

Sometimes a Great Landing

by Alvin Dulcan, esquire

This is The End

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Week 1

The Doctor

Here I am sitting in the blasted waiting room instead of serving my customers. Man this hurts!

I don't know if I'll ever be able to have sex again. An all because this stupid peacock of a news guy does not know how to play Crater ball. After all I have been through, to be debilitated by a game.

And, what can a Doctor do anyway. I am going to have to wait and go through the system and nothing will ever happen, and besides Boy, she looks interesting ...

Oh well she probably is just a dumb shit bureaucrat. She's coming to see me.

"Hello, your name is Joe?"

"Yes"

Extending her hand.

"I'm Jean. I'll be your doctor today.

"You're a doctor?. You look goood."

"That's a little forward, don't you think"

"Sorry, it's just that you seem like a normal person"

"Oh, Now I,m normal"

"You have me all flustered, and besides, I'm hurt"

"You poor baby. Well, come in and lets find out what's wrong"

In the Inspection room:

"So what is your problem? Your record says that you have only been to medical once before ... when you were born."

"Look I know you can't do anything about it, but the Crater Ball insurance said I had to come. I ran into The Peacock. He was tumbling in an odd way. His head rammed right into my crotch. His neck really got wrenched."

"Why isn't he here?"

"You know The Peacock can't go to a regular clinic. He has to go to the Star Clinic."

"Well, Joe, let's take a look at it. Take off your pants and lie down on the table"

I jumped out of my pants and on the table. I was always one to get naked. It seems that clothes are sometimes protective, but are often not necessary.

Jean laughed, but got right to the inspection. She opened my legs and saw the bruise on my inside thigh."

"Ouch!"

"No wonder you never go to the doctor; you have a low pain threshold."

"That's not true. Look at these burns that I get from the grill. I never scream. It's just that it really hurts."

"I'll send my report to the insurance company."

"But what about me? Am I going to be OK?"

"You won't trust what I say, so why should I bother telling you?"

"What, how do you know ... Oh, now I remember, you have the mind reader program in this room. Another reason I don't like doctors."

"You can always remove your chip if you want to stop serving food."

"Sure."

"You're going to be fine. You will have sex again. You just have a couple bruises. I've

prescribed some nanobots to knit the arteries, and massage therapy.”

“What is the massage therapy for?”

“For fun ... enjoy it. Marga is the best therapist in the fleet”

“Whoa, Jean, thanks. You’re not so bad.”

“You’re not so bad yourself, Joe.”

The Massage

<author>

This paragraph is not all about the massage, but I thought it would be a catchy title so that people would want to read on.

</author>

As I was walking to the shuttle for albatross, where Marga's office is, I was thinking how nice Jean was. And I think she likes me. Maybe they can tell more in the mind reading program than advertised. I. m going to have to look her up.

That was a very strange Crater Ball accident. I have never heard of anything like it. The Peacock claimed it wasn't his fault. It's not like I usually would believe him, but he didn't even try to blame me. Something seemed to go wrong with the microgravity adjuster. Well, I guess it's because this was the last day it was open since they are closing down in preparation for beginning deceleration. I still have an hour before my therapy appointment, so I watch some chip-vision. This chip is invasive, but it does have some uses. I can watch any of the 100 live shows or recorded content as long as my heart rate doesn't go above 100 beats per minute.

As I get on the shuttle, I tune into the sports. Shafir is the broadcaster. Maybe I'm glad that I ran into The Peacock, so I don't have to put up with the with his boorish arrogant attitude. Shafir is a cool guy (sometimes a little too cool). I must admit that he is pretty good looking (nohomo). But he really knows sports and has interesting perspectives.

“And now we have a story close to home. The Peacock has been injured in a Crater Ball incident. The microgravity adjuster malfunctioned which threw him into Joe the cook as is shown on this vision.”

I knew it. So I looked it up in the history search. There has not been a microgravity adjuster error for over half of the trip. Oh, there have been some power outages, but the fail safe protocols worked to prevent injury.

“There has not been a microgravity adjustment error in 500 years.”

Dumb shit.

“I know what you're saying, ‘Dumb shit, I just looked it up’”

Oh.

"I wanted to point this out because the technology behind this is very mature. They have firmware upgrades every year or two, and that is to add features. There haven't been any bugs found in 100 years. This is much more than a sports story. There is a large trending in Twitter about strange things happening since we have been within 1 light-day (about 100 days) of the Luyten's star. Fleet Management has discredited this idea, which makes it all the more believable. They do not usually comment on crackpots. I think that there is something they know about but are not telling us. I like to be protected ... No I don't! Hit me with your best shot "[Pat Benatar plays in the background]. This trending has been surrounding Marga supporters. Marga is said to have special empathetic and maybe psychic abilities. I am into it if it gets me what I want, but what is the point here.

The vision for the show jumped up from 20 to 40% in a minute. This is clearly a hot topic. Twitter has expanded so much in 2000 years that it is build into all of the chips.

Shamir continues:

"I can see we have jumped up a few points. I didn't say this to get ratings, but it is something we need to evaluate. We are going to the planet whether we want to or not. The trip was planned 1500 years ago, and there is no going back. We all know that. But we need to know so that we can adjust mentally to what we might be approaching. And besides, Twitter algorithm has proven that the combination of the people can solve the problems no logical team can solve. This is my editorial, and I hope I keep my job."

"In other news, the pogo stick tournament has been dominated by the dodo league, especially ..."

Boy, that's too much bullshit for me. I'm tuning out. That is another good thing about the chip.

Really, The Massage

As I approached Marga's office. I wondered if this was the same Marga that was the shaman of the major religion on the fleet, called BeNice. Shafir even mentioned her as the center of the questioning of the strange electronic occurrences. I was a little apprehensive, but figured this has to be a different Marga.

She opens the door as if she knew I was coming. (I don't know why I keep getting surprised. I have had this chip in my brain for 40 years.) She is the most beautiful vision I have ever seen. She is lithe and tall, but has curves. Her long hair drapes over her legs, which are bare. I look around to see if others are around. Nobody is there.

"Are you looking for someone?"

"But you do not have any clothes on."

"And this bother you?"

"Not really", as I take off my clothes.

“Uh, you weren’t really supposed to undress here. There is an uptick on the trending for Joe due to the public camera over there.”

“Let’s get to it” As we walk into the office. “Are you Marga of the BeNice?”

“That is I”

“Why do you work as a massage therapist? You don’t have to work at all.

“I am a spiritual leader because of my gifts, but I still need to contribute to the fleet. And I feel good about my ability to soothe people in many different ways.

“How was I able to get an appointment with you?

“Jean is a special friend of mine,. Now will you shut up and lie face down on the table?”

I really needed a massage. I guess Jean could tell. It was not just the Crater Ball incident, but I was nervous about the deceleration. I was going to have to lose my place. I was the cook, owner, and pot wash. I always wanted to own a dive with great corned beef hash with my friend Mike. As I pursued my career, that seemed like a dumb idea. But things got crazy when Mike died and -

“Will you please relax. I do not like to use the chip to do it. It is much better if you do it yourself”

“OK” I said, muffled by the hole in the massage table. This was the most comfortable that I could imagine. In a thousand years of travel, they finally perfected the bed and thus also the massage table. It used to be that if it were soft and molded to your body, then your skin couldn’t breathe. They called it memory foam. But my ancestor called it sweat foam. This was soft but fluffy. It made your skin feel alive. It felt like a cool breeze but you felt warm at the same time. it is amazing what vibrant nanotechnology could do.

And then she touched my shoulders. Every muscle that she touched was tense, so I imagined it relaxing. She kneaded the soft tissue on my upper back and found the tight spots. She worked with her fingers, and then her elbows and then the palms of her hands. When she got to my but, it felt sensual, but not sexual. I know that she knew exactly what I was feeling. She worked up and down my whole body. She spent extra time on my right leg working out the scar tissue from a ten year old injury. I was surprised that she didn’t spend much time on my groin injury but it was clear that it was too sore to aggravate further. When she finished, I was in love.

“Don’t think you are in love with me.”

“How did you know what I was thinking?”

“It is only natural to feel that way. I have studied to make my patients experience that greatest feeling, and I think love is that feeling. But I also must give the disclaimer.

“Oh.” But I wasn’t let down, just brought to a little closer to reality.

“Now let’s talk.”

She led me to a bubbling hot tub in the back and we slipped in. We both were still naked but I was surprised that I didn’t have desire. (Although it probably was good that only our heads were out of the water.)

“ I can see why Jean likes you. You have a certain way about you. “

We soaked for a few minutes.

"Do you know about the fluctuating pico magnetic anomaly?"

"The only thing I heard about was what Shafir mentioned on the sports report."

"Well, you are involved. Your accident was caused by it. We call it the FluPiMag anomaly. Our religion of BeNice is a spiritual combination of science and mind. Non-believers think that all we do is hocus-pocus. We like it that way because we can keep our true abilities under the radar."

"How do you know it was caused by this .."

"FluNaMag. We have sensors all over the fleet. We can measure the fluctuation in time and space. We call it nano because the wavelength is on the pico scale. Nothing in the electromagnetic spectrum is like that. This is a psycho-electric anomaly. We have just recently developed the ability to measure it."

"Why are you telling me this?"

"Because we want your help."

"I am just a cook."

"We know your history. You were one of the shining stars in Fleet Management, the technology sector, and then all of a sudden dropped out."

"So, I am a failed bureaucrat."

"Yes, but not a failed technologist. You understand details about hardware and how it work with software. You continue to do development in your own time that eclipse the Fleet's accomplishments."

"But, "

"And don't try to claim that it is just the open source organization that is doing all the work. We know all of your aliases and can tell that out of the 1000 contributors, 90% of the advanced work that is submitted is yours. We need your genius and we are putting you on the landing party."

"You can do that?"

"We are not all powerful, but have tendrils into all organizations and walks of life."

"That is really scary."

"I thought you liked my legs."

"Come on, this is serious."

"Sorry, I thought that I should lighten it up a little. I can see that you are having trouble with these concepts. You have been living in a combination world of day-to-day business, technology, and avoidance. You have not been looking at the big picture'

"I have been accused of this."

"It is not important if you are half way through a thousand year journey. But, we are about to make the landing, and you are uniquely qualified to make a difference. We have found out a lot more about what is going on. And though the Fleet Management does not have some of the technical abilities that we have, they are not blind.

"And what is worse is that they are hiding what they know. Sure, it is debatable that they don't want to panic the travelers, but we don't think that is the real reason. There is a control aspect to their actions."

"What do you mean."

"I am not sure what I mean. Some things I have are hard facts, but this is just a feeling. We have not been able to penetrate the inner circles ... yet."

"Well how could you get me on the landing party? Not that I am consenting to go, mind you."

"Don't worry. That! ... I can do."

I'm Mad

<rant>

Yes, I'm mad. I don't know exactly why. It's like I have kids that are still living at home at 25 and pretending to go to school. I think these type of problems have been going on for at least 4,000 years. Plato complained about the youth of his day. Somehow it always gets worse. If there is a stable environment for the children, most of them feel entitled. If you have a depression, when they don't get enough food, then they grow up to appreciate what they have.

</rant>

My Story

I am not so sure about Marga. She seems so down to earth, in an ethereal sort of way. But it is suspicious that she can influence people and events. She obviously has a lot of power, and power always corrupts doesn't it?. And how old is she anyway? She looks about 60, which, of course, is the 30 of 1000 years ago.

We all expect to live to 200. 1000 years on the trip with predictable conditions and consistent medical care tends to extend life. Not to mention the breakthroughs made in personal genomics started in the 21st century. The longest lived person on earth is 281. At least that was the record about 10 years ago. We can still get transmissions from earth, but it takes 12 ½ years. We get focused laser transmission, but the bandwidth is not large enough to get the vision shows.. We do get the "current" state of the world compressed and packaged by Google. The longest lived person in the fleet was 252. That is 4 standard deviations from the median of 200 years, since there are only 10,000 people in the fleet.

I was Chief Technologist for Fleet management for 10 years. My specialty was personal communication and sensor devices, but I had to have a broad knowledge of all of the technologies: propulsion (including deceleration), fusion, electronics, materials, mechanisms, electromagnetism, lasers, biology, astronomy, etc. Everything is nono or even pico now, so people have dropped those prefixes (except for Marga who calls her anomaly FluPiMag). Everything is also computers, so that is just assumed as well. Even materials have biological computing components now. This is how the massage table was made so comfortable.

All of the advances made in the 20th and 21st centuries have kept going, except that quantum computing is still over the horizon. Understanding the physics underlying all technology is especially important.

People are not reproducing as fast on the fleet because we need to keep a stable population. In fact that is one of the problems we expect when we get to the planet. We will need to step jump our population growth. This is important to spread out quickly to avoid disasters and populate the whole planet. The survival of humanity and the effort of the last 2000 years depends on us. But everyone is programmed to only have one child. Also more children will come through natural childbirth, rather than the lab, because the communities will be separated and not have access to the advanced genetics lab. The Fleet Management has always encouraged natural childbirth. "Natural" these days means in a woman's body. Drug and cesarean sections are still considered natural. "Natural" is the opposite of the lab babies. As genomics have advanced over the years, a lot of tailoring of the children has been done. Even for the natural children, there is genetic modification. But the guidelines for acceptable modifications has been worked out so that there is still good genetic variety and randomness. There is no super race of geniuses or soldiers, but everyone is healthier.

Doomsday 1

Of course, technological development was stalled and even went backward for a couple hundred years after the collision. Boy, did humanity dodge a bullet in June-September, 2075. The doomsday asteroid hit earth. "Hit" is not really a good word. "Enveloped" is more accurate. The collision took place over 2 ½ months, but the effects lasted for over 200 years. In fact, it was only through technology that the effects were so limited. Event like this in the past lasted for hundreds of thousands of years. Earth's population dropped from 9 ½ billion to 300 million. Most of this was in bubbles created in the last year before doomsday. Some bubbles were in the wealthy countries, but others were in remote areas so that they could be protected more easily without big military.

The most amazing thing was how humanity cooperated. Sure there were plenty of skirmishes for survival before and after doomsday. But once they settled down, everyone worked together to solve the problems.

<note by "editor">The author is painting this as a garden of Eden existence after doomsday. This is far from the truth. There was terrible suffering and violent reactions and reprisals for years. For people that lived through this time it was terrible. Starvation, executions, wars, gangs ... not knowing if you could survive another week. </note>

Once the bubbles were stabilized, which took 50 years, communications were re-established. There started to be limited travel between the bubbles. And plans were hammered out over decades.

Terraform 1

The first project was to terraform the earth. Terraform sounds like a strange word to use on the

earth - earth-form the earth. But the earth was no longer earth like. The balance had been upset. 99% of the species went extinct due to the perennial winter. The bubbles were like arcs to preserve as many species as possible: plant, animal, bacteria, yes, and even virus. And of course, All the information was maintained in the Google bubble (and replicated many times). It turned out that Google's plan/goal/charter/vision to gather all knowledge was more important than anyone realized.

But a lot of the technology had to be build up from scratch. In some ways we were back in the stone age. The difference was that we knew how to make what humans needed, but we didn't have the building blocks. And even "we" didn't know how to make the building blocks; the computers did. People still had to be involved.

The first order of business was to clean the air of dust from doomsday. Vertical shafts above the bubbles were created to let the sunlight in. These shafts were more effective than you might think. Due to the cooling of the earth, there was less air movement. But these shafts were dynamic. They moved around like tails on from the bubbles. These looked like swirls from the satellites.

Yes, about 5% of the satellites were still intact 20 years after doomsday, which is how long it took to rebuild the ground stations. These could last for 30 year due to the advances in propulsion in the early 21st century. There were other satellites in geosynchronous, but had run out of fuel, so that they could no longer point at the earth. Some of the 5% were still alive due to mothball storage software patches uploaded before doomsday. The satellite was put to sleep, woke up every 6 months, and reoriented to receive commands. When no commands came through in a day, it went back to sleep

The bonus from the cleaning of the air was the material gathered. The asteroid contained a variety of minerals. This meant that humanity did not have to mine the ground, but could just mine and separate the air. It had gotten to the point, even before doomsday, that it was increasingly difficult to find new sources of minerals. The garbage dumps had already been mined.

