to absorb the air samples. I want a full reading as soon as it's practical.”

After double checking that everything was in place, they hoisted up the engine and Marcos lowered a micro-explosive to remove the seal. The vacuum of the shaft drew air up and into the test cylinders. It was amazing for them to be actually holding containers of alien air.

“Okay Tannin I want you to analyze this like it was the greatest discovery since irrigation (which it may in fact be). I'm going to set up the remote camera and hoist it down there so we can see what we're dealing with and if Elenin's 'little green men' are in fact running around down there.” he gave a sly smile.

He switched to full band and went underneath the hole. “Elenin? Can you hear me?”

“Yes sir. I hear you, it's faint though.”

“Okay well make sure you're near the edge of the hole so our signal can reach. I need you to hoist up the engine and re-secure it in the hold. Then once we've analyzed the samples, we're going to want to send the results back to SASA.”

“I understand.” and with that she hauled the machine back to the surface.”

“Marcos. I have de analysis. De air does 'ave some oxygen, about 12%, but dere's also 45% ammonia, 30%

argon and tracer amounts of Carbon, Nitrogen, and Helium. I don't see dat we could breathe dis stuff. But maybe it would be possible if we could filter de amonia out.”

“That's fascinating Tannin. Are you able to find any organic components in the mix?”

“No Marcos. Dere's no indication of bacteria or oder living compounds.”

“Okay. I'm sending the remote down now. We should get an image soon enough.”

Tannin was sitting on pins and needles. They were so close to seeing the first ever image of an alien construction. It was bigger and more incredible than any other moment of his entire life. Even landing on the moon was child's play in comparison to this. Right here, he was already holding a container of air which once passed through the 'lungs' of a non-terrestrial intelligent life form.

Chapter 118

It seemed to take an eternity. Marcos was just about to bring the cable when he looked up and cursed.

“Putamerda! Elenin, what the hell are you doing?! Are you too brainless to realize that you're the only one who can lift us out of here?”

Tannin looked up just in time to see Elenin expertly belaying down the winch cable. She definitely looked like she knew what she was doing.

“Señor, please let me explain. I took some parts and created this miniature winch.” To demonstrate, she clasped a small device the size a liter bottle around the rope and with a hum, she was was lifted up a meter off the floor. She flicked a switch and dropped back down.

They both watched aghast. Obviously her brilliance didn't end with the nazca motor.

“Elenin, dat's simply amazin! You did dat jus now?”

“Well I' been tinkin about it far awhile, but didn't 'ave de parts to work on it till we finished wit de engine.”

Marcos was obviously impressed as well. “Wait a minute, are you telling me you cannibalized parts off the engine and adapted them to this lift device? That's amazing. I guess I owe you an apology.

“So how are things going down here? I can't wait to see what's down there.”

“Well Elenin, we've just sent down the remote and I was about to hook it's feed up to the monitor before the um, interruption.”

Marcos bounded over to the view screen and connected the cable attached to the dangling remote. There was no way to transmit wireless signals through 20 meters of rock. Tannin turned on the screen and it came to life. Suddenly in an instant, their entire world changed.

Chapter 119

The three of them crowded around the screen and watched in awe as the remote's camera panned back and forth.

The cavern was immense. Even the 900 lumen omni-light was not able to penetrate more than a few dozen meters away. The walls on the near side were the first clue that something completely non-human had been at work. The walls didn't fall straight down or even curve in a more natural way. The cavern looked like it had been carved by Picasso, Antoni Gaudí, and Escher working collaboratively. The columns which looked square on top were really a strange 3-D puzzle with 'branches' extending to other parts of the ceiling like a gothic cathedral.

“You know what this looks like? It looks Baroque”

“Yeah, it sure does Elenin.” Tannin knew what she was getting at, but couldn't resist poking fun. “It's easy to imagine dat some damage would occur over the years.”

“No you idiot.” she punched him in the arm, this time enough that it kind of hurt, “Baroque like de Italian Catedrals. 'aven't you spent any time studying sometin oder den science in your life?”

“Come on kids. Let's stay focused. I'm going to slowly lower the remote so that we can see farther down.”

As the image moved lower, they started to see what looked like strange oblong cylinders. The cylinders looked fat compared to their length. They had asymmetrically conical ends and strange bulges in seemingly random places. They looked somewhat like misshaped pills. Then near one wall there was a huge structure that looked big enough to swallow those pills. It was composed of four oddly shaped vertical struts that curved inward to meet in an 'x' at the top. Along the sides of the struts were flat 'counters' with a variety of items strewn about.

“It's unbelievable. It perfectly fits everything about the word 'alien'.” Tannin was almost holding his breath in shear awe at the sight.

“Okay. I'm going to feed these images and your analysis of the air samples into the computer so that we can transmit them back to SASA. You two can stay down here and keep recording everything that remote sees. We don't want to miss a single thing.”

Chapter 120

He had to figure out how to turn this thing around. On one hand it was a monumental discovery and couldn't be hidden for long. But on the other hand the PR disaster if it was learned that one of the explorers was barely out of flight school and the other was a civilian...well he didn't even want to think about it. But here it was staring him in the face. Successful analysis of the first alien atmosphere to support life. Plus images of the cavern itself. For the time being he was just going to keep this to the inner circle and let the larger group of people involved think that everything was going according to plan.

He called in Domingo, Miguel, and Xiana to his office for a private meeting. And while he waited he spent long moments gazing at the images. Something was nagging him about those cylinders, but he couldn't put his finger on it.

Miguel wandered into his office several minutes later followed by Domingo and Xiana shortly thereafter. All of them knew what the meeting was about and they were all tugging at the bit like schoolchildren.

When they all arrived Miguel finally burst out, "Come on Carlos. Don't demean us by making us beg. What's the latest news?"

"Sorry Miguel. I just wanted to get everyone together. You're right, we've received word from Marcos and Tannin. Despite my reservations about the insanity surrounding the Jamaican woman, the three of them seem to be showing some progress."

"You let them land on the moon with that crazy woman?!" Domingo couldn't help blurting out what the rest of them obviously thought. However none of them could be more distressed about the situation than Carlos.

"Now Domingo. I'm sure that you heard about my orders for them to swing around the moon and return to Earth orbit immediately. Marcos chose to ignore that order and you may have no doubt that I will be holding him personally accountable for the consequences. (assuming he doesn't take me down with him)" Now the good news is that, number one the team found a large volume of water ice beneath the crust,

number two they've captured samples of the air from the cavern, and finally we have the first images of the cavern itself from a remote camera.”

At this point he rotated his screen around to display the data transmitted that morning.

“Miu deus! It's absolutely fantastic. That cavern would make an aircraft carrier look puny.” Xiana was simply enthralled by the sight.

“So it would seem that the mission has not been compromised beyond hope. I feel at this point that the team was given proper instructions, *and* they have been warned of severe consequences if they continued. So we can do little to either help them or hinder them. All we can do from here is wait and carefully gather as much telemetry as possible.”

Chapter 121

“Marcos, you're not going to believe this!” he called out when the man returned from the surface.

“What did you find?” he came over filled with excitement.

“Well, it was obvious that exploring the cave with even the most powerful light was going to prove difficult. So I switched to infrared. Look here where the camera panned to the nearest column.”

They all saw the unmistakable pattern of writing. It had no relative in any language they were familiar with, but simply discovering it was beyond extraordinary.

“Dey must be a life form dat sees only in de infrared.” Elenin was as enthralled as the rest of them. “It would make sense if they create habitations underground.”

They spent another full day just analyzing the feedback from the rover and sending everything back to Sao Paolo. It felt like there was something new and exciting with each passing hour. They meticulously documented as much of the cavern as the camera could view in both visible and infrared light. But there was only so much that could be done with remote sensors.

“Tannin, Elenin, I believe that we've exhausted as much analysis as we can from here. It's time we take the dive (not literally of course) and enter the cavern ourselves. I don't know if Carlos will be happy or furious, but this is an opportunity that I'm not willing to leave for someone else. We got here first and we should get the first look.”

“Absolutely!” Tannin was practically jumping up and down. “I can't wait to see what it's like down dere!”

Not believing that she would end up being the sole voice of reason, Elenin just stood and watched the two apes. “Are you two serious?! What in de worl' you be tinkin'? If we all go down dere, 'ow will we be able to communicate wit' SASA, 'ow are we going to analyze de findings when all de equipment is up 'ere?”

Hell, the ceiling could come down and bury us here.”

“Well Elenin, it's true that we won't be able to communicate directly with Zelega. But I do not feel that the danger is prohibitive. This cavern has to have been here for a long time. I'm sure that it's stable enough for a couple of humans. And as for analysis, we're not going to touch or move anything. All we're going to do is take some measurements and a whole ton of video. You are under no obligation to follow along.”

Knowing that it would look bad for her either way, she thought about it only a few minutes before resigning herself to the fact that she'd probably be in jail for lord knew how long when she returned, so she might as well have something worthwhile to show for the risk.

“Okay, I'll go down with you. But I for one plan to stay close to the exit hole.”

“You're welcome to choose your time as you wish. I'm going to relay to Carlos all of our latest findings and images before we descend. Make sure you have a good meal and drink enough before we head down. We don't know how long the many fascinating discoveries there will hold us up.”

Chapter 122

One by one they lowered themselves down the long shaft. Tannin had the hardest time with this one. If he thought it was difficult to work upside down in a shaft 3 meters down, this descent was 100 times worse. He lowered himself with his hands above him and despite his best efforts, his breathing quickened and he felt like his heart was going to break through his ribcage with the rapidity of it's beating. He couldn't move more than a few centimeters in any direction as the interminably smooth walls slid past him just a hairsbreadth in front of his helmet. He felt like he was ready to scream and faint all at once, when finally with infinite relief the hole opened up and he was inside the cavern. Marcos held the line taut as he and then Elenin descended to the floor of the cavern.

It was more alien than anything they'd seen in any movie or TV show. The floor, instead of being smooth, seemed to be composed of infinite numbers of steps set at random and rising or falling in every direction. Strange sculptures stood watch over the lifeless space.

“It looks like what would happen if Gaudi had created his own airport sized sculpture.” Marcos had to watch both his own step, as well as the other two. But that took second priority to simply staring slack jawed at the incredible artifacts wherever they looked.

It caught all of them off guard when one of the nearby cylinders began vibrating and a circular hole appeared in the side

“What the...” Tannin, Elenin did either of you touch or move anything?”

Elenin was standing closest to the ship, but nowhere near the hole. “I didn't touch any part of the ship. I was just examining this mosaic next to it. Sir, do you think these art pieces could be controls of some kind?”

“I don't know. But I'm still responsible for both your safety and any possible contamination of this space. I don't want any of you to take the chance of damaging anything.”

Chapter 123

He kept staring at the video footage, but somehow he couldn't figure out what he was feeling. Something felt wrong about the image. Was it just human prejudice as he looked at a completely alien construct? The creatures certainly had an artistic focus, but it was impossible to tell if he was looking at a museum or some kind of functional space. It looked like the life forms created three-dimensional sculptures wherever they went. But would a race as advanced as this be devoting their time and resources so heavily in non-essential designs? Something about this just wasn't making sense.

He sent the telemetry to Miguel, Xiana, and Domingo with the hopes that more heads would result in a broader analysis.

It took only 15 minutes before Miguel barged into his office looking disheveled and out of breath.

“Señor, I don't know how in the world it's possible, but all of us are in terrible danger.”

He'd never seen the man looking so terrified in his life. Miguel was always the calm cool person that he turned to when he himself felt antipathetic. “Okay now calm down my friend.” he eased the man into a chair and took the book he was holding and set it on the desk. He even poured him a small shot of the bourbon in from his flask. Then, using his calmest voice to try and get the man to slow down he tried to figure out what was going on. “Now can you tell me what it is that's got you upset?”

“Carlos, I can't believe we didn't catch it when the first images came back. It's just like the story, I can't explain how the man could've known, but it's right there.” he pointed to the book with shaking hands. “If we don't get those people out of there *right now*, our whole world could end!”

“Okay okay Miguel. Can you tell me what's going on with the boo...” just then his eyes fell to the cover. There it was in bold letters, 'Larry Niven.'

“Don't you get it sir. The story is real. There really was, or is, or is going to be...whatever a man who goes to the moon to study an alien base and ends up possibly destroying all life on Earth.”

His legs turned to jelly and he collapsed into the chair next to Miguel. It all came flooding back to him. That feeling of discomfort with the first images, the giant cylinders, the letters visible only in infrared light, the strange sculptures.

“Holy mother of god, you're right!” he just stared at the book as the whole story flooded back to him. The resemblance was uncanny. Lord knows what could happen if they repeat the same mistake. He found his legs and stumbled to the door calling his secretary to get Johan on the line immediately.

“Johan. This is Zelega. I need you to send a message to Marcos and his team. Highest priority. You must immediately evacuate the area of the alien cavern. There is a high risk of extreme danger. He couldn't think of anything further to impress on them the grave danger involved.”

“I'm sorry Johan, I cannot disclose the possible danger that's involved, this is a highly secret mission.”

“You have my deepest sympathies. I realize that you are friends with Tannin. We all feel a great respect for the young man. I pray that this warning is unnecessary and they simply conclude the mission without incident.”

“Yes, do please tell me the moment you hear a response.”

It was most unfortunate for all of them that the message never reached its intended recipients in time.

Chapter 124

“Marcos, I believe de hole is a doorway. Dat sculpture must be a....” but he never finished the sentence.

“Tannin, Tannin what is it.” He could see through the visor that the boy seemed to just be standing there unmoving. It was like he'd been frozen in mid-sentence. He bounded over and shook the scientist until he gratefully saw him blink several times.

“What in the world has gotten into you boy?”

“Lord have mercy.” was all the boy could get out for several minutes.

By now Elenin had bounded over too and they were both just staring at Tannin.

“Hey Tannin. Spit it out will ya?” she punched him lightly on the arm to pull him out of it.

“It's unbelievable! How could a science fiction story come true like this?”

Now Elenin was losing patience “Tannin, if you don' start making sense right now, an' tell us what dis is all about I swear dat I'll...”

“Elenin, Marcos. Have you ever read the science fiction stories by a guy named Larry Niven?”

Both of them shook their heads.

“Okay. Well you're not going to believe this, but when I tell you the story, i's gonna knock you socks off. De story begins wit dis scientist who goes to de moon to help explore an alien base dey find dere. Dey figa out all kinds of technologies including a carving tool dat sucks any matter into it's tip, jus like a black hole. De guy spends most of his time exploring de ship, which is a short and squat cylinder with strange bulges sticking out of them. Just like those.” for emphasis he pointed to the cylinder right next to them. “Anyway he figures out dat de ship can travel tru time and he moves de dial but when he leaves de ship der is nobody

at de base. He had traveled back in time before his team had arrived. So he decides to make a note wit de carving tool. But he ends up dropping it. Anyway when he goes forward in time, de moon is not der. It's totally gone. Dat carving tool had eaten de entire moon and de Earth never developed life on it because der was too much cloud cover. Don you see, it wasn't science fiction it was a warning!”

They both just stared at him. He couldn't tell if they believed him or not.

“Young man. That's a very fanciful explanation. But can you truly understand how absurd it sounds to someone like myself...or Elenin?”

“Yea Tannin. You really gone of de deep end 'ere. I thought dat *I* was considered de crazy one.”

“Okay. I'll prove it to you. None of us have entered one of those cylinders. So I'll tell you what they look like on the inside. There are star charts which, like the writing we've seen, are only visible in infrared light. De back of de ship has rows of what are referred as bunks but which look like free form sculpture and feel like foam. There's a control board with a giant dull red tetrahedron at least two meters on a side set into the back wall. The control board also has two pyramidal knobs set into them.”