Jean's Story 1

"I thought you never would ask me out, Joe."

"So, Jean, I guess you couldn't wait. But I'm glad you took the first step."

"I can see that we were manipulated by Marga. I don't know how she is able to intercept chip communications. They are supposed to be secure."

"Thanks for the massage, by the way.

"It was one of the most sensual experiences I ever had. I mean, that, uh ..."

"I know what you mean. Did you like her legs?"

"Uh, yes?" I did not know what the right answer was.

"Yes, she is always showing off her legs. I guess if you got it flaunt it. But it can get a little tiresome. If that is the worst thing you can say about her, then that's pretty good. Did you touch them?"

"No!"

"I didn't think so. You're not her type. I touched them. They are nice. But I wasn't her type either."

"What is her type?"

"Only she knows."

"So what kind of algae are you ordering tonight?"

"I thought would have the swordfish algae (pronouncing the sw like swim like my sister used to do).

"That was quick. I thought you would have trouble making a decision."

"I wanted to impress you with my decisiveness, so I closed my eyes and dropped my finger on the table." Of course the menu was embedded into the table, as if it were made that way. We have come a long way from normal displays. The nano biological active computers could rearrange materials at will. There was still no alchemy. Gold had to be made the old fashioned way, in a super collider.

"Of course you did. You know, I don't need to read your chip to know what is going through your mind."

"Alright, so I am an open book to everybody."

"I'm sorry. It's what I like about you. You are yourself."

"So now that we are through psychoanalyzing, what are you having."

"I can't decide. Should I have the algae mushroom guinea hen or the shallot immersed seafood stew?"

"Have the stew and then we can share."

Food created on the fleet is a combination of food synthesized from algae to be like in texture and taste to any vegetable, starch, meat, but it turns out we still like to have it cooked. This is good, because otherwise, I wouldn't have been able to open T&Js, my breakfast/lunch dive. The food is really healthy even if it sometimes tastes decadent.

"So are you going on the landing?"

"I haven't been invited."

"Is is being arranged, so if you aren't going you have to tell us."

"Who is us?"

"Oh, here's the food. We'll talk after the meal."

"Boy this looks good." I take a bite and then spit it out. "This tastes like shit! Literally!" As she takes a bite, "Thanks for the warning. I can't even stand the smell."

"Hey! what gives?" as I coral the waiter.

"Sir, shall I send the food back?"

“You better find out what is wrong before you poison somebody!”

After a few minutes the waiter returns and announces to the room, “The food synthesizer has gone on the blink. The restaurant is now closed. Sorry for the inconvenience.”

Jean says, ‘I’ve just been called to my office. There has been a rash of poisonings. Good night and thanks for the evening. Too bad it was cut short.’ We have a nice kiss and hug and then go our own ways. She is taking the shuttle back to her ship, Jimmy. Joe is staying on his ship, Wingman.

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</fleet>

I tuned into my favorite chip news and who did I see, but Shafir, the sports reporter. Talking in his over dramatic style. “Here is your on the spot reporter, Shafir. On the spot because the other reporters are sick. Yes, folks, there have been a rash of food poisonings over the past hour. It has been tracked down to malfunctions of all of the food synthesizers in the fleet. This is a big mystery because they are totally independant, just to prevent this from happening. The 3 months of stored food have been checked and are OK. So we will not starve until we get to the landing, even if we cannot get the synthesizers up again.”

“So how would it be possible to for this to happen? I have word that we are connected directly with the former Fleet Chief of technology. Joe, what could affect all of the food synthesizers how could this happen? “

“Am I on the channel?”

“Yes, Joe, go ahead, there are only 3000 people listening.”

“Uh, I’m sure that Fleet Management will do a study.”

“That will take weeks to get the answer. And besides , none of them can be reached right now. Do you want to be the cause of a panic?

“Let’s not overdo this Shafir.”

"Then give the people something."

"OK, we have had two wide spread failures lately, with Crater Ball micro gravity and the food synthesizers. Since it is widespread, it must be some sort of wave, electromagnetic or otherwise. It must affect the central processor of these units, which are shielded against electromagnetic waves down to the nano wavelength. We do not have the technology to go into the pico range, and it would be hard to understand that, even if we do, that it could affect these circuits. In any case, it could be either, malfunction of some antenna circuits in the fleet, a natural phenomena coming from the Luyten's star, or sabotage. Is that enough for you?"

"I'm not sure that reduces panic, but at least I didn't understand it. Shafir signing off ... digging down to the bottom to stay on top"

I think its time to get a little information. What Marga said about psycho-magnetic energy coming from the planet. Besides, it looks like I will have a lot of available time until the synthesizers come on line. I need to update my sensors to catch that frequency.

"Shelby, come to my lab." I call as I am walking. Shelby is the best engineer in the fleet and still is in the Fleet Management organization but has somehow avoided moving up in management. They give her all the interesting projects and she is sure to get the equipment failure investigations. She'll do the work and someone else will write the report and get the credit.

"Howdy, Joe. As she meets me at the entrance to the lab. She lives in Wingman too.

"I'm glad that you have the day off." She is a little pistol, about 5 foot 2 roundish face and body but still tight. She has short hair, about 4 inches long, cut in a bowl shape. Long hair would be a hazard for a hand-on engineer.

"Me, too. What is this all about?"

"I just wanted to ask you. How often do you change your underwear?"

"What?!?"

"I am writing my memoirs and I think the people in the future are going to want to know the mundane things. Do you know that people in the 1800s in England didn't take a bath in the winter. The spring bath water was shared by the family. By the time the last person, the youngest baby, was washed, the water was so dirty that they sometimes lost the baby and threw it out with the bathwater."

"Come on, Joe. Stop feeding me bullshit. you know I don't wear underwear."

Shelby is one of the few people that I can tease. Usually it is the is the other way around. She is also a good person to have a beer and a shot with (algae grain alcohol).

"We've got to get to the bottom of these equipment failures. Have you looked at it all?"

"When you and The Peacock were injured, we ran a diagnostic and found no problems, but it is still malfunctioning. It must be something with the antenna circuit. We have no diagnostics for that."

"That is what I thought too. But I may have a little inside information. Do you know

Marga and the BeNice religion?"

"Sure, who doesn't? They are good people, if a little exotic. They have a lot of influence in the Fleet."

"Maybe more than you know, Shelby. They also have a science team. Are you familiar with psycho-magnetics?"

"Sure. In theory it is a wave with extremely high frequency and small wavelength and different properties than the electromagnetic spectrum. It doesn't come out of Maxwell's equations, but from a special case of superstring theory. I built a detector, but I never could tell if it worked, because maybe there were any around. We had no way to generate the waves."

"Do you still have it?"

"I have the design, and if the circuit synthesizer and 3D printer still work, my computer guy can have it by tomorrow. Why do you ask?"

Marga's scientists have detecting it. It has been strong ever since we have been within a light-day (about 100 days) of Luyten's star. it is getting stronger and fluctuating at the pico dimensions"

"Of course it would"

"What's more is that they think it is causing the malfunctions."

"You know I am not a theoretical guy, but if it's there I can measure it. I can hook up my psycho-magnetic monitor to the Crater ball antenna to see what is happening."

"Thanks, udaman"

"No, udaman"

Together we shouted, "weidamen!" and downed a shot of tequila.

Ancestor

<rant>

There is nothing like mountain biking. I wonder if the people on the fleet will get anything like it. There seems to me that there is nothing quite as purposeful and random as nature. It is no wonder that religions have argued over it for thousands of year. My mountain biking buddy has all of the building blocks for making philosophical arguments. I could never even understand Nietzsche.

Every weekend (well almost every weekend. Since we lost a member to San Diego, it doesn't always happen. I've even managed to ride some by myself and once home from work.) I know that I have to build up my oxygen system again. It happened when I was 58. Luckily, the people on the fleet will not experience problems like this at 120. Right now people are only living about that long. But the care that the families of the Fleet members just are really coming into their own at 60. They have been kept almost artificially immature. Education is such a big part of it. They have to understand all of the scientific and engineer information available. The no only have to have the background, but have to keep track of any new technology, in case it becomes important. The families have been following fusion for 500 years. it is amazing that something that became a bomb in 10 years took 500 to become a controlled power source. Perfection of combining hydrogen molecules to make helium was required before humanity

even started their plan to populate the stars.

People talked a lot about the Drake equation and the Fermi paradox. Were we the first intelligent beings in the Milky Way with star travel? Of course this is on the million year time scale. Over millions of years spacefaring beings could visit, essentially all of the milky way. Of course, maybe it is not really possible. Is fusion the answer? It seems to be. Maybe there is some fatal flaw in fusion, but you'd think we would have seen it in 500 years of success. I suppose we cannot worry about who is first. Somebody has to be first. It might as well be us. We definitely have to be a second generation star, so that we have elements with high numbers. that limits it somewhat. We survived multiple cataclysms, especially the last one. We would not have been able to survive that one, if we were not already in space.

I am so proud that I was a member of one of the elite families. I was really interested in the learning. (Of course I was bred to like it - I don't think that is such a bad genomic training. (I was bred to like that, too.) <Ringworld>The puppeteers controlled 9 million years of human evolution to create a part for a spacecraft and race of lucky people.</Ringworld> One of my relatives is going. I can't keep track of all of the branches. But I did meet him at a family reunion (with 10,000 members). I could really relate to him.. It was amazing how we were all similar but not in a way that would make use fight. Part of the gene tailoring is compliance. (Although, that does not necessarily last a few generations).

So, we rode up the same trail that we have ridden 500 times before. It kicks your butt right at the start. My buddy says that this is sprinting and that it's not good for you. Sprinting is different, and I don't think it strains your muscles. But it does kick your butt. We finally get to the log (which no longer has a log). This is a little challenge both ways. Today I made the complete log. This did not used to be a big deal, but it is now. I am a long way to coming back to do the first hill, or especially heart attack hill. But I might be able to get there. My goal is to get to the switchbacks. The rocky hill is an obstacle and then I have to come backup sinbad.. At least I don't have to go to the water tower. Besides the complete log, I went down and up to the trough, and down and up the bowl. I went down the narrow V-trail, but not the canyon. And certainly not the really steep hill. My buddy and I have not gone down that in 12 months, ever since I got amyotrophic neuralgia or Brachial plexus neuropathy, otherwise known as Parsonage-Turner syndrome (not Betty Joe Bioloski). ~~Curse~~ Too bad our other partner is not there pushing us to do the switchbacks. After all, it is all mental.
</rant>

Interlude

I need to have some dialogue between these passages. So I must be in a bar."

"Can you believe how I am being forced into this landing party?"

"Well, Joe, don't you think it's time you grew up?"

"Damn! Fred, I grew up once. Can't you be a good bartender and just say I'm right."

"This is a situation you have to think about. What would Nietzsche say about this?"

"I don't know. What would he say?"

"That is for you to find out for yourself."

"I suppose I have had enough break. This is important for humanity. Earth may already be gone and we won't know for 10 years. Do you think I really can contribute to the landing party. I'm not the smartest guy."

"Yes, that's true."

"You don't have to agree so quickly."

"Smart is an important attribute, and if you weren't smart and knowledgeable, I would just let you drink another shot."

"By the way, can I have another shot."

"Sure, you have enough credits. As I was saying, you have to do it. And you also have to contact Jean."

"I have to live up to my programming."

"Fuck the programming. Do the right thing."

"But the right thing is to work on the psycho-magnetics."

"I think you see that psycho-magnetics, Jean, Marga, and the landing all swirl together in a destiny."

"Man, you're heavy tonight."

"I have my moments."

The Scientist

<segway type=awkward> As I was staggering back from the bar. I ran into Kuona. </segway>
He is so difficult. Of course, there is always to conflict/cooperation between scientists and engineers. I just want to get thing done and he is exploring information.

Kuona is the Fleets greatest expert on psycho-magnetics. Usually, this would not be saying much, because how many experts can you have in 10,000 people. But this is an exception. He has studied electromagnetic transmission, especially as interacting with the unified field theory. He is obsessed with it. He has been claiming for 70 years that it is not only real, but affects everything we do.

"What's happening."

"You're drunk!"

"You're drunk, too."

"I'm just concerned about the Crater ball and food synthesizer failures."

"You were never interested in the news before."

"It was never related to psycho-magnetics before. What do you know about it."

"Nothing. Why would I know anything? Everyone is always telling me how oblivious I am."

"Takes one to know one. People say I am clueless, but this is my field. I tracked you down. you know, with only 10,000 people, you can't really keep a secret. Are you making a monitor?"

"Do you think I am part of your conspiracy theories? "

"Yes."

"Ok, you twisted my arm. I wanted to contact you anyway. Shelby is making a monitor. But, can you keep a secret?"

"Yes"

"Do you know Magar?"

"Yes"

"She has a scientific branch of the BeNice religion. Did you know that?"

"No"

"At least you can say something besides 'Yes'."

"Yes"

"She has a monitor for psycho-magnetics also and has related it to the failures."

"Can I talk to them? I need to understand this and help design some experiments."

"Yes"

Saving Humanity

After the air started to get cleaner, we were able to use the sun to grow crops. In the bubble we had to use nuclear plants and fossil fuels to create electricity for massive areas of grow lights. This was what enabled mankind to survive. Even so we had to ration.

The old structure of a banking elite that was directing the world was destroyed. Sure, there were some remnants, but the grip on power was not strong in every bubble. Anonymity was limited and cooperation was needed - by everyone, even the elite.

As the air got cleaner and agriculture started to expand, there was some optimism about the future of the earth - and - humanity. One percent of the species surviving was still a lot. The synergistic bacteria survived. But there was a growing feeling that we needed to do something. Humanity might not survive another cataclysm, asteroid, disease, or war.

They were now used to cooperating and they were able to make a 500 year plan. 10% of the GNP for the next 500 years from each bubble was dedicated to establishing life elsewhere in the galaxy. Sure, the first steps would be in the solar system, but even by 2125, it was clear that life on another planet or moon in the solar system would be difficult to sustain if the earth were destroyed.

Families of elite astronauts were created, but anyone with ability could get into the program on merit. So we were able to get the <reference><movie><Men in black> Best of the Best, of the Best, sir!<Men in black></movie></reference>

Any technology that had some potential application to exoplanet colonization was funded. In fact, the most powerful organization was the Colonization Committee. Where there are humans, there are politics. But the Committee (as it came to be called) was true to its charter. Fusion was the deciding technology. No other power method was found to be able to last 1000 years or more. It took 500 years to perfect it, but there was steady progress. Then humanity was ready to make a plan for colonization of the galaxy.

Collaboration

Marga, Shelby, Kuona, and I met in my lab.

“Marga, where is your technologist?,” I asked.

“He can not be revealed.”

Some cooperation, that is.”

“Do you want to see my legs?”

Kuona says, “Yes”

Shelby says, “Ignore that. He is just a horny geek.”

Marga says, “I was counting on that.”

Shelby says, “I have the psycho-magnetic monitor. It fluctuates wildly with time and space. Watch while I move it around.”

“Isn’t that normal when you have something at the pico resolution?”

Kuona says, “According to theory, the average over space for such a device should be constant. Unless you attach it to a pico positioner, it cannot be moved to show a spatial difference. This has to do with the stimulating waves.”

So I say, “Where are they coming from? Can we get a direction on them”

Shelby says, “They are coming from the Luyten’s star system. I don’t have the resolution to determine if it is the star, a planet, or some other source.”

I say, “We need to do more than just monitor. Can we create psycho-magnetic waves? If we could, maybe we can find a way to shield or cancel them.”

Shelby says, “I will look into reversing the polarity of the sensor and turn it into an actuator. I wouldn’t put much hope in shielding because that size wavelength can get through anything.”

Marga says, “I will get my guy to look into it as well.”

I say, “Shelby, what is the mood of the Fleet Management.”

He says, “They are anxious, of course, but don’t expect anything for about a week.

Deceleration starts in a month and the same circuits are used in those systems as well. You know, I’m working night and day on this. I hope you have some 100 year old Scotch for me.

“We’ll see”

3 Days Later

The same group is gathered, in Marga’s ship this time.

I say, "Marga, did you bring your engineer?"

She says, "A girl has to have some secrets. We were not able to make an actuator. how about you Shelby.?"

Shelby says, "This girl only has secrets from Fleet Management. For you I have created a psycho-magnetic actuator. Unfortunately it can only travel 20 feet with the power that I have. I was able to create interference patterns for the Crater Ball courts, but couldn't cover all of it.

There is a knock on the door and a short buff man with a shaved head walks in . He looks cheery. "Hello, Landing party."

"Rodney, wha- what are you doing here?"

"Worried about your conspiracy, Joe?"

"What conspiracy?"

"I know you think I'm not the smartest tool in the shed, but give me a little credit. Besides, Marga invited me.

Marga says, "You know we are all on the same team, and I think Rodney is cute. Besides, he's the reason you all are on the Landing Party."

Rodney says, "You shouldn't be surprised. We know all of the people in the Fleet and their capabilities, technical and how they can handle a situation. There are only 10,000 of us. You are the best and have a good variety of talents.

"Joe, you are a natural leader and have a broad understanding of all technology. And besides, We are actually going to need a good cook.

"Shelby, you're the best engineer in the fleet (if not always so loyal.)

"Kuona is always following some crazy theory. We need someone who thinks out of the box.

"Marga," he sighed, "what can you say about her?"

"And to round out the party, we have Jean."

Yeah! I give a little cheer to myself.

"You have all of the resources of the Fleet to follow up on the psycho-magnetics sensors and broadcasters. Shelby, you going to need more power to extend your range. I think we can spare a few trillion fusion reactions. We still have some hydrogen left.

"And Joe, if you could crank up the open source community, it would help a lot."

"Will do, Rodney. And what is your specialty on the landing party?"

"I, sir, will do the paperwork."

The Galaxy Colonization Plan

The universe has been around for 13.7 billion years, the earth for about 4 ½ billion years. So the collection of the bubbles thought they could spend a couple of thousand years of development to make sure that humanity would survive.

By the time fusion power source was perfected, 2575, 500 years after doomsday, the air was finally clean. The air had warmed up, and the weather had stabilized. Stabilized, that is, if you think that 200 mph hurricanes temperature swings of 75 degrees Fahrenheit in a day.

By the way, after doomsday, the bubble organization decided to standardize on measurements. There were about even numbers of people on both sides of the English/Metric divide. So they flipped a coin and English measurements won. After doomsday, people didn't have time to waste with committees and long discussions. So the flipping of the coin became a hallmark of the civilization. Coins are no longer used for exchange, but only used for flipping. On one side is the head of an elephant, on the other side is the tail of an ass.

By this time and population of the earth had doubled to 600 million. The growth has been kept small. The bubble consortium needed labor of all sorts, but did not need to create a large discrepancy between rich and poor. There always were going to be people who are more motivated than others. So there is a natural separation of wealth. But doomsday was a great leveler. Most of the poor people were killed, and those in the bubbles were packed in too close to separate themselves out.

Also, in order to survive, people were more cooperative. That is how the flipping of the coin was able to work. The prejudices of the past evaporated. And society had the advantage of knowing about technology, even if the building blocks had to be recreated.

There was an elite created starting in 2575. Each bubble area selected 10 families to go to the stars. They were spoiled, pampered, and educated with all of the best tools. And a variety of tools. Space travel required all types and an ability to live cooped up for all of your 200 years of life.

To travel 10 lights years or more required acceleration, time, and deceleration.

Time was granted by having multiple generations on the spacecraft. Power for life support was to be fusion. That is the only power found so far that could last long enough and not be too heavy.

Acceleration is to be provided by combining all of the methods: chemical rockets, slingshots around planets, and laser propelled solar sails. Everything that gave energy to the acceleration of the space fleet had to be left behind.

Deceleration had to be accomplished with fusion too.

There was rule of thumb, the million-million rule. If you are trying to get some mass m into orbit around a distant star, it will take 1 million m plus a lot of energy to decelerate from 1/100 th the speed of light. It will take a million times the mass to accelerate to 1/100th the speed of light.

So you need to have a million-million m or $m \cdot 10$ to the 12 power.

10% of the bubble consortium GNP was dedicated to colonizing the Galaxy. Even then, it took 500 years to be in position to launch the space fleet.

A good portion of this time was for launching the accelerators. These fusion reactors with lasers. 1,000,000 of them were launched over the last 200 years. Each had a reactor as big as the Post. The Fleet was comprised of 7 ships, The Post being a million times the mass of the others combined. The rest were spread out over 20,000 miles with a solar sail joining them. As laser sail would actually be a better term, because the Sun was too weak, even at the earth distance to impart much momentum. The laser/reactors were launched beyond the solar system, to push the fleet with the lasers. They could keep giving impetus for 20 years after they were passed because of the big solar sail and the tight laser focus. Thus The Fleet was able to get up to 100th the speed of light and it only took 1,250 years to get to Luyten's star $12 \frac{1}{2}$ light years away.

Prepare for Deceleration

Now that we have a handle on our psycho-magnetics problem (we think) we can concentrate on the deceleration. It is to take place in a month and it takes about a month of 1 G deceleration to orbit the star/planet system. This takes a lot of fusion reactions. And in order to decelerate you have to use that energy to throw mass in the direction of the deceleration, a lot of mass. That is where the second million comes in. In preparation of the for the deceleration everyone is moving into a small space. Each passenger can only take 10 pounds with them. Half of the passengers are going to keep going with the Post, which has most of the mass and the big fusion reactor. Many of these are too old, many are not up to the colonization activity. It's going to be a lot of work and not everyone is up to it. The Post will go for another 500 years before going black. and then all of those generations will die. The best technical people will go into orbit, so the Post may die earlier due to lack of expertise. It is tough when tech support is a light year away. Your support call will be answered in 2 years. They were resigned to the death of their branch of civilization, but they all had relatives that would (hopefully) succeed on Luyten D. And it wasn't so bad a life. It was the same they had been living.

It was worse for the orbiting members of the fleet. They had no luxuries and no room. That is one reason why I wasn't really trying to avoid the landing party. I would at least be able to walk around.

We said goodbye to our friends and families and started the deceleration. The Post sped up slightly as the other 6 ships were decelerating at 1 G, the same as the gravity of earth, 32.174 feet per second squared. The other 6 ships had a total mass of 1 millionth of the Post and each had their own purpose. Except for Philadelphia, that is, which was added at the last minute financed by a rogue bubble. and by last minute, I mean the last 50 years, because it took that much time to reconfigure the trip.

The landing party was in Wingman. At least it was like home to me - a stripped down home. it was like what they did in the 19th century British Navy when they had battlestations. Everything was stowed away, or in this case, jettisoned to get a little extra deceleration.

The long term deceleration was provided by lasers shooting from the Post onto the sail connecting the remaining ships.

It's going to take a month to slow down to achieve orbit around Luyten D, the third planet from the star. The planet is about the same size, mass, and orbit as earth. But even more important than those comparisons is the presence of oxygen. The Kepler satellite first discovered the planet, but it was the discovery of the contents of the atmosphere that really made it the prime target for the first colony outside of the solar system. The atmosphere analyzed by the Snell satellite named after the Dutch scientist, [Willebrod Snell](#) 1580-1626, who discovered the law of refraction. There is 80% nitrogen, 15% oxygen, 1% carbon dioxide, 3% methane, and 1 % mixture of other gasses. And just as important, there was significant amount of water vapor in the atmosphere. And, very exciting, there was a signature of long chain molecules. All of these factors indicate the possibility of life, and, if not, an environment in which humans can survive - without bubbles.

There have been people living in space since before 2000, first in orbit, then on the Space Station. Since then, there have been colonies on the moon, in the L2 and L5 stable Lagrange points, mars and moons of Jupiter and Saturn. None of these proved to be able to exist independent of the earth. Terraforming did not work on other bodies in the solar system, even though it worked on earth itself. It is too difficult to create a complete atmosphere and ecosystem. The bubble coalition on earth could not create the same in the solar system.

In the last The fleet was launched in 3075. It took 1250 years at .01 times the speed of light to cover the 12 ½ light years to Luyten's star. We are arriving at the planet in 3225, earth time. That has a good sound to it, earth time, because soon we will be on Luyten D time. The D stands for the 4 body in the star system, A being the star and D bin the third planet from the star. But any way you slice it, Luyten D is a lame name.

That is why it was decided to have a contest to name the planet in the last month. Everyone is busy. Most people are technically oriented and have mounds of data to analyze. But they cannot work all the time. One of the way to relax is to have a drink and argue about the name. Some of the candidates are resurgence, Jobbit, Kenco, Hadock, Plank, Granite, World , Earth2, Bella, and slimeball.

The deceleration is a little high but comfortable. During the trip, the ships revolved around each other, connected by the solar sail. They set the rotation to create the feeling of .7G acceleration. So this is a little higher, but matches the gravity that will be experienced on Luyten D.

Rodney came up to me while I was in my lab, submitting a design to the open source net.

“Joe, we’ve got a problem.”

“What is it?”

“The lasers from The Post are starting to fail. If we don’t keep decelerating, we will drift for 3 months and die. That all we have of life support.”

“What do you mean. Are they failing or not?”

“They are intermittent. It is the fluctuating psycho-magnetic field again. The interference waves we created are not doing the trick. It seems that there are multiple frequencies at once. No matter how much power we divert from the lasers, we cannot cancel the field. If we do not find a solution in a day, we will miss the orbital window.”

“Let’s get the landing party together. They are the best.”

“They are already on their way.”

In walks Marga, Shelby, Kuona, Jean, and Shafir.

“Shafir, what are you doing here?”

“I wanted to see what you looked like in person, instead of through your chip. And don’t you want to get together with your last member of the landing party?”

“<sarcasm>Just what we need, a dumb jock.</sarcasm>”

“And don’t forget handsome. Besides, don’t you think you need someone who can run and dodge whatever dangers we run up against on the planet. And Shelby can’t carry everything” Shelby defends herself, “Is that all you think I’m good for?”

“No, I think I could get a good price for you. You’re a nice little package, maybe a spinner.”

“You’re only saying that because it’s true,” she says, winking. “How come you never give me such nice compliments, Joe?”

“He wants to pimp you! How can you like that?”

“Joe, not everyone is a prude, man,” says Shafir.

“You pig. How would you like a knuckle sandwich. How many people can you insult in a minute?”

“I didn’t say anything about that boring bureaucrat, Rodney ... Rodney ... Rodney.” he says this strutting around stiffly rocking forward and back in a upper crust accent, “Rodney, no offense.”

“None taken, says Rodney.

Shafir continues, “And I like Kuona. Who wouldn’t like someone that you could blow over without even huffing and puffing.”

Kuona responds, “Oh yeah!”

“Give me a break,” says Shafir.

“Why don’t you go for the full Monte. You missed Jean.”

“I have the utmost respect for Jean. She fixed my vocal cords when I go into that fight last month. I owe her my career.”

Jean says, “That’s right, I gave you your voice and I can take it away.”

“Now Joe, loosen up,” says Shafir. I was only trying to lighten things up a little. I know we are in a life and death situation.”

"I still don't like it, but I guess we need someone like you."

Kuona says, "before I get blown over, I'd like to offer a solution. It is clear that this phenomena has increase as we got near the planet. Shelby told me that we can now get a better fix on the source, and it is indeed coming from Luyten D. We have hundreds of psycho-magnetic sensors. I've done a 3 dimensional Fast Fourier analysis on the data and have come up with some interesting conclusions. The frequencies vary in a peculiar way - a non-natural way. Natural phenomena oscillate in a combination of sine waves, different but repeatable patterns. This gave me the idea to do an inverse analysis,"

"Get to the point!" I say.

"This is a message from the planet. They know we are here."

Intelligent Life

Kuona says, "We need to answer them. Somehow, we need to tell them to turn it off. What can we say?"

Rodney says, "What did they say?"

"Of course, we cannot translate it exactly. We don't have a Rosetta Stone. But, we are able to get a sense of it. It's not exactly 'Go Away', or 'Welcome' but it is ...

Marga says, "BeNice, of course."

Kuona says, "By God, you are right!"

Rodney says, "So how would your religion answer?"

She says, "First I would respond with the same message. And then expand the message to include the wholeness of complexity, nature, life, and intelligence. Kuona, can you craft such a message like that?"

Kuona says, I think I can do that. Shelby, Can we send it?"

Shelby says, "You can bet that I can spin that to the planet. But how do we stop them from sending another message which will interfere with our lasers."

Kuona says, "I don't know, for sure, but the first message is simple and repetitive. The next message will be more complex and will not stimulate a sympathetic vibration in the lasers."

"Let's get on it, people!" says Rodney.

Shafir contributes," Kick Butt!"

Fingers Crossed

It took two hours for Kuona to craft a message. He worked with Marga. They worked really well together. I would not have thought that they would make a good team. Marga, though, relates to everyone. At first, he was a little shy with her. She is a beauty, and a superstar in the fleet. That can be a little intimidating. And not to mention sexually exciting. But she has the ability to make everyone at ease, to make them think she cares about them, and to make them feel good about themselves.

And it was not just the personal aspect. She seemed to have some innate ability with the work. She is no dummy. She understands basic math, physics, and chemistry, but has not gone into the depths of string theory, like Kuona. So it doesn't seem like she should be able to help craft the message. But somehow she had a feel for it. It was almost as if she could understand the psycho-magnetic language.

At the same time, I am helping Shelby with turning the sensors into transmitters. We already knew how to generate interference waves. But now we have to hook them up to eternal antenna, and direct them at the planet. Most of the sensor/actuators are on The Post, which is a million miles away by now. We had to figure out what to do, and then communicate it to the team on The Post. And then when we have everything ready we need to coordinate it all to send Kuona's message.

We are all now in different areas of the ships, but in communication. Rodney give the word to go ahead. No we wait for two minutes, one minute each way for the time for the message to travel between the fleet and the planet.

1 minute ...

30 seconds

10, 9, 8, 7, 6, 5, 4, 3, 2, 1

Nothing.

Shafir says, Well, it was nice knowing you all. I guess we'll have a hell of an orgy for the next month.

"Hold on!" Kuona says. The message changed. It is more complex and has less energy. Maybe all that energy was a power drain for them. Let's see if our lasers respond.

Rodney says, "People, I just got the word. Our lasers are fully operational.
"Yeeeeeeah!", cheers everyone.

"Everybody come to my lab. I've brewed up some great open source hooch." Man was I relieved. I wasn't sure that we would be a good team, but it looks like we'll be supercharged. onto the landing!

Party 1

You can tell we are going to have a few parties because I am calling this party1. Not only did I have the home distilled hooch (which, if I don't say so myself, was damned tasty and kickass), but everyone brought their own stuff. Rodney even catered some food. (He would never actually do anything himself exercise his chip.) I'm sure the food was really good, but I don't remember. I'm told there was even algae shrimp (Which is always the mark of a person or company doing well.) The food synthesizers all work now. Not because of the messages, but because of the interference sensors that we set up. They were diverted back from the antenna,

Once the planet psycho-magnetic power was reduced and the message revised we were able to reduce the number of transmitters..

Kuona and Marga arrived late because they were programming some messages and some standard responses. Marga had plenty of devotees to assign to watch over the process. So they could come to the party. I understood being late, but I couldn't understand the giggly smile from Kuona. maybe I imagined it. I was already one sheet to the wind and working on the second. parties are always better after a time of tension. We had really dodged a bullet. But then it came over us.

"Damn! There is intelligent life on Luyten D!" says Shafir. Amazing that he was the one to have an epiphany. "I thought we had received no indication of anything more than a plant or multi-celled animal."