Before the two could stop him, he bounded over to the open hatch and shone his lights around. It was all the confirmation he needed. The cylinder was indeed a ship and looked exactly like the story described. From the bunks which would suddenly change shape, to the gigantic tetrahedron.

“Look.” he called out to them as they both filed into the ship. “De ship is exactly as I described. Der is sometin important for me, and for all of us in here.”

“Now hold on young man. There is no way in this world, or any other, that I'm going to let you go manipulating an alien artifact. It's one thing for us to explore this cavern, but it's quite another for you to go operating systems that nobody has had the chance to analyze yet. We're going to report this to Zelega and see what he says. Besides we're only going to have enough oxygen for another day before we have to return home. Come on, let's get back outside.”

As he led them out Tannin thought desperately. He was absolutely sure that he had to do this. Marcos

thought he was being cautious, but he was possibly condemning all of them to the fate of never being born. Suddenly he stopped. How could that be if they were here. Was it possible that it happened so far in the future that the mistake hadn't happened yet? No that was impossible. The story described millions of years having past. He couldn't say what it was, but he was absolutely sure that he needed to do this. While Marcos did some last minute filming of the 'tool counter' he pulled Elenin aside.

“Elenin. I don't know 'ow much you trust me. But I absolutely need to use dat ship. Everything in my life points to it. De conversation with de psychic, de internship at SASA, de astronaut training, even 'aving you here. De psychic said dat you would be essential for de task to be complete. Please undastand dat everyone we eva knew is depending on us.”

For the first time in his life she looked at him with complete understanding.

“I know Tannin. You're right.”

“Really?” He was incredulous. For once and at the most critical time, she was really going to believe him.

“Yea. I can't figa out a way to describe it. But somehow all of dis feels strange...in a bad way. De only part dat feels right is de suggestion you 'ave.” she looked around but thankfully their suits allowed them to look like they were exploring different areas without betraying their conversation. “Do you know how you would be able to activate the ship?”

“Well, de story said dat de character set up a magnetic field around de control board. I should be able to do dat wit de motors in de remote camera.”

“Okay Tannin. Well we both better hope dat dis instinct of ours is right. Because if not we both going to face maja punishment. I'll suggest dat Marcos begin climbing out and I'll stay behind 'im. You act like you going to be following us last, dat way he'll be up in de work cavity before he realizes dat you didn't follow.”

“Dat's brilliant.” he looked at this woman who'd been a struggle his entire life with completely new eyes.

“He took her hand and patted it with his gloved hand. “Tank you. Tank you so much Elenin.”

“You just make sure you work fast. Dat man is going to be down here de minute he knows you didn't follow. I'll do what I can to slow tings down for you.”

“Okay folks. Let's pack up and get back to base camp. Our oxygen supply isn't going to last forever.”

They all gathered underneath the shaft and Marcos went up first. Then Elenin followed, making a solute as she rose out of sight.

Chapter 125

Tannin moved faster than he'd ever moved before. He pulled the remote apart and set up the motors to create an electromagnetic field. He took the apparatus into the ship which Elenin had opened. Then he frantically played with the mosaic near the door until the hole closed up.

He gazed at the pyramid knobs for what seemed like way too long and was just about to put his hand on the knob when it hit him. This was the decision he would have to make. It would be critical for everyone on Earth! This was the decision and he just *had* to make the right choice. But what was the right choice?! His mind worked furiously. There wasn't much time. Left or right, left or.... That was it! Make the **right** choice!. He prayed more furiously then ever before that this was what he was supposed to do.

There it was! The knob lit with a faint blueish glow. Then he almost passed out as everything seemed to be turned inside out. He felt weightless, like before they landed. He also noticed the giant tetrahedron was now base forward. He followed the rest of the procedure that he remembered reading about. The twisting of his insides made him want to get out of the ship as quickly as he could. He opened the door and looked outside. It was amazing. The cavern that had been 30 meters below the surface was now out in the open. He could see the stars and amazingly he could see the Earth too. It wasn't until this moment that he realized how much he longed to walk the dirt paths of his neighborhood. By now he was almost physically ill. The only thing that kept him from passing out was the sight of a spaceship, a more human-looking spaceship sitting next to a large complex.

Section IV

Chapter 126

He couldn't wait to get out of the ship. Not only did he feel like he was going to be sick in his suit, he felt like his eyes had been burned with acid. He burst through the door in an explosion of limbs due partly to the disorientation of the alien machine and partly to the still unfamiliar gravity. He leapt out of the airlock and was dumbstruck.

How could it be so completely different?! He was no longer in an enormous cavern. His eyelids fluttered like a dragonfly as they struggled to adjust to the brilliant light of the crescent Earth hanging overhead. He was on the surface! Then he looked around and noticed a huge building a few dozen meters away.

Noticing his oxygen level, he had no choice. He took a few bounding strides to the larger building.

With his stomach still doing somersaults, it was a miracle that he made it there without tearing his suit.

The place was an awesome sight. The entrance was a full 4 meters high and a smaller human-sized airlock was built into it. There was a well worn path leading to the airlock which thankfully meant that the base wasn't abandoned.

He walked up to the airlock, fearing there would be some kind of code. But of course there wasn't, after all who would be on the base except the scientists who lived there.

At first when he saw nothing but an empty hallway. He was afraid that everyone was out in the field, or asleep. He carefully loosened the seal on his helmet and took a cautious breath. Yup, the air was normal Earth air. No trace of ammonia here. The base looked very similar to the cavern he'd recently left. The floor had the same random steps placed in seemingly bizarre patterns. Numerous sculptures and mosaics gave the place the same museum-like aura.

Finally he caught sight of someone at the end of the corridor. He shouted to them and tried to catch up.

Unfortunately his haste combined with the uneven floor sent him head over feet onto the ground just as the man started walking toward him.

“Great, so much for that aura of mystique.” he thought as he pried his wounded pride off the floor.”

“Are you alright?” the man sounded more confused than concerned. As he got closer, his expression became one of amazement. “Hey, you're not part of the expedition. What are you doing here? This is a scientific research base, who gave you permission to land here?”

Before he knew what he was saying, he blurted out. “My god, i's exactly de same. Just like in de book.” he knew it was stupid, but he had to know...just had to. “Excuse me, is dere a Mike Capoferri here?”

The man fiddled with something on his wrist and spoke much more calmly. “Okay now. Let's start from the beginning. What's your name and how did you land here? Akua would have given notice if a craft had passed through orbit.”

It finally sunk in that he'd said far too much. There was far so much riding on this for him to get shipped off to some psych institution. After all, if the book was right, this Capoferri guy could condemn all of humanity to having never been born.

He smiled his most genuine grin and tried to be as truthful as he dared. “I'm sorry far de clumsy entrance. My name is Tannin, Tannin Baldone. I would be happy to tell you about 'ow I got here, but it would sound ridiculous. Hell, I don't understand it myself.”

There were now two men coming down the corridor towards them. They had some strange devices in their hands and looked none too happy at the situation. Seeing that his situation was going from bad to worse, Tannin slowly raised his hands in surrender and did his best to think of something that would calm them down. Unfortunately he didn't know how far he'd come or how different he looked.

Chapter 127

The man now took a much more serious tone. “Okay, I’m sure that you know what a stun beamer looks like. So before we start to get rude, I’m going to ask you one more time. Who are you, how did you sneak a ship in from orbit, and what is your purpose. May I remind you that this is a private research expedition and unauthorized company is a UN violation.”

Tannin thought furiously. This wasn’t going well. He had to remind himself that this wasn’t some two-bit science fiction story, this was his life. “Please mon. Please listen. My name is Tannin Baldone. I arrived here in a ship that I don’t entirely understand. Your people did not spot me because I arrived from another part of the moon, not from orbit. I was part of a scientific expedition just like you are.”

The men behind him relaxed slightly and it was looking like he might not get to find out what those devices did after all.