Rodney says, in his pompous bureaucrat way, "You are right. I spent the last half hour while waiting for the caterers reviewing the data summaries. We have been watching the planet with a wide variety of frequencies and filters from earth for 1500 years and from the Fleet for the last 1250. We never received evidence of even a hint of intelligent life. And the last few years, we were close. All of the weather patterns seemed to be natural, unaffected by an unexpected vector. We confirmed the content of the air, the presence of the long chain molecules, and only random natural electromagnetic waves."

"They operate at a different frequency," mumbles Kuona slurping on the shrimp and smirking at the same time if that is possible. Their evolution is along a different path. It must be because this star system naturally has psycho-magnetic waves. By the way, who is the biological expert on the landing party?"

Rodney says, "I was wondering when someone was going to ask. I thought that it would be Shafir, since he seems to be the only one who can look at the big picture."

So I say, "Yeah, if the big picture is women and sports."

Shafir says, "Don't forget looking good."

"So the narrow minded one asks, so who is it, already"

Rodney says, "Meet Binkatroid," as a round, short, balding man waddles in. Nobody on the Fleet is fat, but this guy's body type would make you think so.

"I am called Bink," he says. "I am an expert in genomics and proteomic, especially as it applies to extraterrestrial life."

"But," I shafir says, "We have not found any extraterrestrial life until now."

"That is what makes me so special."

"I'm glad you are some humble," I say.

"When you don't have the looks, you've got to have the brains."

"Do you have any theories about how this they developed this amazing power?"

"Yes."

"Well .."

"It is too early to reveal."

As I wake up with a hangover, I give Jean a chip call.

"Hangover?" She says.

"Got anything for me?"

"I'll zip a message over to your synthesizer."

"Hey! this is just tomato juice and some spices."

"You cannot improve upon perfection. Enjoy."

"Grumble, grumble."

The synthesizer is a square looking thing.

Luckily, we have overcome this combination of technology and art. This is what my ancestors had to say:

<rant>

Why do they allow spaces in file and directory names. It is not natural! Text must be separated by delimiters and spaces are the most convenient. Humans can be trained. Unfortunately Steve jobs was responsible for training them in the wrong direction. <author type=note>For those who are not into archaic history, Steve Jobs was the "genius" behind a company called Apple Computers a hundred years before doomsday. Translate genius as wacko, megalomaniac. </author> He created a distortion field so that those around him everyone fell in line to his thinking. If they didn't, he would whine, then cry, then yell at the top of his lungs until he got his way. I wonder how embarrassed his parents were that they raised such a spoiled child into a spoiled adult. But somehow he was able to create this distortion field and got everyone in the world to worry about fonts (instead of spaces) and want products to be artistic, costing more money. How much productivity in the world was wasted trying to use a one button mouse instead of one with a variety of functions.

</rant>

The Contest

The winner was Ginger. Most people said they liked it because it was the color of the planet.

The Probes

So, of course, we sent a number of robotic probes to investigate while we were still in orbit around Ginger. They flew around the atmosphere, gathered some water from the oceans, and dug up some earth. (Or should we call it ginger?) Some of the material and air was returned to the Fleet and analyzed. The atmosphere was thick with organics and restricted the sensor range. So we really needed the eyes, ears, and hands of the robots. The planet was covered by 90 % water. Only a few mountains peaked above the surface. The water was an average of a half mile deep; the greatest depth was 3 miles.

The organics were everywhere, but there did not seem to be non-microscopic animals or plants. The life was based on amino acids (protein) and nucleic acids (DNA), but the building blocks

were different. It turns out that there was no interaction our Earth life and Ginger life. This was probably good, because that meant none of the microscopic beings from either type of life could infect the other. The disadvantage was that, we would have to establish our bacteria in the soil and then gradually introduce our plants and animals, getting bigger all the time.

The biggest problem was ethical. Here the earth had spent the last 2500 years to colonize Ginger, but we would compete with another intelligent being. We had been confident for 500 years that there was life, but had only recently discovered intelligent life. And we had no idea yet what form that life was in. It was clearly not a land creature, since there was not much land to support it (and the probes didn't locate any). It could be a slime monster, living in the muck near the shore. It could be a distributed colony, which only experience intelligence by a combination of beings, like the hive intelligence of ants. Or it might be something that we couldn't imagine.

All we knew was that we were able to communicate using the psycho-magnetic waves.

The linguistic experts took over from what Kuona and Marga scoped out about the language. We were able to get concepts, but not concrete ideas. We couldn't ask, what do you look like? Where are you located?. What do you use for energy? Bink would still not tell us his theory, but he did work furiously on it.

Jean was also working on her theories. As I was working with my open source crowd to modify the instruments according to what the probe found, she was studying the life. Bink was looking at the chemical reactions and catalysts. Jean was taking a holistic approach. How did the life entities interact with each other?

"Joe,"

"What, Jean"

"Can you make me some nanobots?"

"Sure, what do you need it to do?"

"I would like to find out more about their cell structure, especially the energy transfer and cell membrane equilibrium. What is the transfer mechanism to overcome equilibrium? Are them mechanisms similar to Earth life? Can you put together some nano sensors to do that?"

"What is the difference between these and how we use the nanobots that, for example, root out cancer in humans?"

"First we have to sort out the structures, and antibodies before we can mount the right molecules on the bots to avoid detection and slip through the membranes. We know more about human cells."

"OK, give me the specs and I'll get set the guys on it."

"Do we have to do this with open source? I would like to keep it under the radar until I get further along."

I got irritated, almost yelling, "Do you want to be like that horse's ass, Bink, who will take his theories to his grave so he can get credit."

"OK," she said coldly, "See you around."

"Please Jean, I'm sorry. I get passionate about open source."

"What is the big deal about it anyway?"

"I've seen what the Fleet management can do. It saps the creativity out of the scientists and engineers."

"What about Shelby?"

"She is special. She has such great focus. She can combine work and fun like nobody else. In fact, she make an art and a science of having fun. Whether it is playing cards, running in a game, or partying, she throws herself into it. So nothing phases her."

"So, I hope you give this concept of open source a chance. sometimes it starts slowly, but then it gets going."

"This doesn't sound much different than scientific collaboration"

"It's pretty much the same thing. Probably less politics. maybe more people involve, each contributing what they can, even if it is just testing and coumentation. Al of that helps advance the projects."

"We'll see."

--- later that week ---

"I sent you those naonbots."

"How did you get them so quickly"

"What did I tell you about open source, especially when everyone is colinear. Let me know how it works"

--- still later ---

"Joe, those bots are doing the trick. We are starting to understand what make the cells work."

"I'm glad you started working with the open source team. You can see how they turned around your ideas quickly."

"The speed of the iterations was impressive."

"Even Rodney is coming around. That is the good thing about him. He just want results. And he can handle his superiors with paperwork and dullness. So what did you find?"

"There are dozens of molecule for which we couldn't find a function. Butthere were some which looked particularly intriguing. Some seemed to be set up to vibrate, and, as you might expect, at the pico frequencies required for the psycho-magnetic waves. They did this by setting up beat frequencies between standard vibrations of electrons - in the 7the dimension. Yes, super string dimensions. We cannot prove this because we cannot come close to measuring 10×10^{-30} meters. But the mathematical simulation we produced matched."

"Do you mean that even the simple life forms have built in wireless?"

"That's a good way of putting it. I would like to find some higher life forms. It is strange that there is nothing bigger than a few hundred thousand cell colonies, and no multicellular entity at all."

"Who helped you with all the simulation capability? I didn't think you had that type of expertise?"

"You think I am just a country doctor?"

"Come on."

"I guess I should be a little nicer to you. It's just that you are so sensitive. Anyway, I have been working with Bink. He's not as bad as you think, and he's kind of cute."

"Cute! Why he is about the .."

"Calm down! I guess I did go too far. you know that you are the one for me."

"I know. We fell asleep on the couch while watching the vid and woke up on the floor. That couch was made for me and you."

"You're sweet. But I am still stiff from that night."

"So Bink may have a big NIH factor and tries to use knowledge as a weapon, but if you have something to offer, he will work with you."

"NIH?"

"Not Invented Here."

"Oh yeah. The opposite of open source."

"Well, he overcame his aversion to it and it turns out that he has an amazing understanding of how proteins fold and can work with the computer applications to suss out the function."

"Did you find out anything else about the biology?"

"Besides that you're sweet?"

"And tasty, too ..."

One More Party

<author>This is not really a party. I couldn't think of a good title, but I wanted a separation.</author>

Rodney says, "We have some upgrades for your chips. This will enable you to have some interface with the psycho-magnetics. I had Shelby develop it. "

"Yes," says Shelby, "we wanted to be able to protect you from the waves, so we made some circuits similar to the cancelers. We don't have the power in the chips to block out the waves but it should help. I had to rush it, so it may need some firmware upgrades. Let me know if there is anything strange."

She handed out the chips. I took one. I was resigned to being part of a machine. I figured we need to communicate easily. I slipped the old one out of the slot behind my ear and slipped in the new one. I put the old one in my pouch, just in case I had to switch back. It turned out everyone has a chip.

"Jean, I didn't think you had a chip?"

"You know anyone with a job that can affect people needs to have a chip. You think a cook can affect more people than a Doctor? It turns out most professions need to have chip. We all just don't want to talk about it much."

But Marga did not take one of the chips. "I had my people upgrade my chip. I think it has more

features than yours.”

Shafir says, "Let's party." Shelby says, "Only one week left to party!" I say, "You twisted my arm." Jean says, "I could use a glass of wine". Bink says, "I don't usually associate, but I suppose I can stand a bit of port." Marga went for the absynthe. Kuona was drinking a little bit of everything.

Rodney says, "It's all on me."

<author>It looks like it was a party after all</author>

To The Planet

We suited up. We didn't have to transfer to any other ship because the lander was Wingman. It has all of the equipment destined to be on the first load to Ginger. The planet did not require suits, but we were going through space, so we had to wear them. They were not too terribly bulky, but it's never comfortable to be completely enclosed. At least the helmet was not a sphere, like you see in the 2000 year old movies. (Yes, we still watch some of the old movies: Star Trek, Star Wars, Forbidden Planet, and The Day the Earth Stood Still.) The helmets were more like masks with about an inch clearance from the head. Each was molded to the individual. The other components were soft. The waste function of the suit was still no fun.

NASA (National Aeronautics and Space Administration) from 2000 AD had developed a number of ways to land robotic craft, using parachutes, bouncing ball, and even a sky crane which lowered a spacecraft on a cable to Mars. But for human passengers, it still used heat shields to slow the initial entry, and wings to glide and steer to a landing spot, like the old Space Shuttle from the same era. This, of course, was a little different. We were not returning to Earth, where there was a whole industry built around refurbishing the shuttle, but a strange planet with no infrastructure. First, we needed to have powered flight, in case the landing spot did not look so good on close inspection. Second, we needed to have a way to come back to orbit. Luckily we had the active materials with biological components that could change properties. They were light but could change the outer shell to resist heat, but then balloon up so that they could be lighter than air. When you wanted to take off, you changed the voltage on the material and floated up to the stratosphere. Then the rockets took you the rest of the way. The Earth, Moon, and Mars use space elevator cable but that takes time and resources to create. We hope to have one here some day.

We can't get away from the ethical question. How can we kill off or enslave alien life. If we asked Earth, that is what they would say to do. We are trying to survive as a species. It's either us or them. Or is it? We won't know until we are there.

All of our equipment is dependant on the circuits, which have turned out to be sensitive to the psycho-magnetics. So we have mass produced the cancelers which protect a 10 foot diameter. This will allow us to run the landing systems.

We fired the retro rocket and then descended into the atmosphere. The biomaterial hardened and protected the shuttle from the heat. There were 6 Gs pushing down on us as the air was breaking our speed. This atmosphere was a little thicker than earth. There were more organics floating around. I guess that had something to do with the different structure.

“Oh Joe,” said Jean gasping against the G’s, “I need to tell you something.”

“OK, after the G’s let up.”

The G’s let up a little and then we started gliding. We were headed for the spot that we picked out from orbit. It was hard to find a flat spot, because the only land sticking above the water were mountains. There were a lot of peaks. Indications were that most of these were volcanic and there was plenty of activity. It was good that we were able to thrust, because we might have picked out a bad spot. Wingman dropped down to 200 miles/hour. We had about a half hour to go before we approached the spot.

“So what is it that you wanted to tell me?”

“I forgot to tell you that these cells have the ability to float. They can form a stiff membrane that can resist outside air pressure. They have special molecules in their membranes that can pump out the contents, leaving a partial vacuum. The same way that earth cells can pump in or out calcium or sodium.”

“I guess that would make the air a little thicker.”

“And that’s not all. It also makes it full of psycho-magnetics wave.

“Oh, and they can adjust their buoyancy to float at any level, including any depth in water. That can be handy on a 90% water planet.”

The spot was now in sight. The radar had shown that its still looked good. the spot was on the west side of a mountain. The east side was steep, but the west side was a gentle slope into the ocean. The wind was blowing from west-northwest over the mountain and down the slope. So we approached from the east-southeast. There was <duh> no runway </duh> so we were landing on the water just before the land> We had wheels and pontoons. We change the voltage on our miracle bio-material. The density of the surface of Wingamn dropped by a factor of 10 to make the plane lighter and more buoyant. It also helped slow us down to about 60 miles/hours. We touched down.

We were on another planet, in another solar system, 12 ½ light years from earth. And it was a beautiful day.

A Beautiful Day in the Neighborhood

We taxied towards the land which was still a couple of hundred yards away. We could float in about 10 feet of water, so we stopped at 20 feet to account for the tides. Since the slope was

gentle, this was still about 100 feet from sure. We pushed the anchor button, and 4 anchors were ejected and drilled into the seabed. We were so excited to get out of the vehicle, that we could barely contain ourselves for the hour of post landing checkout.

We had to check the air. The sensors did not show anything unexpected. It was definitely breathable with no adverse chemicals. there were small amounts of floating organisms, about 500 parts/million. This would not pose a problem of particulates, and we had already tested for interactions with our life form. Yes, like all ships, we had rats aboard the fleet. Of course, these were not hitchhiker rats but lab rats brought with us just for this purpose.

Week 2

<digression>

We had brought other animals with us on the fleet. In some ways it was like Noah's ark.

<20th_century_song>

'I've got green alligators and long-necked geese,
Some humpty backed camels and some chimpanzees.
Some cats and rats and elephants, but Lord, I'm so forlorn,
I just can't find no unicorns!.'

</20th_century_song>

What the song doesn't mention is the soil, earthworms, beetles, ants, and a thousand other live and chemical ingredients. And those are just the animals. We need ferns, chrysanthemums, vegetables, fruits, trees, and bushes. We have to have a good starter soil with its bacteria. I cannot list everything that was brought, but they took 50 years to figure it out. They needed to keep the weight down but provide as much bang for the buck as possible.

As far as humans go, we made sure we had all of the normal human bacteria. In some of the early trips to planets, moon, and asteroids in the solar system, humans tried to sterilize everything to keep from contaminating the other bodies. This made the humans really sick. It had been suspected in the 21st century and then confirmed many times over that the bacteria, and even viruses were part of who we were. They were required to be healthy. If you looked at neuronal details, it was found that they even contributed to our intelligence.

Even though we had significant mass that we could carry to Luyten's star, every ounce was accounted for. As important as the biological components to seed the planet were the machines to the planet. These needed to create the infrastructure for the adopted planet. Whatever raw materials were available needed to be mined. But clearly mining equipment would be too heavy. So there had to be a machine able to make other machines. In a couple thousand years, the nano-mechanics were perfected. They were able to do micro mining and forging. At first, they would only be able to make small products and machines. But they would be able to bootstrap

themselves to build bigger and bigger machines and meta-machines. None of the raw materials were carried from earth, but the nano-machines had sensitive sensors that could find the materials. They could drill into the earth - oops I mean ginger soil - find and separate out the minerals to make what they needed. These were iron, aluminum, copper, brass, copper, silver gold, rare earth metals, carbon, phosphorus, and the list goes on. There were thousands of the mechanics, and , of course, the first order of business was to make more mining mechanics. The mining mechanics could connect wirelessly to each other so that each mechanic that was assigned for a special mineral could contact another mechanic for the location of its target. The plans for all of the machines was stored (redundantly) on the fleet. The plans took up almost no room, but they could end up making anything, given enough generations.

Finally the checkout of the surrounding environment was completed and we could get out of our little shuttle. We ejected a raft and popped open the top of the shuttle. We took off the helmet in anticipation of the wonderful fresh air, that nobody had tasted, smelled, and felt for a thousand years.

</digression>

Rodney says, "Joe, you go first."

I ripped off my helmet. "Oh this feels so good, "cough, cough cough. Ahh! this feels terrible. I am dying." I throw back on my helmet and breathe the processed air deeply. I turn around and see Jean and the others laughing.

"Why are you laughing? I am being poisoned! This air is not breathable and Rodney has condemned me What do you guys have against me?"

Jean says, "If you would just read your landing brief, you wouldn't have thrown off your mask. It says to open your external air valve to 10% at first. Then when you feel comfortable, open it another 10%. That should take about 10 minutes. Then open it up another 10%. After an hour and a half of this, you should be acclimated. We've already opened up to 20%"

While we waited to acclimate, we climbed into the raft and and rowed to the land. It felt good to be in a big wide world, even though we were still in ours suits. It was actually a little scary. The world was so big. We have never been out of the spacecraft, except on extravehicular space walks. This is not the same thing because there is no point of reference outside.

We looked around in wonderment. There was sun overhead and sun glinting off the water. The sun lit up the mountainside. There weren't many shadows because there were no trees or bushes. There wasn't even grass. This was strange, not because of what we had experience. We had never experience earth. We did see plenty of visions of earth, in 3D and holograms. There were almost real, but not real. It was still beautiful. A stark beauty.

Everything was strange and surreal. Just starting with the boat. None of us had ever been on a boat. Kuona said, "I feel queasy."

"Come on," I said, "you can't get seasick in one minute."

He didn't answer because he was busy dry heaving over the side. "I'm glad," he says as he is

rinsing his chin with the water, "That we didn't eat anything for the last 4 hours... And this water tastes salty!"

Marga reaches over the side of the raft, dips her hand in and tastes it. "What an interesting taste. Salty, yes, and metallic. I can taste zinc, copper, iron, and something like dirt."

Rodney says, "Shafir, can you make use of your fantastic physique and row us to shore?"

"How does this work?", Shafir says."

<duh>"It works just like the rowing machine.</duh>" says Rodney.

We were lucky that there was no wind or we would have been blown out to sea by this point. I am glad that we left Jean, Bink, and Shelby in the landing craft, just in case we needed to be rescued. I realized at this point that I did not know how to swim. That is one skill I'm going to need to learn on a water world. It only took about 10 more minutes to get to shore, but we were not in a hurry.

I said it was surreal. It's like we were floating. We had used every minute and ounce of strength to get ready for this trip. Concentrated activity. We had been filled with anticipation and definitely some trepidation. I was so nervous. And now that we are there, all that tension is released. We are not in a hurry. We do not feel the need to do anything. We are just there, experiencing the air, the view, and the lapping of the waves.

We climbed out of the boat. We didn't worry about getting our feet wet, because they were enclosed in the suit. And there we were on the shore. I ripped off my helmet again and stifled the cough. I figured I wasn't going to die. It was just a little uncomfortable. And then I climbed out of my suit. I ran around on the beach in my underwear (which I had changed like I do every day). And then I said, what the hell, and took my underwear off. Jean wasn't around to scold me. I was so happy, running and jumping and spinning. Feeling the strange ginger with my toes. I hadn't even noticed that Marga had done the same thing. Then the rest of them shrugged and stripped as well. We were like a bunch of kids, away from our parents for the first time. It was really funny seeing Rodney let go. He didn't know what to do, but was having fun anyway. I had thought of Kuona as being uncoordinated, but he turned out to run really fast and looked buff.

After an hour of frolicking around and exploring the land (there was not a whole lot of exploring to do, since it was bare and mostly flat) we put our clothes on. They were stored in a compartment of the boat. We put our bulky spacesuits in the compartment and started to get to work. Rodney sent the boat back to start picking up the equipment to be loaded. (Yes, it had a motor. Shafir didn't realize that and we were not going to tell him.)

More about the Landing Party

You might think this is a little unprofessional on the most important day for humanity - setting foot on a world in a different star system. It is hard to describe the degree to which the landing party formed into a solid team in the deceleration phase of the trip. There was a lot of tension

built up due to the malfunctions and relief of the tension every time a problem was solved. This was like kneading the dough and then letting it rise again. By the time we got to the ground, we were so comfortable with each other that it appeared casual. There was total trust, even with some of the members who were questionable at first.

Shafir was not a genius. As a sports announcer that was not critical. But why would you include him in the team? You needed every ounce of intelligence. First, as he said earlier, he is not stupid. He had enough training to be able to understand most science and technology at a basic level. He just wasn't that interested in the details. He liked to shock people with his jokes about sex, but that was pretty easy to get used to. He was physically dominating, not because he was bigger than everyone, but because he was strong and quick. But he didn't use his physical domination, even in an argument. He only used it in humor. And that was the most unique thing about him. It was the easy ways he related to everyone in the party. His good natured joking around made him likeable and made you feel good about yourself. He had a good understanding of people. His addition to the team really helped the molding process and helped relieve the tension at crucial moments.

Bink (short for Binkatroid) was the hardest one to figure out. In fact, at first, we were angry with Rodney for adding him to the team. He was about the ugliest person of the 10,000 people in the fleet, both inside and outside. On the outside, I already said that he gave the appearance of being pudgy. He was short. But he had a long thin nose and wore glasses, which were always falling down on his nose. He waddled around like a penguin. Even his voice was squeaky. We could have easily overlooked the physical aspects, if his interaction with people were reasonable. He was the opposite of Shafir. He was always very formal. He said as few words as possible. You could never tell what he was thinking. And that NIH (Not Invented Here) factor put everyone off. It did not seem like he would collaborate. But Rodney did have the ability to judge people. He had also evaluated the skills of the team and realized that we were loaded up with technologists, but weak on the biological skills. Jean, as good as she was, realized that too. She was happy to have a colleague to help process the biological data. And to her credit, she was able to soften his standoffishness. (She softened me up, too, but I am not such a hard nut to crack.) Jean and Bink were always together, almost making me jealous. Well, this isn't all about me.

So the interaction between people worked out just right. We were molded like dough and then baked in tension to form the perfect loaf of a team. Somehow, Rodney knew how to do this.

Setting Up the Equipment

We always kept an eye on the weather report, or should I say chip.

It is funny the way the chip worked. It was not as much of an imposition as you might think. Sure, there was limited privacy, but we were used to that being on a Fleet with limited space. But through a couple thousand years of communication advances, humanity had, if not

perfected, than improved communication from a distance almost to an art form.

It started with shouting and hand signals from primitive people and then moved to electronic forms, telegraph and then the telephone. Before doomsday, people had advance to portable hand held devices that could transmit video and audio. They also had access to the data, public and private, on the internet. This was made a little less awkward by building the devices into glasses and using voice commands. If you needed a keyboard (sometimes voice was just not good enough) then a virtual keyboard would appear and you could type in the air or on a table. Before doomsday, we had just started to experiment with brain implants, but the interactions were primitive - mostly for helping with disabilities. They could give paraplegics mobility again by connecting to their brain. They were able to help with neuronal problems by stimulating the right locations with electricity or chemicals.

It took hundreds of years after doomsday, as you might expect, before research into this area could move forward. Humanity had to survive first. And the population had to grow enough to support a variety of scientific and engineering advancement. Of course, the good thing was that all of the data created before doomsday was still available. We did not have a problem with the disappearance of the world's knowledge like when the library at Alexandria burned down. It was interesting, though, how the development focussed on the tiny. Sure, the big structures and machines were necessary but with the development of nano and pico, big project could be accomplished by millions of little machines working together. The focus on the small also allowed the interaction with the brain to be 10,000 times more granular. (You remember that I was able to help make a nano-machine to help Jean with her analysis of the Ginger life forms.)

Communication was more than just connecting. Even after humanity had developed implant chips with standard interfaces to the brain, the protocol had to be advanced. it had to be a lot more responsive and nuanced than just turning it on and off and connecting to one or many people. In the 21st century people developed something called social networks. These started out crude. It could be complicated and and privacy was violated. After doomsday, when social networks started to come back humanity made sure that privacy was maintained. Systems were developed so that you could share exactly what you wanted to share with anyone at any level. With the chip, there were many more levels to share. Some of these levels were below your own consciousness. The definition of privacy change, also. There was no way to hide physically. With cameras and other sensors everywhere, somebody knew where you were, but there developed some personal control over any device that was in your vicinity. Clothes were still important, but mostly for function and comfort. They were often optional. People still enjoyed a variety of styles to make a fashion statement.

So the bottom line of the chip is that we had co-evolved with the technology to make it useful and comfortable.

Back to the Equipment

The weather on Ginger was not as volatile as the earth. It still had the trade winds due to the rotation. The Ginger day was 37.4 Earth hours. The year was 550 Ginger days (or 857 Earth days) because the orbit was bigger than Earth's. Since these were so close to Earth's values, you would think the weather would be the same. The coriolis acceleration created the overall atmosphere and ocean current pattern to be similar to earth. The difference was that there was very little land mass to disrupt either air or water flow. Also, on Earth the land created more differential heating and cooling than just the difference between the equatorial regions and the Northern and Southern latitudes.

But we had only been observing the weather for a few months. Simulations almost matched the observations. The strange thing was the simulations would have matched almost exactly as if there was 10% less solar energy impinging on Ginger. There seemed to be some sort of energy sink that could not be explained. We were concerned, because an energy sink might release its energy in a violent manner. This is what happens in the Caribbean on Earth. If here not enough small storms to transfer the Summer energy out of the area, then a big one can build up and wreak havoc.

So we are keeping in contact with the orbiting fleet. The orbiting fleet, by the way had spread out by this time to always be in contact with us. The Post, of course was already a hundredth of a light year away.

- Enterprise, the largest ship in orbit, is in geosynchronous orbit above our position.

The other orbits are at 200 miles above the surface, 5100 miles from the center of Ginger, which takes about 125 Earth minutes. (We have not gotten used enough to Ginger to convert to time based on Ginger's rotation.) The Earth has a radius of 4,000 miles. Ginger's radius is about 4,900 miles

- Philadelphia is in a polar orbit
- Albatros, Jimmy, and Superstring are in progressively inclined orbits, 15, 30 and 45 degrees from the plane of the equator.

In this way all of Ginger can be observed in a short time period. Enterprise can take care of the communication.

Really the Equipment

The boat made 50 trips back and forth to Wingman. Jean, Bink, and Shelby loaded the equipment. Shafir, Kuona, and I unloaded, while Marga and Rodney looked around and kept basically paid attention to communication and what was going on. We got everything above the highest high tide mark on the beach. The moon was in the first quarter, so we did not expect a high tide. Then we traded places. Kuana and I went back into Wingman. There always had to be two people in Wingman, just in case something happened.

As she was climbing into the boat from the air lock, Jean hassled me, "So you had to get naked

again. Do you think your body is so beautiful that we all want to see it?

“Yeah, it feels good baring my soul to a new world.”

She tried to keep a straight face, “That’s not exactly what you bared. Keep it zipped.”

Shelby gave me a high five, “I wish I could have been with you. We were jumping up and down in here.”

Bink didn’t say anything.

Kuana and I were sitting around in the ship, thinking about a beer. We were tired from carrying all the equipment.

Shafir and Shelby started to put together the shelters. They were designed so one person could do it but it is easier with two. A quarter of the loads were shelters. Some of the equipment could be outside in any weather, for example, the digging equipment and power sources. But some of the more sensitive needed to be inside. So they moved the sensors into the shelters as they were put up.

And they were singing,

”Working in a coal mine

Going down down down,

Working in a coal mine,

Whoops, about to slip down.”

“Hey Shafir.

“Yes,Shelby?”

“What is the difference between Marga and Rodney”

“What Shelby?

“There is no difference, when it comes to doing work. They are useless.”

“Haha. You hit the nail on the head. Which they could never do, because they would never pick up a hammer.”

Jean and Bink were working on the biological sensor configuration. This is the unit that will be able to do more extensive analysis of Ginger life.

All of a sudden a call came in from Enterprise. ”Naked team, you have a serious weather system coming in with 100 mile per hour winds.”

Rodney answered, “Marga and I have been tracking it. A half hour ago It was only 50 miles per hour! We are going to secure the land and high tail it back to Wingman.”

Enterprise said, “You only have 15 minutes.”

“OK”

“Let’s go team. Secure the shelters and back in the ship!” Rodney shouted. Of course he didn’t need to shout, even though the wind was starting to pick up, because we all had our chips on.”

We got on the boat and were back on the ship in 10 minutes. It was difficult to stow the boat

because the wind had already picked up to 30 mph with gusts up to 45.

They felt safe in their ship but it was quite a storm out there. The rain and wind and dust obscured the view of the beach, even at infrared frequencies.

Joe said, "Why don't we use the psycho-magnetic sensors. We might be able to pull up some images with them. They can penetrate anything"

Shelby said, "There no reason we can't use the sensor to scan and put it into the vid."

So Shelby and I set it up in about 10 minutes. It turns out we had all the components. A little focusing and "Here we go, Shelby said.

"I'm getting an image. Our equipment looks OK!"

"Wait a minute! I'm getting a ghost image of something. It looks like a giant beam. It's lifting the shelter, the one with the psycho-magnetics sensor. It's moving it.

"Hold on. I'm overlaying the radar image. Jesus Christ! its showing 150 mph winds but just in the shape of the beam. That is impossible."

Rodney said "The beam launched the shelter into the water, and now it's smashing all of the equipment. What is going on!"

All of a sudden it stopped. We felt lucky that it didn't smash our ship. Our ship is strong, but I don't know if it could have withstood that rampage.

Rodney called the Enterprise, "Did you see that vid. The wind took some kind of solid form?"

From the Enterprise, "This is Captain Parker. We lost transmission over the last 20 minutes. Ever since we warned you of the wind. I'm glad you're OK. Can you send the recording up?"

"Rodney, " said Shelby in a stage whisper, "there is no recording. The recorder malfunctioned right at the time."

<rant>

A rant can be good as well as complaining about a pet peeve. This one is about crater ball. Dad is still playing crater ball at still playing at 120, even though he's lost significant capacity in his oxygen system. He hits the wall much earlier, but he still recovers enough to go for a long time.. Shelby's dad is one of his partners. That is how we became good friends, even before we were in school together. We were watching our Dad's play from the play pen. Shelby's Dad was the better athlete, and he was 15 years younger. They used to play with Franklin's Dad too. (You don't know Franklin). One of the ways you can play crater ball is on a team of 3 against the computer. In some ways it is almost like mountain biking. When the controller is not being interfered with psycho-magnetic waves, it can control local gravity . People had thought that this control of gravity inside an enclosure would eventually lead to gravity propulsion and maybe even a warp drive. But it turns out it has only been good for games and medical procedures.

So in the games, there is a complex pattern of random adjustment of the local gravity inside.

This affects the ball and the players while you are floating around in the court.

You bounce against the walls and try to get the ball through the hole, which moves around too.

When you are playing on a team against the computer, it is a lot of work. My Dad has to rest

sometimes, and Shelby's dad is always hassling giving him . He says that it is all mental. That he could last if he had the right attitude. Franklin's dad has gotten stronger and doesn't need to take the rests. During the game, the three of them talk philosophy, technology, politics, and just about subject you could imagine. There is nothing like exercise and conversation between good friends.