The first man though, continued to look at him with a puzzled expression. “Okay. That does make some sense. Hmm, you don’t look threatening. Except for the normal clumsiness that everyone deals with before they get used to the base. You have a strange speech Tannin. Where exactly are you from?”

“Oh where am I from? Well I be from Jamaica mon. But he knew that wouldn’t explain much. “But I was here as part of an expedition with the South American Space Agency.”

“Okay Mr. Baldone.” he dragged out the first word as if he’d just heard someone tell him that he was going to grow a third leg the next day. “Why don’t you come with us and we’ll have a little conversation with the director.” he fiddled with his wrist again as the four of them walked back down the hall and turned towards a large room. Compared to the overall scale of the room and the 4 meter high door, the desk in front of the door and the woman sitting behind it looked downright miniscule.

Chapter 128

One of the men brought a couple of chairs and left. The other one waited by the door with the strange device still in his hand. The first person who he'd spoken to whispered to the woman for several moments and then left.

The woman was clearly an authority figure. She was older, but not obviously so. Maybe 45 or so. Her tightly curled black hair had long streaks of grey in it and her bronze skin showed only the slightest signs of age. Her desk had only one framed picture and otherwise looked like a giant glass slab set on two stout cylinders.

“So your name is Tannin Baldone, and your from.....Jermayca? Is that right? And you didn't arrive here from orbit but traveled from another part of the moon.” She looked at him with that same quizzical expression that was beginning to make him feel very uneasy. “Your story is very interesting. If one were able to dismiss the UN quarantine on the lunar surface, the strangeness of your outfit, and the fact that none of us have ever heard of this Jermayca place then perhaps it would have some merit. Now you must surely know that I would not be in charge of this mission if I was as gullible as that and you wouldn't have reached the lunar surface if you hadn't been warned of all this. So let's start again shall we. And let me remind you that I do not have a high opinion for deception.”

“Well...um. I don't know exactly 'ow to convince you of de truth. I don' know notin 'bout a UN quarantine, and I can't explain why I look so strange to you. I was considered a prodigy at SASA and was invited by de director to be on de first manned lunar expedition since the Apollo program. We had found dis cavern in...”

The director was looking not at all pleased with what he had to say and he was growing desperate for something more convincing to say. But his dialogue was interrupted by a middle aged man who entered with an expression almost of madness and gasping for breath. He was taller than any of them, with hair that was neither blonde, nor white but somewhere between.

“Vilhelm. Vilhelm calm down. You know this isn't Earth, you have to take it slow.” she seemed to have forgotten Tannin as she waited for the man to catch his breath.

My apologies Akua, but you're never going to believe this. There's a second alien ship parked outside! I don't know when it could have arrived. Mike was outside just this morning and would have reported something like this, so it had to be recently. I took a look inside, but there's no sign of a pilot...”

“*That's* the ship that I arrived in.” Tannin said without realizing his position. One stern look from the woman and he said nothing more.

Now that he'd spoken, the man turned and noticed that he was there. He looked at Tannin the same way that everyone else seemed to. With that expression of peering bewilderment. “Amazing. Where in the world did you get that suit? It's phenomenal...so authentic.” He reached over to touch the arm. “It even *feels* authentic. Ma'am this isn't one of Capoferri's pranks is it?”

“Vilhelm, do you recognize this man? He seems to have recently appeared in the west hallway about 20 minutes ago. Keeps talking about wild things like he's from Jermeyka and part of a different scientific mission.”

The man thought for several minutes. “Well, his arrival certainly coincides with the appearance of the ship. As for Jermeyka, well it doesn't sound familiar.” He looked back at Tannin, “and you say you arrived here in that ship? A ship that looks identical to the one we've been studying outside? Which incidentally nobody has been able to figure out.”

The director answered for him, “aside from the fact that they both arrived at the same time, it makes no sense whatsoever. How can this boy be brilliant enough to have figured out the ship, but not be able to negotiate the alien architecture without falling head over heels. And did this ship have some kind of invisibility cloud? Why didn't we hear any sound or vibration from it's landing?”

“Ma'am. With your permission, would it be possible for me to have a conversation with this young man? I promise to be careful.”

The woman hesitated. She obviously wasn't thrilled with the idea, but in the end she agreed.

Chapter 129

The man escorted Tannin out and down the corridor which Tannin negotiated with more care. They came to another enormous room with similarly diminutive furnishings.

“I apologize for Akua, she's a kind lady but very protective of this mission. You can't imagine what it's like to be among the first human beings to uncover alien technology.”

At this Tannin had to mock a sneeze to cover his laughter.

“Now Tannin. Why don't you tell me all about your mission....from the beginning.” He got another chair for Tannin who was wise to not sit on the alien 'bunk.' So Tannin told them about growing up in Jamaica and being selected for the SASA internship.

“Wait, where is this Jermyka place? I may heard something like that, now that I think of it.”

It was so strange. Why had nobody ever heard of Jamaica? I mean it wasn't Brazil or Germany, but it was at least well known enough. “Well it's an island in the Caribbean near Cuba and Dominican Republic. It's between Florida and Venezuela.” As he spoke, the man got that wide-eyed incredulous look again.

“This is incredible! No wonder you didn't know what Akua was talking about. You must have somehow traveled here from a different time! My god, and I thought the sculpting tool was impressive.”

Now everything was going way too fast for him to even keep track, “Wait, you mean you've turned on de sculpting tool? Dat ding is 'orribly dangerous!” As soon as he said it he knew it was a mistake. But unfortunately he wasn't in a time machine now. The man's eyes narrowed and he was obviously more than puzzled now.

“And how exactly are you aware of the sculpting tool and the dangers of using it? And if I hear anything but the truth, I'm going to stun beam you myself and have you shipped back to Earth so fast it'll make your

head spin.”

Well the cat was out of the bag now. As incredulous as it sounded, he had to trust that the truth would be safer than anything he could make up in this strange place. “Well you may not believe me, but please undastand dat I've told you and everyone 'ere nothing but de complete truth. So please don't hold de absurdity of dis story against me. Der was a story, it was a short sci-fi story I read on chance just a few years ago. De guy wrote it a long time ago, like 20th century or so. But he was real popular. His name was Larry Niven. De story focused on a guy named Mike Capoferri. De guy was very smart, he figured out de sculpting tool and a few oder tings here. But he was most interested in de ship. It was towards de end of de story dat he discovered de ship was a way to travel through time. I shouldn't tell you too much because it seems dat you all are real living people from his story. He described de strange alien floor dat wasn't smooth but moved with de contours of de terrain. He also described de sculptures and mosaics and de alien bunks dat suddenly changed shape widout warning.” he pointed to the bunk that nobody would sit in. “I undastand dat it all sounds like something in a TV show, but I swear it is de truth. I was only able to figure out de ship by copying what was written in dis book. Oderwise 'ow would someone not from your mission be able to do it? Obviously I am not a 3 meter tall alien.”

The man just sat there. He didn't show anger, or understanding, or anything else. For a moment Tannin wondered if there was some other weird time halting technology going on. But finally a smile played across his face like a cloud drifting away from the midday sun.

“You realize of course, if we could sell this to the network vid-corps we could be famous?”

Tannin's puzzlement must have shown, because the man was looking quizically at him again. “Tannin, can you tell me what year you were born?”