I am playing doubles in Crater Ball with the Stars. Believe it or not, I am a star. When you only have 10,000 people in the fleet. My stardom comes not from being the Chief Technologist for the fleet, but running the most famous breakfast joint. Besides the reality shows are now different that the ones before doomsday. These are more like the adult league basketball games of the past. The difference is that with artificial intelligence vi, you can have professional production for you league. Other people watch as well. The vid is important because everyone has to contribute to the fleet society.. You can earn as much as 25% of your quota by watching commercials. And you can have commercials on your own league vids. Everyone gets to choose what commercials to watch. You don't have some algorithm deciding what to show you. You just pick yourself. And the commercials are really creative. They have a lot of personalization to the add. There are no two advertisements alike. Even the "same" ones for the same person are different because there is so much entropy in the randomness.

Shafir is one of the stars, and so was The Peacock. Shafir is close to a pro athlete, so he would always win, no matter who his amateur he was paired with, if we didn't get our fans to vote us in. it is funny that no matter how technical you are, physical games always have an attractions.

It was like when my ancestor was mountain biking at Pleasanton Ridge. Here is what he wrote:

"I picked up my body in the van and we drove 20 minutes to the Ridge. It was the coldest day of the year. so far. but since it is California, it is not that cold. I did wear my gloves. We started up the hill, starting about 7:30 am and it seemed to warm up a little. I wore my helmet on the uphill portion, but I left my extra jacket. The hill kicks your butt, and just when you're ready to give up you hit a plateau. The view from the plateaus are amazing. On this day the There was fog lining the valley along 680. Not socked in but in thick streams. The sharp twin peaks from across the valley are silhouetted by the light from the sun, which is not yet visible. Then we ride up the next hill and somehow make it to the next plateau. Now we not only have a great view of the Sunol peaks but the back side of Mission Peak fills a big part of the sky. Up we go again. My buddy says. 'I don't remember this being so hard!' We must have said that phrase 200 times. At the next plateau we were going south along the hill instead of north. We had a better view of Mission Peak but the pointed peaks of Sunol seemed small next to the hills behind the Calaveras reservoir. If we looked behind us we could see the behemoth, Mt Diablo, between two hills in front of it.

"It was a great day. Even though we didn't make it up the first small hill (the upper way), or the two trees (on the way back), and only made it to the wimp spot, we did a double complete log (up and down). We haven't done that since the log disappeared. The steep short downhill,

especially off the Sycamore trail were scary/exciting as usual. The only bad thing was that we were missing the third buddy, who deserted us to San Diego. ... It was a great day!"

</rant>

Mop Up

The storm had come and gone so quickly but wreaked havoc on our equipment. Rodney, Marga, and Kuona stayed with Wingman, and the rest went to shore for damage control. Shelby said, "There was a malevolent force out there."

I said, "How can you say that. You're a scientist. You cannot believe in some mumbo jumbo force"

"How can you not believe in it. You saw the images."

"There must have been something wrong with your equipment, creating those ghost images."

"How could it happen in both systems at the same time?"

"They share common circuits."

"You're in denial. The equipment is all destroyed. How could a natural phenomena be so specific?"

"Have you heard of tornadoes going after trailer parks?"

"I give up. This is not the last time this is going to happen."

Once we landed, we got to work, each in our own area.

Jean and Bink went to find the shelter with the biological sensor. They found it upside down, half in the water, the corners crushed. Clearly it rolled into that location.

Jean said, "I don't know if we can get in it."

Bink said, "This is not what I do. Let's get the beefy guys, Shafir or Shelby."

"Humpf." Jean is not one to let somebody else do her work so she tries to get at into the shelter. She found one of the two doors partially open. She managed to pry it back. She took the flashlight out of her fanny pack and looked inside the shelter.

"Just what I expected, the psycho-magnetic sensor is in shambles. I doubt that there are even any components that can be rehabilitated."

Everybody found the same thing. Everything is destroyed. There were a few shelters that were not wrecked, those that had not yet been set up.

In the meantime, Rodney was in a collaboration session with Fleet Management. He didn't have to inspect the destruction first hand. He knew that the equipment had to be replaced. The ginger climatologist were going crazy examining the data and simulations to make some sense of what had happened. It had to do with the missing 10% of the energy, the 10% was the difference between the energy balance. If you add up the energy input from the sun and compared it to the energy output (radiation out, heating up the land and water, life energy), a lot was missing. 10% could not be a calculation error. There must be some phenomena that stored the energy and then somehow released it. What could that be?

“OK. So you agree,” said Rodney talking to fleet management, “we need to start deploying equipment again. We have redundancy for everything that was destroyed.”

And the word comes down from the Enterprise, “Only after you’ve completed inventory and determined what can be salvaged. You can only deploy one shelter at a time. Only analysis that needs to be performed outside of ship should be attempted. Everyone sleeps in Wingman.

Those are the procedures you need to follow until we find out more.”

“Roger and out.”

Now Rodney connects with the rest of the team, “OK, I need everyone back from the shop except for Bink and Jean. You guys do inventory of you equipment and determine what can be salvaged.”

Jean says, “We need the Jaws of Life and some more help.”

Rodney says, “OK. Shafir can say with you. We’ll send over the jaws of life when everyone else comes back.”

It took two weeks to clean up and organize the damage.

The Trance

You may wonder what was going on with Marga all this time. Why did Rodney even include her on the team? Was it just political appointment. That would certainly have been justified. Her popularity can validate any endeavour. But Rodney, although he is politically aware, is more interested in success. What was he thinking?

Sure she helped Kuona a little with the psycho-magnetic messages, but was that really the reason?

After the cleanup Marga started to talk. It turned out that she had been in a semi-trance ever since we entered Ginder’s atmosphere. None of us noticed because there was so much going on and we were concentrating on our own activities. Well, there was one person that noticed. Kuona spent a lot of time with her during the last two weeks.

Kuona didn’t have much to do with the setup or cleanup of the equipment.

And he had formed a special bond with Marga. Sure, Marga bonds with everyone, but relationships depend on circumstances. It is like when you tell your kids that it is OK to use bad language with your friends but not with adults or polite company. Their special relationship has been accentuated by the importance of psycho-magnetic waves. And nothing can substitute for a shared epiphany.

He was with her all of that time, seemingly protecting her. She was withdrawn, barely communicative and barely eating or sleeping. And as much as her exuberance is usually dominating any group, somehow she was able to hide in the midst of the activity. We didn’t notice she was out of it as if some force made us ignore it.

Marga said, "They are upset."

Rodney said, "Who is upset?"

"I don't know, really, if it is a they, an it, a she, a he, or something else."

"What the hell are you talking about."

"You don't understand them."

"I'm sure you are right," says Rodney, "because I have no idea what you are talking about."

"OK. I have been in contact with the planet for the last couple of weeks . The communication is so different than ours, that I cannot even translate what happened."

"Give it a try."

"Let me pose this as a question. What would happen if our world were invaded by aliens?"

Shafir said, "I'll take this one. We would be #!%# angry! We would want revenge and would fight to the death!"

Jean said, "Not everyone would feel that way. Most would probably just be sad taht such a thing could happen. We would feel helpless."

We were surprised when Bink spoke. He usually didn't contribute to conversation. "That's not the way I would feel. I would want to find out about advanced technology and science. We still have so many questions about the nature of the universe. Are there multiple universes? How much life is in the galaxy? It is the most exciting thing I can imagine."

Marga said, "So you see that even our reactions are confused and contradictory. That does not begin to describe the Ginger people."

So I said, "How do you know you were talking to someone and not just hallucinating?"

Jean said, "Joe, how could you! She's not crazy."

"I'm just asking the obvious question."

Marga said, "Joe, I am glad you asked the question. There is no way that I can convince you that I am totally lucid. I am convinced that I was in communication with something"

"How do you know it isn't the anti-Ginger people?"

"Whaaaaat?", said Jean.

"Even if Marga is truly communication with some Ginger people, maybe there are multiple factions. We want to talk to the United Nations, not just one country."

Marga stood and adopted a statuesque pose. It was hard to resist anything she said. How can she have that power. At least I trust her. She said, "I cannot refute what you have just elucidated." Man, I cannot resist that high-falutin' speech. "But I am convinced that they are the ones we have to deal with. It is clearly the same entity(s) that Kuona and I encountered in orbit. They destroyed our equipment because it was unnatural to them. i don't think they have a body as we would think of it."

Jean said, "I think because their cells developed with the ability to use psycho-magnetics to communicate at a distance, they did not need to form physical colonies and organisms to

evolve. It is all in the cell and connections. Just like our intelligence is in the nerve connections theirs is in the connections of the cells. The difference may be that the connections are not hard wired, There is a constant flux in the combination. That is so amazing.”

Marga said, “What you theorize has a ring of truth. I feel the swirling of opinion against a background of solidness. They are willing to learn about us, and tell about themselves, but we need to tread carefully.”

I said, “Don’t we need to work on our psycho-magnetic sensors and transmitters? We cannot rely on You alone for communication.”

Kuona said, “I have been thinking about the algorithms we have been using. And I think they can be tweaked towards the swarming mode. I will work with Marga to tune it. I think she will be able to sense what works.”

I said, “That is good, but there is one other thing that I don’t understand. How can Marga communicate? She may be special for a human, but for other life forms?”

Marga said, “I have mediated and studied my whole life to accept and be one with the universe. So it is not surprising that I can work with the aliens.”

Shafir said, “That is a load of crap!”

“OK,” she said. I have a better chip than you do.”

“Hah! I knew it,” Shafir said.

Rodney said, “Marga, can you give us the circuit diagram and firmware for your chip? I think that needs to be in the public domain.”

“Of course you can have it,” she said. I kept it hidden because I didn’t know if it would enhance my ability or destroy me. I am still not sure it won’t destroy me. For two weeks I couldn’t turn it off. It was like the Ginger people were downloading to my brain.

Kuona said, “Let’s put the chip in the human simulator circuit and hook it up to our computers. This way it would be safe for the people.”

I wasn’t so sure that we should let the Ginger people talk directly to our computers. It would be a terrible if the interaction with Marga killed her or destroyed her mind. But if it got into our computers, the last chance for humanity could be annihilated. And I said as much.

Rodney said, “I think that is what we have to do. We need to put dozens of firewalls and blocks to prevent any invasion. Hold on a second, I’m talking to Fleet Management. ... they agree. They are going to start working on the computers to include and how to isolate them. We will synthesize the circuit for the chip. Shelby, can you make modifications to our computers to accept a chip.”

Shelby said, “Sure we have the sockets. That’s how we load the firmware onto the chips anyway. As for the computer, we have pipeline processors that can be adapted to the human

simulator. the we need to download the program. I'll start putting it together.
"Great," Rodney said, "In the meantime, let's do some exploring."

I said, "I like the exploring part, I am already feeling cooped up on this ship. What a feeling it was to experience the wide open land and air. I'll organize the expedition."

Jean said, "Count me in."

And everyone else wanted to go, too, So we split into two groups. I'm leading the first group with Jean, Bink, and Shafir. The second group will be led by Rodney and include Shelby Marga, and Kuona. I will take over from Shelby so that she can get a break.

We had a few two person fliers. They were like jet skis or snow mobiles, but could fly. They used traditional chemical propulsion and had a range of about 2 hours. The first pair would go out (Jean and me) for about 10 minutes to see if the ginger people minded. then the other pair would go out. We would stay mostly within visual communication. And Somebody on the ship and in orbit would keep a close watch on the weather. I wonder what other power the Ginger people had besides over the weather.

Looking back, it was hard to believe we were that careless. We were almost destroyed by the Gingercane and here we were going back out. It is somewhat understandable that we would be wanted to explore, but why wouldn't fleet Management try to stop us? Was there some other mental control going on from the planet? Or was it just that nobody could really believe that the destruction was caused by an entity. Even though I saw Shelby's overlapping psycho-magnetic and doppler radar images I did not believe it. And what about how they made our lasers malfunction and almost miss orbit by sending the psycho-magnetic message? We were all in denial.

All except Marga, and she welcomed the interaction.

Field Trip

The piece of land that we were on was the third biggest piece on the planet, but, of course , it wasn't that big. Only 10% of the surface was land. This piece was about .5% of the surface, about the size of Mexico. So even though this was mostly water, there still was a lot of land to explore. There was fresh water and rivers, There were signs of volcanic activity, although it seemed that it had been hundreds of thousands of years since the last eruption. We did not expect much impact from life, because it was microscopic. There did not seem to be plate tectonics, because the surface was too uniform. We are not sure what the volcanic activity comes from, without plate tectonics. We knew a lot of this from our orbital observations, but there is nothing like being hands-on.

So after Jean and flew around for about 20 minutes, we determined that it was "safe". Bink and Shafir joined us. Boy, that is an unlikely pair. The two headed monster: gregarious - NIH.

<author>I am not going to tell you again what NIH means. I have told you twice. Now pay attention!</author>

Shafir is flying (of course) and Bink is sitting stiffly with his nose stuck up slightly in the air and a little to the side. I could see that he was peeking down to look at the scenery.

The whole world was a dessert but not in the Earth sense. There was rain, but since nothing was growing visibly, it was bare. It was much more bare than any dessert on Earth, because there was no vegetation. There weren't many sharp edges to the landscape. The mountains and hills appeared to be old.

We decided to fly to the highest peak that we could get to in another 20 minutes.

We landed in a saddle point between twin peaks and walked to the top of the highest one.

There were no bugs. No, granted, we did not grow up on earth with a lot of bugs (yech! - I have nightmares about the tsetse flies that i saw in vids from Earth.) but we all had spent time in the garden rooms which have a supply of all animals and the more benign bugs.

The view at the top was spectacular - well not really. It all looked pretty much the same. We did spot a couple rivers, but there were no waterfalls. I suppose it is a beauty that you need to get used to. I read stories about people from the Pittsburgh bubble going to the Sacramento bubble. <aside>200 years after doomsday, the vegetation around these areas had almost returned to pre-doomsday levels. Pittsburgh is all green, especially in the summer, but Sacramento is all brown, especially in the summer. There was no New York or San Francisco bubble. They were destroyed.</aside> After people lived in Sacramento a few years they learned to appreciate the subtlety of the shades. I don't know if we will ever appreciate the landscape, but we do love being outside.

We took a lot of measurements with our portable sensors. We dug in the earth, I mean ginger soil. (Boy, we have a lot to get used to with our language on this planet.)

<digression> Yes, I have to make another digression at this point. You are probably getting tired of these. Well, tough toenails. You don't have to read it. All of this time we are assuming that we will populate the planet. We did not expect to encounter intelligent life forms, especially such powerful ones. It may well turn out that the landing party will be killed and the rest of the Fleet will have to live in orbit. I guess it's better to be optimistic and assume that it will work out.</digression>

So we walked down the back side of the peak and then around to our landing point, expecting to see our air scooters.

"What the ...! Where's our scooters," said Jafir.

"They must have been taken by the natives," Bink said sarcastically.

Bink rushed up to the spot. Not believing they could be gone. He said, "there is no sign that they were ever here. We must be in the wrong place."

I held Jean and Bink back from running to the spot. I had a bad feeling about it. "GPS says this is the spot.

And then we heard a low whooshing sound. "Get out of there, Jafir."

A whirlpool of sand opened right below Jafir. He ran as fast as he could, but was slipping on the sand. "Help!" he said and then was gone. The ground looked just the same as it had before he disappeared. We high-tailed it back to higher ground.

Rodney was on chip communication, "We're sending the other two scooters to you. We need to get out of there before we do anything. We don't want to lose more people. Keep an eye out and stay on solid ground."

Back at Wingman, we were trying to keep calm. "This planet is against us!" I said. I wasn't doing a good job of keeping calm. "Why did it take him? Up to now, it only attacked equipment!" Jean said, "Quiet, you baby, we need to figure this out."

"OK, I'll take it from you"

Rodney said, "Can you tell me anything else about it, as sound, a smell, a feeling?"

Marga said, "I felt something."

"What was that?"

"It was some sort of disruption in the psycho-magnetic field. I have been feeling this ever since I came out of my trance."

"In all due respect, Marga, why the hell don't you tell us these things?" It was Rodney's turn to get upset.

Even Marga was a little rattled, "I should have told you about the constant pressure of the field. It was so subtle. I just wasn't sure that I was feeling it. I felt the disruption twice, for about a minute each. The second one was at the same time they got poor Jafir. The first time must have been when they got the scooters."

Bink said, "I find it strange that we didn't notice the signal from the scooters was gone."

I said, "I did notice it. I just thought it was one of those communication anomalies that we keep getting. We are constantly tuning our psycho-magnetic transmitters to reduce the planet's affect."

Rodney is still trying to be the voice of reason, "I think we should stop calling it the planet. It is an entity or a group of entities, separate from the planet, be bonded to it. It has a lot of power. The ability to move wind, soil, probably water, and who knows what other powers.

The Funeral

We have not been able to sense any remnants of a life form from the area. A couple of the people are still holding out hope, but after a week of searching and scanning, we have to move on. Having a funeral is necessary.

<song>

Poor Jud is Dead

A candle lights his head.

He's lookin' oh so peaceful and serene.

It looks like he's asleep,
It's a shame that he won't keep,
But it's summer and we're running out of ice.
Poooooooooor, Juuuuuuuuuud, Poooooooooor, Juuuuuuuuuud
</song>

This song from the musical Oklahoma in the 20th century may seem like an insincere ceremony, But give us a break. We have been on our own for 1200 years. Life actually means more to us that in the past because we are living to be 200 years old. If we took death too seriously, it would be too much for us.

The Counter Attack

"Marga," Rodney said, "we need to find a way to communicate. It has all the power. Can we hurt it?"

"Better yet, can we help it?" she said. Maybe there is something it wants. Maybe we can work together with it. Symbiosis is the only way."

Kuona says, "I have been working with the human simulator for the past couple of days and am starting to make some progress in understanding the entity. The simulator was a good idea. Thanks for putting it together, Shelby"

"No problem."

"It uses natural learning algorithms like a human but a trillion (give or take) times faster. It is sensing some tension in the entity. Like there is something out of kilter."

"That would seem logical given that its planet is being invaded."

"No, there is something else. In fact the original message to us was more like a call for help. Remember I can send it some simple messages as well. I have been able to do an experiment, controlling for our presence, and have determined that there is something else."

Marga said, "I agree. I couldn't express it but it rings true."

"If it likes us, why did it kill Shafir?"

"I can't say for sure, but I think it wanted to check us out. It can tell the difference between our objects and us, but it did not realize that our type of life form would be destroyed by being buried and disintegrated."

"Not such a smart entity."

"It does not understand a separate body as an entity. It's cells are dying all the time and it does not affect the entity. We don't mind when our skin cells die."

"Since when did you get so touchy-feely. You have been spending too much time with Marga." I gave him a good nature jab.

"This is pure science." he acted a little embarrassed.

Brainstorming

This is what you do when you haven't a clue. It is a waste of time, but makes you feel better because you are doing something. Even 3000 years after doomsday, people haven't changed that much. We like the process. We are happy when occupied in a pursuit that we can convince ourselves is productive. Marga does not participate in the brainstorming. She is

starting to go into a trance again. But we have put a tracer on her chip so that she won't go totally AWOL again. The monitor can recognize the trance brain patterns.

Kuona is working day and night, in his own type of trance. We aren't worried about him, though. We like to have him around to make fun of. He gets more serious than I do. But his is making progress with his communication with the entity, I mean cellity. So far, that is the only thing that brainstorming came up with, a name for it. We are calling it the Cellity, or just Cellity.

Every once in awhile we through Kuona a thought,
"See if it likes our waste products, That would be real symbiosis, Then we can live with them and not even to have to clean up after ourselves."
"No it thinks we smell."

"What kind of air does it like? Is there too much methane in the air? The current mixer is 80% nitrogen, 15% oxygen, 1% carbon dioxide, 3% methane, and 1 % mixture of other gasses.
"It controls the air mixture."

"Does it like to watch sex videos?" (Brainstorming says that no idea is stupid.)

All during this time, Kuona and, by extension, us, are getting to know cellity better. I have almost forgiven it for killing Shafir - No! I won't ever forgive or forget that!

"Cellity likes to talk."

"What do you mean?" I said.

"It turns out it's lonely and really likes the interaction. Conversation is stimulating for cellity. I think that as long as we don't do something it doesn't like, that it won't harm us."

"That's stupid"

"I thought nothing in brainstorming is stupid."

"What about the killing of Shafir?"

"I am trying to teach it about us, what we like and what harms us. These are difficult concepts to get across, but we are starting to develop a common language. It is especially difficult because it does not have a good concept of space or objects."

"But this means that we are still at Cellity's mercy. If it gets the wrong message from us, if we inadvertently anger it, it could destroy us."

"And your point is ...?"

Roney asked, "Do you have a recommendation?"

"I am a scientist. I am not so good at understanding the ramification of actions. I cannot do the trade-offs between the risk of exploring versus the risk of not exploring. I can only provide my observations."

I said, "I'm not sure I can believe you about Cellity. I'd like a second opinion."

"You're ugly too."

"Takes one to know one."

Rodney said, "Well I'm glad you got your sense of humour back. But I would like to get Marga's

view. Somebody wake her up.”

Shelby leaned over the couch and gave her a shake. Come on sweetie. time to get into action.”

“But I’m having such a good dream. We’ve merged with the entity and we’ve never experienced such joy and completeness as a species. It was like the way we were meant to be.”

Shelby said, “Reality can be tough, but at least we are alive. And nothing bad has happened in the the last week.”

Rodney said, “Marga, do you need something to help you wake up?”

“I could use a neck rub.”

Kuona jumped up and went to work. Even though marga seems to be half in a trance, she is never far away from enjoying the physical.

“Oh, that feels good. A little to the left ... and down, back to the right... that’s it.”

After a few minutes, she was ready to talk, “What’s up.”

Rodney said, “Do you have anything to tell us about Cellity?”

“Cellity? Oh you must have named it. I like the name. I’ve sensed a little calmness in Cellity. It is almost like I’m starting to understand it better, too. Kuona, have you made some progress with the human simulator?”

Kuona said, “Yes, I think we are starting to form a common language.”

Rodney said, “Kuona came up with a theory. We are looking for some common ground so that we can share Ginger with Cellity. He says that it likes to talk. What do you think?”

“Well, it certainly reached out to us in space. It is constantly interacting. Hmmm. I think that is probably correct. I wonder, though, how many conversations it can hold at one time. We still don’t know if it is like one entity or a combination. When it has multiple conversations, is it like one being, understanding all of it, or is it like it clones itself?”

“It may be like a computer program which spawns another thread.” replied Kuona

Rodney said, “Marga, I don’t want to force you, but I think that it’s time you started working with Kuona.”

Kuona was all for that. “Yes, I think that is a good idea.” he said, trying to say it in a logical tone. We all know that if he could wiggle his ears, they would be going so fast, he would lift off. But I can’t blame him for wanting to be with Marga. She make a body feel good.

Marga was now fully awake and engaged for the first time in a long time, “Come on, Kuona, let’s synchronize with Cellity,” she said in a silky smooth and enticing manner. What a tease.

Equipment Again

We were ready to take risks again. We deployed the psycho-magnetic sensor shelter. This would be more powerful than the one on the ship. Especially the antennas would exposed and be tailored to send and receive the waves. Marga and Kuona were working closely with Cellity for each baby step. Surprise, it had been shown, was not good for Cellity. The heavy lifting was done by Joe, Shelby, and Jean. Rodney and Bink always got out of it.

Rodney always acted too busy with his bureaucracy bosses, and that was OK with us. I had

dealt for years with Fleet Management, and I had to get out. Rodney seemed to thrive on it. And he interacts in a normal way with all of us. He does have a special talent.

We resented the fact that Bink did not pitch in to do his part. Of course he was short and fat, and probably weak, so maybe he wouldn't have been much help anyway. He was so standoffish and acted like he was above it all. But he had his nose in his biological studies of the cells and, I suppose, we should get to understand the life form. Jean worked closely with him, but also used the shelter set up as a break from the studies. This also gave us a chance to spend some time together. Besides we felt it was our duty to help out.

The Chip

And talking about risk. We decided to start putting the Marga chip in our slots. We drew straws for the first one to get the chip with psycho-magnetic upgrade and Shelby won. As she started to grab the chip, Bink took it out of her hand, and said, "I shall take that. And he put it in his slot. "I need to understand the cells from the communication aspect as well as biological." Ok, So be that way.

Marga and Kuona started giving training classes to everyone. Bink's training was different because he had Marga's chip design. The rest of us learned to work with the human simulator. There was one in the ship and one in the shelter. We were careful not to use more than two channels of communication with Cellity at the same time. Our motto was, 'Don't make waves'. Appropriate on a water planet. A channel could be a human simulator, Marga, or Bink.

Bink did seem to pick up the vocabulary quickly. I shouldn't have been surprised. I knew he was smart and motivated. It is just that his attitude and appearance were, well, not exactly repugnant, but disagreeable. And I hate to admit, I think he was a good choice to get the next chip.

With Jean's help, he was starting to understand how the cell biology made the psycho-magnetic waves and how they were able to relay the signals. There was an organelle in the cell responsible for communication with the wave. All cells had at least two, one send and one receive. He discovered some cells that had duplicated the wave organelle a dozen times. This meant that it could make that many connections. It appeared that the connections were not cell to cell, like human neurons, but broadcast, so that any cell within range would get the message. But like neurons, there were signals that could excite or inhibit. As Jean said, "The whole planet is one big brain!"

Bink started to use the communication and biology in synergy. He was contributing to the vocabulary. It appeared that nature on this planet obeyed the laws of fractals. Patterns at a one level were repeated at higher levels. In this case what made the cell work also showed up in the communication organization. Bink gave Kuona the hints, who was able to process it in the human simulator.

Jean and Bink also located the organelles in the cell responsible for energy capture, energy storage, and state information. For a brain or computer to work, it must store the information. That is often called the "state". In computers a bit is either a 0 or 1. When you put a lot of them together, the state it can store can be a word or number. Computers, or brains, can store and process and store the information states. That's why it is so important that they found it. For the Cellity cell, the state is analog. It is not just a 0 or 1. That gives it a lot more information, but may be less reliable.

The Fleet

You may wonder what the fleet was doing all of this time. They were orbiting and taking all sorts of measurements in all sorts of frequencies. They were supplying ground support for landing party. the processing that they need to do was aided by the fleet computers. They were also keeping track of the Post, which was now 1 light-day years away.

The people on the Post seemed to be happy. They had accepted their fate and were on a vacation. Maybe it wasn't the most hospitable vacation spot - completely empty. They did come near some asteroids which came in handy for target practice with the lasers.

The people in orbit were not happy. They were bored. After the excitement of the deceleration and orbit, those 10,00 travelers were back in a research capacity. They wanted to go to the planet ginge. They wanted to talk to Cellity. They were tired of living vicariously through the landing party. It is strange that most of them had traveled 100 years or more and were perfectly content. but now here was actually more to do and they were unhappy and frustrated. Many of them would trade the safety of the Fleet for the danger on the ground. Even if there was a good chance of being killed. Not the ones who knew Joe, though. The funeral that they had in orbit was an extravaganza. It was really a wake. The party went on for a week. Somebody hacked a food synthesizer to create psychedelic drugs. It was suspected that it was the open source guys. They were the least happy with Joe, their leader, on Ginger. That is not the group that you want idle.

Mostly they just took the drugs themselves, but there was one political fund raising event that was a little different. Yes, there are still political parties. You would think that the doomsday asteroid would have eliminated political parties. And it is true that there was amazing cooperation. But humans are humans. No matter how much people agree, they will find ways to split on government. What also may find strange to you is that there are fund raisers. Everyone needs to contribute to the good of the community. I already mentioned that up to 25% of your contribution can be satisfied by watching commercials. Politics figure in, both for the people working on the campaigns. Your spending is also calculated on a percentage basis. You can spend up to 5% of towards political parties. The government (Fleet Management) is responsible for setting and adjusting the percentages So, if for nothing else, than you vote your pocketbook.

And the parties buy your vote with parties. The conservatives are in power now and gave a kick-as party. The punch was really good, except for the fact that it was spiked with the drug. It was a wild party and the hangovers the next day were the worst ever. They never caught the perpetrators, although they were pretty sure who did it. Nobody else but the open source guys would have had the expertise to cover their tracks, That little incident changed the voting pattern to keep the conservatives in power.

Colonization

There were no more incidents with Cellity. Slowly more people got chips. More simultaneous channels were open. Communication improved in quality and understanding . Vocabulary was building up. It was not, however, like anyone, even Marga, could have a human type conversation. We were just too different. We had increased the number of simultaneous channels to 20, 6 people and 5 human simulators on the ground, and 4 people with chips and 5 human simulators on the Fleet. Cellity had no trouble dealing with it. It seemed that the results of one channel fed into the others. So if there were separate threads, messages were passed quickly among the threads.

So, even though there was still risk, Rodney and Fleet management decided to start colonization. The travelers were restless. The drug incident would look like child's play if they waited too much longer. This was about 3 months after we first set foot on Ginger. They started to come down in groups of 100, but not even those all at once. The landing party was already living on the land at this point. The shelters were all set up with living quarters and experiments We had started to spread some soil and the grain was sprouting. Cellity was taking all this in stride. I seemed to be happy. Almost like it was singing. Although maybe we anthropomorphized it.

They surveyed the continent we were on from orbit and found a good place. Near the sea but far enough into the hills to be safe. (In fact we had moved a mile inland in case there was some odd weather.) It was about 50 miles from our location. Close enough for us to be helpful, but far enough for them to be on their own. It slo was a good flat area for agriculture and near some minerals for mining. The first colony was set up to be agricultural and mining. We did not call ourselves a colony, but were more like scientific scouts. Wingman was the smallest ship, so it flew back into orbit to get the first load of people and supplies. We didn't want a big ship because we constantly worked to minimize the impact on Cellity. It came back with 20 people, small tractors, and mining equipment. They also brought a lot of dirt (complete with worms and microbes). No insects yet.

It seemed that we were able to get along in this environment. The ships in the fleet were somewhat sterile , but not completely. We know that we need our microbes. But, in many ways, the planet was completely sterile of earth life forms. It only had what we brought with us. I wonder what was spreading inadvertently. I almost felt bad for Cellity. After letting us into its world, ur life form was probably going to take it over. It seemed that Cellity had complete control

over its entity, but we did not. I just hope that we could live in harmony and keep our implied promise to not harm it.

<chip>

It was nice when the 20 new people came down. Sure, we got along, but with only 7 people can get on each other's nerves. When Jean heard about the drugs in the punch bowl, she couldn't help tell the story about the young woman Confiti.

"She was just older than a teen ager and had come to a small gathering. She came with Andres, one of the guys we knew, but nobody else knew her. She seemed very nice but quiet. I lost track of her for a while, but lae I spotted her sitting with Andres on the couch. Her back was the straightest Id ever seen. She was holding a bag of potato chips, staring straight ahead with a slight dreamy smile. I watched her eat one chip ... very slowly bringing to her mouth and slowly putting it on her tongue and bringing into her mouth. She chewed it slowly, pursing her lips, as if it was the best thing that was ever eaten in the history of humanity. She looked up and smiled.

"Then Andres reached over to get a chip. She slowly put her arms around the bag, clutching it, and turning away from him. There was no way she was going to let him have one of her chips. Andres said that it was about time to leave. She slowly stood up. keeping her back straight and still clutching that bag of chips. I said, 'Cofitti, you can take that bag with you.' She nodded and smiled softly and walked out."

I'd never seen anyone that high. don't know what it was but I made sure that Andres took her to her room. And her bag of potato chips."