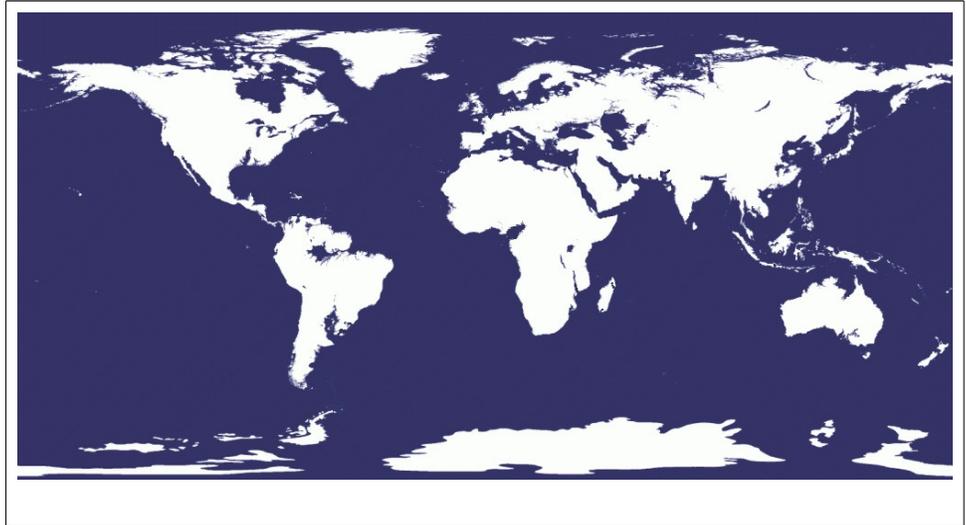
Not knowing what he meant by it, he just let it roll off his tongue, “Well it was May of 1999. Jus before de new millenium.” Then he thought he understood why the man asked him. And knowing it would sound both absurd and cliché, he continued “and could you tell me what year dis is?”

The man tapped his wrist a bit as he spoke, “Young man, I hope you don't mind, but I'd like to invite a few other history buffs from the base to join us.”

Chapter 130

He moved his hands around on the desk a few times and the whole top glowed. A world map appeared vaguely resembling the seven continents. But there was something odd about it. The shapes were slightly different. Tannin slowly got up (so as not to startle him enough to risk getting hit by the blaster thing) and looked carefully at the map.

“Tannin, can you tell me where this Jermayka is located and maybe we can help fill in some details.”



Tannin stared at it for several minutes. Some areas like Africa looked largely familiar, but South America looked so much smaller. He couldn't find much of anything in the Caribbean at all.

“Is dis a map of Earth?! Where de hell is Florida, or Sao Paolo? Hell even Caracas isn't dere?!”

As he looked at the map, he felt himself shaking. “Please, tell me dis is a scientific projection of some futa time.”

Now the man was looking sympathetic. “Are you telling me that the people of your time had no idea that this was happening? I cannot believe that none of the scientists back then would have been able to ignore this. Surely you must have been aware of the alterations to the climate and the dangerous changes to the balance of gases in the atmosphere. There was a record of at least one research paper from the late 20th century predicting such dangers.”

“Well der were some people talkin about it. But we all assumed dat we 'ad no power. De United States, Europe, China, an India were all burning fossil fuels at enormous rates. We knew in Jamaica dat de weather was getting worse an we asked and begged de bigger countries to stop, but everyone jus said dat de

evidence was no' conclusive. Everyone was sayin dat it wouldn't happen far a couple hundred years yet.”

Vilhelm sighed, “It was such a loss. Not only in human life, but so many thousands of miles of coastline disappeared. There were so many stories of beautiful cities and picturesque beaches that were sentenced to drown beneath the rising oceans. And even for several hundred miles inland the cities were decimated by increasingly hellish storms. Most of the Caribbean, Florida, Indonesia, and Madagascar were so heavily damaged that they can only support smaller mammals and shrubs. So with the loss of all these cities, so much crop destruction, damage to the ocean life, and the resource wars...the human population fell precipitously. It was over a century before civilization stabilized and the World Climate Council was founded to police energy policies for all of humanity. In the same era, the World Planetary Society was formed to help continue the search for other parts of the universe that humans could exist in to reduce the stress on our home world.”

It was humbling to be listening to this. To hear a historian describing what, for him, was yet to be. His entire island country destroyed by the raging storm systems. And yet, he knew what it was like to desire the comforts that empirical countries had. To drive a car, to own a boat, take a plane across the country. Hell, he himself had flown half a dozen aircraft in the final months before the launch. All of which would now seem antiquated to these people.

“So Tannin, you left Jermayca after you finished school. And by the way I'm very interested to hear all about that. You then went to work for this...” he looked at his wrist device “South American Space Agency. And you say they sent a rocket to the moon?”

“Well yes. This should be well documented in your history. It was de first manned moon landing in 50 years an de first from a non-superpower. We were de first people to prove dat aliens existed.”

He paused because the man had a very puzzled look on his face.

“You don' know any of dis?”

“Well Tannin, I did a research paper on the history of space travel. From what I've been able to find in the records, the electric rocket that you mention was used by the Rússian Space Agency which was the only

one to survive the great flooding.”

“Wait a minute!” He was incredulous. They were talking about Elenin's nazca drive. “But it was me and Elenin who created dat drive! We worked with maybe half a dozen scientists at SASA to create it. How in de world did de Rússians get it? An what ever happened to SASA anyway?” He couldn't spit out the questions fast enough. There was so much to learn, and so much confusion.

Chapter 131

Before the man could speak, three other people wandered in and showed the same deep interest in Tannin and his clothing. Martin began by introducing each one.

“Tannin, these are a few other scientists on the expedition with archaeology and history backgrounds.” First he pointed to an older Asian woman with short curly hair. “That's Lindsey Shebita, she's been making theoretical studies of the alien physiology based on their tools. She has a history in physical and cultural anthropology. The woman surprised him by instead of shaking hands, holding her palm face up and pushing it towards him. Reacting on instinct he gave her a high five which brought obvious delight to the whole group but especially to her.

“It's true! That was the standard greeting of the time.”

Not wanting to contradict her, he let it pass as Martin introduced the next person. She was an attractive blonde woman maybe early 30s. Her hair was kept up in a short ponytail and she wore the same outfit as the rest of the crew.

“This is Terry Holmes. She's been doing a followup to her thesis on linguistics and she's made wonderful strides with the alien language.”

She gave him the same high-five and he realized that he was going to have to disappoint Lindsey or this would spread to the whole station.

Last he introduced a middle aged man with medium-dark skin about his own height but with a beard and receding hairline. “This is our chief historian on the mission, Cheput Bajarria.”

The man also did the same high-five.

“I'm sorry to disappoint you, especially Ms. Shebita but we don't high-five all de time. It's usually done only when someting momentous happens, an only with casual friends. But i's nice to meet you all an I will answer any questions dat I can. An maybe you can help me undastand dis strange situation too.”

Vilhelm repeated what Tannin had told him so far and they all showed the same amazement.

Then Cheput chimed in. “And you say that you've figured out that the ships can act as time machines and you've figured out how to operate them? That's extraordinary.”

So Tannin once again told them a little about the story and how eerily it mimicked the place he found himself in. “So can someone tell me what time period this is? This whole place is very confusing to me. I mean, I left in a cavern 30 meters underground of the moon's surface, and I end up in a base filled with people on the surface of the moon. I mean it was easy for us to miss the alien base for 50 years because it was underground. But how could your people have missed it?”

Now Lindsey spoke up in a kind but somewhat academic tone, “Well first of all, the year at present is 2243 and that's what makes us so interested in your story. Imagine being able to talk to Kublai Khan or Nikola Tesla to learn about what life was like during their time.” She paused as if suddenly unsure of her direction, “as for the other differences I don't believe we can provide proper answers. As far as history has been documented, the Russian Zond satellite was the first to discover this base near the end of the 20th century. But the competition between Russia, North America, and China to become a world power taxed all three economies and, well I'm sure Martin filled you in on the catastrophes of the last two centuries. So it was only in the last 20 years that we've been able to send spacecraft out to lunar orbit. As for the discrepancies, that's a complete mystery. Perhaps this is an alternate timeline, or maybe in the course of traveling here, you've set about changes in history. Earth has no practical understanding of the intricacies of time travel.

They spent several hours talking and Tannin repeated what he knew of the 20th and 21st centuries and his nausium. He never thought himself a particularly good story teller, but these people seemed enraptured. Vilhelm seemed particularly interested in his stories of flying aircraft.

“And what was it like to fly in these...aeroplanes. They weren't silent, were they?”

So Tannin described in more detail the sound, vibrations, and responses that the prop planes and small jet aircraft made. He also described the details of the nazca drive.

“De technology at my time was very new and top secret. Der was nobody outside of de Peruvian Air Force and SASA who had access to it. But you a sayin dat de Russians used de technology before dis...catastrophe.”

Vilhelm got up and fiddled with something behind his desk. “I have no idea how that could be. But Could you sketch it out for me? We'll see how it compares to the one we have from the Rússian model.” he handed Tannin what looked like a slightly larger tablet PC and a stylus to draw with.

So Tannin sketched the schematics which had been kept top secret by an agency which now seemed to have faded into obscurity. While he did so, he shared more specific details of his time at SASA including the discovery of Juanita as a spy. As he mentioned that part, it sounded like she had been part of this strange history.

“Tannin, when exactly did you discover this woman as a spy? What year was it?” he said with deep interest.

Thinking back, he tried to pull it up in his mind, “It was about two years before we launched, so I'd say roughly January 2023. I remember one day Juanita had come into the office and I thought she'd been jogging and thought it was odd for mid-summer.”

“Ah, now things are starting to look clearer. So in your past, this Juanita was caught and the secret was not discovered by another country.” he smiled “My boy, I think that the present which we are both living in is an alternate .

There were gasps all around and for a minute everyone tried talking at once.

“My god, the quantum physicists are going to have a field day with this story.”

“My friends, why don't we take a ten minute break to digest this. I imagine our young friend here could use some food and I know that I could.”

Tannin nodded his head eagerly. So Vilhelm, Terry, and Cheput offered to bring back some food for the group.

Chapter 132

While they were gone, Tannin just sat and stared at the map. It was incredulous, the East coast of South America was gone, Florida, the Caribbean, and most of Malaysia.

It felt like no time at all before the three returned with strange looking bars of different colors and sizes. They passed the strange food around and Terry was looking intently at him as he took a tentative bite. It was incredible! The flavors were like nothing he'd ever tasted. Even the tomatoes straight out of his garden weren't so vibrant.

He grinned and thanked them for the amazing food.

Now it was Lindsey's turn to watch him intently. "Can you tell us more about the history of your time at this South American agency?"

So Tannin described what he knew about the history of the organization, his involvement, Carlos Zelega, and the rocket launches. He began to think about all the friends he had and even about Elenin. It was beginning to feel like an emotional overload.

"That's truly amazing. I don't have any information about a space agency in this place Sow Powlo. The whole east coast of South America has been underwater for over a century. But I'm definitely going to talk to my colleagues back home and see if they can schedule a submersible trip to that area."

"Excuse me. I undastand dat we all 'ave so much to talk about. But I haven' been able to get a full night's sleep in several days, since before we left Earth. Could I 'ave a few hours to rest?"

The men and women looked taken aback, like they'd never heard of sleep.

"Oh, oh of course. It never would have occurred to any of us. Your um...spaceship, it must have been terribly crowded right? I've read schematics of one early human capsule. You didn't have room for sleeping quarters or anything did you?"

Tannin nodded his head. “No, der was jus a gravity chair for each of us an it was barely comfotable enough far an hour or so rest.”

Vilhelm was apparently a man with some authority over the team because he answered for all of them. “Well let's set up one of the nearby sleeping quarters with a foamy and see if there are some clothes the young man can change into.”

He fiddled with that thing on his wrist and then he turned to Tannin and responded. “I'm afraid we don't have water showers here, but you'll find the cleaning cloths to be very effective. And...well you already know not to give the alien bunks a try.”

One of the 'guards' for lack of a better word, came to the door and the man looked apologetic. “Tannin, we believe you and hope that you will forgive this, but I made it clear to Akua that you would be my responsibility and until we've earned her trust we will not be able to give you free access to the base.”

Chapter 133

Despite his exhaustion, he was having trouble sleeping. It wasn't the 'foamy' which was some kind of memory material that felt like a thick air mattress. He kept thinking of his home, his friends, all that had changed here. He also wondered if it would be possible for him to return. He knew nothing of the technology or how to fine-tune the machine to a specific year. He needed to speak to this Capoferri guy. He wanted to get some water, but he had to stay in his quarters. Unfortunately, although the team had never figured out how or if the doors could be locked, Vilhelm had made it clear that the next shift would be instructed to keep an eye on his door.

After what felt like several hours, he finally drifted off. He was standing above a huge plain. There were dozens of the alien ships scattered around the area. He saw the alien base and strange figures moving about at the edge of his vision. Then he was looking at the moon from above. He saw the moon slowly fade into nothing. The entire Earth began to cloud over. He felt more scared than he'd ever been in his life. Even when he had descended into the hole. Then just as quickly, the moon reappeared. The Earth looked normal again and he woke up.

Chapter 134

“Please come in Vilhelm.” The older woman motioned him to a seat. “So what is your impression of this young man's story?”

“As incredible as it sounds Akua, there's no denying that he's telling the truth. He reacted with the most authentic shock and dismay when I showed him a world map. This Jermayka place that he's talking about was once an island a few hundred kilometers north of Venezuela. It was apparently a very poor country because he had to go to Brazil in order to pursue his interest in astronomy. He talked about living in a place called Sow Powlo which was the New York city of South America. There's nothing but a few heavily deteriorated concrete structures poking above the ocean. Lindsey sent a comlink to her colleagues back home suggesting they look for signs of a spacecraft launching facility near...” he paused a moment and tapped on his wrist “near a place called Pelowtas. There are stories of a similar facility in what used to be Florida a few hundred kilometers north of this Jermayka.”

“My god. If this man's story is true, we have the most incredible find since the first spaceflight! Here we have a 200 year old man who lived before the upheaval, *and* we have proof that the aliens utilized time travel. Hell we could go back and put a stop to the madness that befell humanity back then before it even causes any destruction.”

“Akua, with all due respect, the man isn't telling us all of what he read about in that story of his. But he did allege to a great deal of harm stemming from Capoferri's meddling with that device.”

“Well of course. The man is brilliant, but he does go off half-cocked sometimes. He's too young to have developed the restraint necessary.”

She sighed deeply. “How in the hell am I going to explain this to the World Planetary Society? They're going to think I've lost my mental capabilities.”

“Well ma'am if it helps at all, you have all of us here to corroborate the story.”

She looked at him as if seeing him in a new light. "I certainly hope that's enough."

Chapter 135

He awoke to find the door open and Cheput standing at his door.

In his groggy state, he was thinking that he looked oddly like a taller version of Domingo. But what would Domingo be doing in his room. And why did he feel lighter than when he was a child? Then he looked around and it all came flooding back to him.

“Um. I guess dey don have privacy here, do dey?”

The man seemed more good natured than yesterday evening. “Lindsey told me that she believed the 20th century culture held tightly to individual privacy. It's ironic given the enormous world population in your time. But she thought it best to let me get you instead of sending Terry.”

“Well she sure guessed right on dat one.” he looked at the man with surprise, “so in this culture, there's no taboo against seeing people change or do other private acts?”

“Tannin. We will respect your culture if you wish, but you must realize that after having seen our whole world turned upside down and our civilization struggle on the precipice of extinction, well things like watching a person brush their teeth is not an issue. But take your time. I'll return to escort you in fifteen minutes.

Chapter 136

The man led him to a table that the scientists were using as a workstation. By now several other people had seen them walking over and joined the group. Despite his discomfort at being the object of so much interest and curiosity, he allowed them all to sit with him and Cheput. If he felt unprepared as a storyteller last night, he was even less prepared for the avalanche of questions that were launched in his direction.

“So you think that the beings who built that base which you discovered are the same beings who built all of this here?”

“Tannin, did you really figure out an alien time machine?” a younger scientist asked

“Were there any bodies or information on alien biology?” someone else interrupted.

Tannin turned aside to Cheput and commented, “Wow, word really travels quickly through this expedition. I guess this is big news.”

The man had an amused expression. Like he was trying to figure out how to describe a nuclear reactor to a 10 year old. “Tannin. You may have noticed the devices that we have on our wrist. We call them informáticas and each one is linked to both the central computer and to every person on the base...”

“You mean like a smart phone?”

Several people were tapping on their devices at once. Those who got results first gave themselves away with a giggle or a smile.

“Um, yes something like that.” Cheput was definitely the most diplomatic and empathetic of the group. “I hope you wont take offense to our bemusement Tannin. It's truly eerie you must understand to talk with you when nearly every reference you can think of is an antique for us.” He tapped again on the device.

“Um..right.” Tannin understood his kindness and attempts to help him understand. But it was all so surreal.

“Wow, you must be a genius to have figured out that alien spaceship when we've spent years tinkering with it with no serious progress.” One of the younger female scientists couldn't stop staring at him and it was a

bit unnerving, even given the current situation.

“Didn't you read that bit about the story he says he read?” someone stage-whispered to her and she furiously tapped her wrist.

“My god, think of the potential!” another scientist sat dreaming out loud “We could go back and prevent humanity from causing all that damage. We could show them how to provide solar power 24 hours a day to the surface. We could help them develop biomimicry and...”

“But you don' undastan mon! Most o' dat stuff was *known*. We knew it was possible to make solar enagy satellites, use hemp far makin papr, an grow more varied plants. It wasn't dat de nations didn't have de knowledge, i's dat dey didn't *want* to do it. Dey jus' kept denying dat any pro'lem existed.”

Now it was Lindsey's turn to be flabberghasted, “You can't possibly be serious! Are you telling me that humanity *had* the technology to prevent almost two centuries of self-genocide, and they *just chose not to?!?”*

“I can' undastand it myself. But de wealthy nations like United States and China were comfortable enough that they thought de pro'lems would only affect poor folks. Nobody could grasp dat de harm to de planet affects everybody.”

Tannin did his best to not ignore any of the eager scientists. “Oh and regarding de aliens....no we didn't see any bodies or biological remnants. Dere was only de ships an' what looked to be a repair station with tools layed out der.”

Chapter 137

It took at least another day for Tannin to both relate to the crew all that he'd seen and to learn a little about this current time. There were so many people beyond just the historians who wanted to learn all about the time period that he lived in. It was a shame, Tannin thought, that he hadn't thought to bring equipment from the base. It would have provided endless fascination for these folks. But he had to remain true to his purpose, in all of the excitement to learn about this place and the future that he found himself in, he had forgotten all about that kid Capoferri. If the guy was smart enough, he would've read about the dangers on that wrist thing and decided not to take such a risk. But Tannin couldn't be sure.

He went searching for either Vilhelm or Cheput and came upon the latter eating lunch in the team's makeshift cafeteria. It was a strange hybrid of plants growing up along two of the walls and what looked like a 1960s computer bank on a third wall. He couldn't imagine how the two combined to make meals enough for everyone.

“Cheput tank you for granting me pamiission to move freely through de base. I look forwad to exploring an would be happy to help in any way possible.”

“Oh hello Tannin. Not to worry. It was actually Lindsey who spoke to Akua on your behalf. She looks forward to having more conversations with you, as do several people here.”

“I'm 'appy to oblige. But if I may, would you be able to tell me where dis Mike Capoferri person is? It seems important dat I speak to him and do what I can to preven' de danger dat I read about.”

“Well certainly young man.” He tapped on the wrist device a few times. “Well not surprisingly he's in the alien spaceship exploring it's mysteries. Perhaps you can help him there?”

“Sure, I'd be 'appy to.” With that Tannin bid the man farewell and left the station for the last time. What happened next would be seared into his brain for the rest of his life.

Chapter 138

After getting the first suit he saw (he had lent his suit to the base personnel who were studying the historic unit), he exited the airlock and just stared. The timing couldn't possibly have been more perfect. Or more perfectly horrific to be more exact.

Tannin actually saw the alien craft fade to nothingness after taking only two steps out of the airlock. He stood there for several seconds just struggling to register what his eyes were telling him. Could that man be so horribly foolish? Or had he simply not taken the time to use that wrist thingy the base used to update themselves? Either way, he finally got his brain snapped in gear and took off at full speed towards the ship that he'd brought. He played with the mosaic near the door and miraculously got into the huge airlock. However once inside he found himself frozen in space. What should he do? If he went back to chase Capoferri, how far back should he go? In the book the guy went a long way back. But was he following his original path? Or was he taking a new tack based on Tannin's information? There was no way to know for sure and there were millions of years of history in which he could have gone. But, he realized, he'd never told the research group *how* he had manipulated the craft. So the guy must be still on his original path which put him back a long ways, but at least he had a direction.

He set up the magnetic field and reluctantly, he moved his hand and moved the left pyramid knob this time. He put the piece of glass in and had to struggle as his eyes and brain felt like they were being stretched in four dimensions. He couldn't take it more than a few moments. He moved to turn it off but something made him hesitate. Even while his eyes felt like they were watching his body from the inside, he hesitated until... Suddenly the machine went off by itself. He stood frozen with his fingers a few millimeters from the unit.

He rushed out of the airlock desperate to be in an open space (not that the ship was in any way confining). What happened next would take a team of science fiction writers a year to describe. He left the ship and as light as the gravity was, he felt himself rising high up above the ground. He looked down and saw himself floating a full meter above the ground. Then he looked to his right and gasped in raw horror. He was being held up by what looked like a mutant insect. It was fully 3 meters high (he couldn't see the top of the thing) and stood on three legs which terminated in three large flat toes. The thing seemed to stand permanently on tip-toe as it appeared to be examining him. For a brief moment he felt a terror more powerfully than any experience in his life.

Chapter 139

But little by little his horror began to dissolve. Images from his past filled his mind in rapid succession. The sun setting over the ocean in Trinidad. Claudio kicking the futbol to him in the yard. The sight of the South American coast laying beneath puffy clouds as he passed over on his way to Sao Paolo. His first thought was that perhaps this was that 'life flashing before your eyes before you die' experience. Then a thought entered his mind, not a subtle thought mind you, but a powerful one. 'No harm will come to you.' Slowly, and not without a struggle, his heart rate slowed and as the calm slowly increased it's effect he felt himself lowered to the ground.

“Tanninbaldone we have been expecting you for some time.”

“Okay, now I've seen everything.” he thought. Even Star Wars couldn't compete with this.”

“What is this Star Wars?”

The thought brought a new fear. It had read his mind! He knew he'd never turned on his microphone, even if by some miracle they could detect the radio signal.

“It is not exactly true Tanninbaldone. It is more that we can see images projected by your mind. This is how we transfer information to each other. This communication with....words...it is quite difficult. But we will accommodate you.”

Now a thousand questions were competing in his mind. How could he relate all of them to this creature. How could it have known he would be here? How did it communicate, was it telepathy? Not to mention the fact that the moon was still here, so the danger must have been averted....

“Do not worry Tanninbaldone. We can answer all of your questions. We do communicate with what your culture considers telepathy. We do not have many resources, and so developing the mind has been our greatest advancement.”

There was a pause before the thought process continued. “Do not be concerned for the risk to your world.

We have discovered this other...Mikecapoferi. My /#-e8+p) has him now and is analyzing....no, that is not the word you would prefer. He is questioning him in the same way that I am communicating with you. If, after analyzing his actions, we learn that he had caused this danger on purpose then he will be....punished as you call it. If on the other hand, he acted out of ignorance or some other benign motive, then the problem will be rectified. You....humans really should be careful when dealing with #-e8+p) that you do not understand.”

He paused for a moment as he seemed to be drinking in the patterns within Tannin's mind. “I see from the images you project that your species has already delved into some dangerous technology. That is sad to see. It happens on about one out of five worlds. What you must understand about technology is that there are times when the risk far exceeds the possible benefits.”

It was eerie to communicate this way. The more time he spent in the company of this creature, the more he felt answers to his questions arrive almost before he thought them through. He thought of the psychic and how accurate everything she'd said had been. No sooner had the thought entered his mind then he saw her. The creature was gone, and there she stood....on an airless moon. The same short broad frame, the same ponytail, the same beautiful dress. There were no words, in any language, to describe his shock.

“I am sorry if that transformation was too severe for you Tanninbaldone.” And now the giant tripod was back, “we can indeed project false images. It was our original form of self-defense. However it takes a great deal of energy and concentration. Yes it was one of my colleagues who set you on the path which you needed to be on and helped you along the way. She is a great seer among our people and I have come to trust her judgment with respect.

We feel a sense of....responsibility for correcting the careless error resulting from leaving our technology where it could be discovered by a....pardon the term, primitive culture.”

You were wanting to know how we knew you would be here. We needed you to follow Mikecapoferri in order for us to discover the time period in which you both discovered our technology. From there we could repair the problem. You don't remember, but I can remind you of the sign on the 'psychic's dwelling that you saw. It read 'your future is my present' which is the true case for us regarding you.

Tannin wanted to ask a million more questions. Where were these beings from. How old was their culture. What did they use to travel between star systems. What were the cultural norms Could he get some pointers on the use of their tools?”

“Tanninbaldone I don't know if you can see the wisdom in this. But I must be careful not to reveal things to you that your culture is unable to cope with. You've already seen what your people have done with dangerous technology. We must give you time to see if you are able to rise above the more primitive elements of your evolution.”

“I can tell you that our current habitation is based in a constellation which you have named 'Ara' and I believe....yes it seems that your scientists have discovered the largest planet in that system, which we call +^g7u#:<.

I am sorry to disappoint you by not being able to answer all of your questions. I hope that you understand now the danger of letting a less-advanced species learn too quickly.”

Chapter 140

Tannin was quite sad to hear the alien's response. He thought of all the enormous astronomical discoveries these people had observed, the origins of his own solar system, the interaction of stars and even galaxies. Once again, before his thought was even complete, the alien presence filled his mind with words and images. Each one more shocking than the next. He saw a huge fleet of small ships flanking what looked like a dwarf planet, and the planet was accelerating towards another planet. The planet was a deep red with a bright star silhouetted behind it. My god, these ships were creating a planetary collision! He watched in horror as the two bodies collided. The impact was enormous and terrifying. Boulders the size of continents were flung out in all directions from the impact site. Then it felt as if time sped up. The planet, which must have been hot enough to be largely molten, seemed to flow back to a roughly spheroid shape due to gravity. As he watched, the gigantic rocky asteroids which had been flung out, gradually fell in elliptical orbits around the damaged planet. Some of these giant rocks followed degrading orbits and slammed back to the surface of the planet. Others continued to smash into each other at enormous velocities. Little by little it became clear that he was watching the formation of the moon itself. After millions of revolutions when the impacts became so rare that he almost never saw them, the first ships landed. These were the same aliens! They'd created the moon! They had created it as a base of operations in this part of the galactic ring.

Next he saw the solar system developing from a wider perspective. He saw enormous comets swing in towards the sun and back out. He saw some of these develop more circular orbits beyond the gas giants. Many of them collided with each other and some of the collisions resulted in proto-planets large enough to support an atmosphere. He could see Pluto in particular as it revolved around the sun and its atmosphere would solidify and evaporate with each cycle. He saw comets swing toward the inner ring of planets and get gobbled up by Jupiter or Saturn. Then, as the rotation of the planets became a blur, he saw huge fleets of ships leaving the inner solar system and after a few more revolutions, the star grew to enormous size. It grew to absorb Mercury, and then Venus. It grew so large that it nearly singed the now ancient planet Earth. Then it seemed to pulse as it grew and shrunk in small quantities until it eventually shrank back to become much smaller and dimmer than the star had ever been.

His field of view grew enormous then. He saw the galaxy moving in a vast rotating pattern before it eventually became near enough to make out the next nearest galaxy. Andromeda! Sure enough he watched in amazement as the two galaxies were drawn together with stars intermingling as the black holes at their respective centers pulled together eating everything in their path. He continued to watch incredible scenes of planetary formation in star clusters and galaxies that no human could describe.

“Tanninbaldone these images are from your far distant past and even more distant future. Your development will not affect or impact events as powerful as these. Now I understand that you are eager to learn a great deal about the events beyond your planet, but I have much work to do here myself. I must return you to your ship now and continue my duties.”

Tannin could not express in any word, thought, or mental projection his gratitude to this alien being for sharing all that he had. The experience was nothing short of astronomical and would be with him for the rest of his life.

“It is my pleasure to share with other sentient creatures. You have shown great cleverness to reach this point and I wish you success as you continue your journey. Once we return you, I will remove any dangerous technology to prevent such an accident from occurring with any others of your species.”

Reluctantly Tannin followed the immense tripod into the ship and struggled to maintain his composure as he was once again stretched and squashed. Just as before, he stumbled out of the ship and almost threw up in his suit which he didn't relish the thought of.

Chapter 141

No sooner had he left the ship, then it disappeared behind him. In fact, all the ships disappeared at once. He was enormously sad at the thought not only of being unable to examine them fully, but to realize that nobody else would ever see them.

“Tannin Baldone! If I don't hear your voice on the radio in the next three seconds, I'm going to personally kick your bunda all the way back to Jamaica!”

“Not sure what in the world was going on, he just hurriedly replied, “I'm here sir. Sorry for de delay.”

“Yeah, sorry my bunda!” Despite his apparent anger, there was distinctive relief in the pilot's voice. “When I give you an order to get back up to the workstation, I expect you to follow it. You had both of us pretty damned scared you'd gotten stuck down there. Now claustrophobia or not you get yourself up here. We may have plenty of oxygen in that ice layer, but we don't have the equipment to separate it. I'm not risking all of our lives by letting you spend another couple of hours out here.”

As Tannin rose up through the confined tube, he filled his mind with images of planetary motion, collisions, and star systems. This helped his claustrophobia and helped to distract him. But it saddened him to think that there was no way to share this momentous experience. Humanity would never be able to benefit from the awesome technological advancements of these strange and benevolent creatures. But most of all, nobody would ever realize how close humanity came to having never existed in the first place.

Chapter 142

As Tannin emerged from the hole, he gratefully moved his arms around and did some jumping to get the circulation moving. Words could not describe the joy he felt at finally seeing Marcos and Elenin again.

“You had me worried there Tannin. You should know better then to let yourself be out of radio contact for...”

His words just trailed off as he stared at Tannin.

“Marcos, what is de matter? You look like you've just seen a monster or sometin.” He realized the irony of the statement as he thought back to the three-legged alien creatures.

“Tannin, what in the world happened to your suit?”

All at once he looked down at himself. His suit was fully flexible and offered no resistance to his movement whatsoever. An intricate logo displaying the words 'World Planetary Society' was emblazoned on each arm. Then it came back to him. The moonbase! He'd donated his suit to the scientists to study and had grabbed whatever suit was nearby when he went after Capoferri.

Well apparently he'd have something to show for his adventure after all.

“Well Marcos, you is neva goin to believe dis...”

THE END

Notes:

1 Nazca – named for a region and town in southern Peru

2 EML-2 – the Earth Moon Lagrange point is a point in space where the moon and the Earth's gravity cancel each other out. Thus an object there would remain relatively motionless

3 Vomit comet –officially named a Reduced Gravity Aircraft it's a training simulator in which an airplane flies a in a parabolic pattern which provides astronauts with about half a minute of simulated zero gravity at a time.

4 Yuku rocket - named from the word 'fire' in the Moxos language

5 centavos –to be accurate, the Brazilian currency is the 'real' but as this would have been confusing, I used a more historic term

6 Nuxute capsule – named from the word 'head' in the Moxos language

7 Nieva –a small trainer aircraft produced by Embraer Aerospace

8 Nubupe relay capsule - named from the word 'hand' in the Moxos language