</chip>

Colony 2

The first colony got established quickly. It took 6 loads of Wingman to bring everybody and the equipment and supplies. Everyone had chips with the Marga upgrade. But we still made sure that we limited the number of channels. We only had one chance to colonize the planet, and Cellity could wipe us all out in a moment. We did not know how much power it had, but we didn't want to test it. Jean and Bink had found out that the energy storage in the cells was far greater than anything need for metabolism. You know, they didn't really do much (or so we thought). This accounted for about 5% of the energy that was missing. Well, at least that's something.

We landed in the northern hemisphere at about the 30 degrees north. The tilt of Ginger was 20 degrees from the perpendicular to the orbital plane. This also is close to the earth value of 23.5 degrees. the orbit around Luyten's star is almost circular, so, like Earth, the hotter and cooler times are dependant on the position in the orbit. When the Northern hemisphere of ginger is tilted towards the sun it is summer; and, of course, winter in the Southern hemisphere. The year is 550 Ginger days (857 Earth days) more than twice as long as Earth. We landed in what

would be mid spring, So by now it was early fall. The grain was sprouting in the first colony. the grain we had planted was being harvested.

We had modified the gene of many of the plant and animals for the planets days and years. The hardest thing to modify was the human sleep pattern. We had to adapt to 37.4 hour day. We trained for 1000 years and a few generations. We did it mostly with training and naps. Everyone in the fleet really likes naps. We have made a science and an art form of it. In fact we have made a martial art of it. It is an art o micro naps. We can get rest in as little as 2 minutes, And repeat a hundred times. The grain was a little easier to do. We adjusted for the growing day. We did not adjust for the length season. We kept it as fast growing grain so that we could have many growing seasons each year. It also behooved us to get the first season in a fast as possible.

What a pleasure it was to eat the first thing grown on Ginger. I think we'll call it Ginger wheat. It will be a number of years before we can grow some blueberries. I don't know if we'll ever get bananas.

So the first colony was doing well. It was named Inspiration. And it certainly was an inspiration for the next colony.

The next colony was going to be 10 times as big. It was going to be more of a manufacturing town. The machines we brought with us were more like meta machines. They were designed to make the machines to make the products. We needed the raw materials from the mining colony. It also had put together the factories to process the raw materials into steel that could be used to make the other machines. They called it Gingerola.. It was put on the other side of the continent. It had been debated whether it should have been closer. But the Fleet Management decided that there was more safety in keeping the colonies far apart. They were only an hour away by plane. We didn't have any ground vehicles that could go that far, because there were no roads. This is a water planet, so the roads were waterways. One of the first factories put together was a barge factory to transport the raw and manufactured goods.

The training for the 1000 people in Gingerola was not as good as the previous 100. We made every effort to slow down the colonization and to improve the training. Not everyone in Gingerola had an upgraded Marga chip. Only those willing to go through the psycho-magnetic training were allowed the upgrade. I now think that might have been a mistake. Having the upgraded chip gives one an understanding of Cellity.

Week 3

The Weather

You may think that I am just avoiding the problems that may have been caused by the second colony. But it is high time that I talked about the weather. On earth (we still are connected

emotionally) everyone talked about the weather. After 1250 years on spaceships, we lost the meaning of it. We knew about it because we had reports from Earth of rain , drought, hurricanes, snow, frigid cold, and devastating heat. But it was really hard for us to relate. Our “weather” was always the same. The only difference was some people liked it hotter or cooler. People kept their own rooms the way they wanted it, and we fought over the temperature and humidity of common areas. We were able to experience cold and heat. the standard training that everyone received every year included exposure to the extremes. But it is different than experiencing it at random.

Rain is so beautiful, even when it is cold. There are so many different types of rain: There is just a mist, or an intermittent slight drizzle, or a steady rain, a downpour, and a thunder and lightning extravaganza with rain and hail. We only got the thunderstorm with hail once, but it was terrifically exciting. We liked all of the weather. I don't think I will ever get tired of weather, as long as it changes. Of course, we haven't experience winter yet.

Earth associates certain events with the seasons, not just weather. Spring brings the flowers, Summer the fruit, Autumn the color of the leaves. (Of course, California in the old United States, the Sacramento bubble, does not have the fall leaves, but does have the progression of flowers, plum, cherry,apple, and then the progression of fruit.) We hope to get this progression on Ginger in 10 to 20 years. That would be paradise. There is amazing upside to this planet. We would not make the same mistakes as on the old planet. We are starting with a small population, but with advanced technology. The plan is for humanity to jump to the next planet in 2000 years. It will be nice (shlurp) to concentrate on fertility instead of denying it, like we have for 1250 years.

Because there is rain, we also have, river and lakes. We brought some fish with us and are trying to stock the water. So far they have all died. They need something in the ecosystem. We did not study this as much as the grain ecosystem. It is too bad there aren't any cliffs. that is why we don't have waterfalls. the rivers only flow when there is rain . The Earth has underground storage. This was caused by sedimentary rocks , which were raised due to plate tectonics, and then dissolved by water. At least we have the above ground storage of lakes.

The weather seems to be mild. It is usually around the average, within 2 standard deviations. Some of this is due to the lack of continents to help create hot and cold areas. But the meteorologists working with the energy balance physics scientists have evidence that there should be more variation in energy dissipation, in other words, temperature and storms. We already found half of the 10% missing energy stored in the cells of Cellity. Cellity also seems to control the release of energy to mitigate the extremes.

Back to Colonization

Marga and Kuona noticed the Cellity 's tenison was increasing. As always, we could not be

sure. It might take a thousand years to really communicate. I know that man has not been evolving very quickly, in terms of capability. However, social evolution can be fast. Where does Cellity fit in? Is it purely biological and is there some social aspect to the life form?

The thousand new colonists in Gingerola started to really crank up their manufacturing efforts. We were all so happy. They outdid themselves. Processing the raw materials that Inspiration was providing, they turned out 20 boats with a 10,00 ton capacity each. This, in turn sped up the production. They turned out more tractors and mining machines for Inspiration to use. Inspiration grew in population and material. Fleet Management approved a transport of 400 more people and tons of equipment.

Well, I said that we were not going to make all the old mistakes. I guess we are just human. Not many people in Gingerola had the upgraded Marga chip. They could not feel the tension that we were feeling. We kept telling them that Cellity was getting upset, but they were tired of being bossed around by "the stupid landing party". And besides, we weren't so sure ourselves.

Kuona said, "Rodney, we have to stop Gigerola from polluting the planet."

"They aren't polluting. The records show they are disposing everything in the approved natural way."

"I can tell from the human simulator, that something is wrong. Indications from Cellity are that the colony is just tossing the waste into the sea."

"How could you possibly know that?" said Rodney.

Marga chimed in, "Cellity is talking about the smell."

"I'm inclined to believe you, but I cannot go to Fleet Management with something that is more feelings than hard facts."

Kuona said, "I can gin up some hard data easily. Those stooges in Fleet Management will never know the difference."

"In the short term, they won't find out, but your ass (and mine) will be grass when they do find out."

It Started Out

as a minor blip on the radar. Fleet Management on Enterprise notified us. "We are getting sensor input at a number of frequencies of unusual rise in energy dissipation in your area." Shelby was on duty, "What is the exact location?"

"We are still trying to pinpoint the exact location. For now it seems generalized."

"Shelby said, 'Is there anything we can do?'"

"We suggest battening down the hatches, so to speak. This phenomena has some similarities to the time just before the Gingercane that first wrecked the equipment."

"Will do. I'll tell the others. What is Gingerola doing?"

Fleet Management said, "They are ignoring us as usual. They think that they don't need any help. It turns out they are run by the fundamentalist religious group, Chosen. Marga's group is

the major religion and is called BeNice. The Chosen might as well be called BeMean. They are arrogant and are sure that they are always right, and pretty much crap on anyone not in their group. ... and the disturbance is building up fast. We have identified the location as just off the Gingerola coast.

"May God have mercy on their souls."

"Rodney," said Shelby, "Cellity is going after Gingerola."

"Shelby. Is that you talking. You sound like Kuona or Marga."

"We all have become sensitized to the psycho-magnet communication here. It treats us like special pets."

Kuona piped in, "It does seem to be able to distinguish each of the original landing party as individual beings, ever since it killed Shafir. It understood our horror at the death and has been more sensitive to us."

Marga said, "We are all feeling that, but we are also feeling the increasing tension with Gingerola people. I feel they are going to get hurt. They are too proud and reckless."

Rodney said, "Let's prepare for the worst. Protect ourselves, but get ready to come to the aid of Gingerola."

The concentration of energy just off the coast of Gingerola started to grow, according to all sensors from orbit, and all of us in our Marga chip. It started to manifest itself in large waves. At this height the waves were not unusual, but even the Gingerola residents started to take notice. They felt they were safe because the shelters were a mile back from the shore. Au contraire, mon frere. The waves grew taller and taller. They had gotten up to 20 feet. But what was uncanny was that they traveled inland hundreds of feet without diminishing in height. They got up to 40 feet and started to lap against the beginning of the town. And then the surge started. It was as if the water level rose up 500 feet in a matter of 1/2 an hour - with the wave on top of the surge. The weirdest feeling is that the wind was completely still. It was as if we were in the eye of a hurricane, but the hurricane was all eye.

I said, "Jean can you see that vid?" Of course we were not 'seeing' this in the traditional sense, but the chip in our brain were transmitting the images directly to our visual cortex.

Jean said, "It looks really bad. The sea is already destroying the first shelters. The Gingerola residents are very calm. They are evacuating uphill in an orderly manner."

"I can't believe it. I would be crapping in my pants."

"I don't agree with their attitude, but I admire their courage. Their leaders, however, have grabbed all the air scooters and got out of the area completely. They are cowards"

"It looks like the water is still rising. I don't think they are going to escape."

"I think its time to start the rescue flight with Wingman. It's going to take us an hour to get there, and it seems like the destruction is limited to Gingerola."

"We have heard from Inspiration. They have already taken off on their rescue effort."

The Aftermath

The destruction was terrible. The water had risen to 50 feet above the town. By that I mean, Gingerola was 50 feet underwater. The front edge of the flood had gone to 1000 feet past the town. then the flood receded and took everything with it. There was no debris, It was as if the sea was made of acid and dissolved the shelters and machines, not to mention the residents. There were some survivors (besides the leaders). These were the fast runners, or the ones that were exploring the hills. But it was less than a hundred people.

The Chosen leaders are broadcasting on their channel from their not upgraded chips. Already they are railing against Fleet Management (calling then Fleet mismanagement). They are calling for an all out attack on Cellity. They want to wipe it out. It is no wonder that Cellity stuck first. What is a wonder is that it didn't wipe the rest of us out.

All the people of the Fleet went into mourning. Mourning is different for different people. many were like the chosen and demanded revenge.

Others were sad and felt that the 3000 year experiment was over - that we would never be able to populate another star system. They felt the weight of all humanity on their shoulders, but were helpless to do anything about it. How could you attack a being that was distributed all over the planet. You couldn't talk to it so you couldn't even negotiate with it.

There were demonstrations on all of the Fleet ships. The biggest, of course, was on Enterprise. It had almost than twice as many travelers, as the next biggest ship, Philadelphia. A lot of people lost family members (although some felt that they had already lost family members when they joined the Chosen). There is some sort of relationship between Fleet Management and the Chosen. Only one of the Chosen family (as they are called) is in Fleet Management, but somehow they made up the majority of the Gingerola colony. This may be bigger than a religious group. There are some politics going on here. I spoke with my open source crowd, and they claimed that they did not spike the punch at the political party party. They liked the idea. They wish they had thought of it. They would have no reason to lie to me, so I believe them. It was a close election and the reaction to the spiking of the punch kept the old guard in power.

The BeNice religion, led by Marga, was a big part of the opposition. Many people discounted her and her religion, but we found out first hand that even though she is mystical, she is also very practical and competent (and gives a hell of a massage.)

Why were we chosen to go on the Landing Party? Everyone in the party was somewhat of a rebel.

This wide scale death makes me think again of Shafir. You wouldn't exactly call him a renegade, but he made fun of everyone. To us, it kept one humble and realistic. We all have

faults and Shafir was able to find the cracks in a personality and stick a wedge in to exploit it. He did make an issue of someone in Fleet Management a year ago.

<Shafir >

"This is Shafir reporting on a sports related story. Tillamook Jones was implicated today in a Crater ball gambling story. I don't really have a problem with gambling on Crater ball. After all, it is the Fleet passion, and gambling is not illegal. But if the gambling affects the game, or the outcome of the game affects Fleet Management, then it is a story. Tillamook is one of the funniest looking characters that you'll see on the fleet. He is like a string bean, all elbows and knees. If he is walking down the corridor, you'd better watch out, because he twitches. Some random twitch might cause his fist to smack you in the face. It is no wonder he has to boost himself up by being part of the Fleet Management oligarchy. It is not so obvious why he has to fix Crater Ball games. He already has amassed quite a fortune. He is worth 10,000%."

</Shafir>

Savings are based on how much of a yearly income one has control over. I have 25%, so I am barely keeping ahead. Of course I enjoyed my restaurant, TJs, while it was still viable before orbit,. And I spent a lot of my credits on the open source work. This was the way life should be, not to worry about how rich you have, but to follow your passion.)

<Shafir>

"I guess it is because someone with angles and twitches constantly needs to prove himself. He needs to win - all the time. Of course, no wrongdoing has been proved, and it never will. I would like to salute Mr. Tillamook Jones for getting what he wants and crushing the little people under his feet. To you!"

</Shafir>

Shafir was something else. He was one of my favorite channels. I always contributed to his commercials. No wonder he was thrown under the bus. "What?" you say. There are no busses (except an electrical bus in the chip.) No that is an old Earth expression when someone is sacrificed. I think the Fleet knew more about the missing air scooters than they were willing to let on. Why did we not receive a signal that they were gone? Could the fleet have hidden that? They knew that Shafir would be the most reckless. So he ran onto the spot and was sucked in. I wouldn't be surprised if they concentrated an energy ray on that spot to aggravate Cellity.

Silence

Cellity is exhausted. We can tell because it is hardly communicating. Our sensors show a drop in energy in our landing area; Inspiration is receiving lower energy signals; the Fleet is seeing an overall drop in psycho-magnetic radiation from the continent.

Marga is still communicating with Cellity. "It is disheartened."

I said, "Come on. I feel the loss of communication, but how can you attribute a human emotion."

"These are the only emotions that I know. It is exhausted, but it is not just that. It is disappointed. It was as if it was experiencing a renaissance when we landed. And now the barbarians have come in. It managed to repel them, but its forces are weakened. It is going

into the Dark Ages.”

“That is quite a leap.”

Kuona said, “Sure Marga speaks in riddles sometimes. She is less in our world and has moved partly into Cellity’s world. But my human simulator show the same thing. I have boosted the power of my simulator. Before Gingerola was destroyed, I was able to get them to make dedicated circuits for the simulator. I have incorporated them and now I have 10 times the power. These circuits give me greater range of transmission and more sensitive receiving. And even more than that, is the 10 fold increase in analysis. I will be able to process all of the data since we entered orbit.”

“What will that do”

Marga piped in, “We will learn its language!”

“That is precisely the point.” Kuona went on, “We have developed a shared basic vocabulary with Cellity. But we need to analyze the pure being. Then we can apply it to what we already know.”

“What good will that do for us.”

“I don’t know. This is more like pure research. I will leave it up to the rest of you to figure out if it has any use.”

“Shelby and I will find some way to apply it.”

Jean said, “Bink and I are also continuing with our research into what makes the organism tick, and how it is connected to produce the intelligence.

Bink said, “I highly doubt that you people can find some use for my discoveries, or even if you can understand them.”

We just stared at Bink, incredulously and then remembered that it was just the way he was. Somehow we had grown attached to Bink. All that arrogance, high-handedness, holier than thou attitude no longer made us angry. We just accepted it, and it was almost endearing. (Well, almost. It still was irritating .) Most of all, we knew that he was part of our team. The team had really gelled. Rodney had chosen wisely.

Why we are here

The odd thing was that Rodney seemed to be drifting away from the team. He was engaged more with Fleet Management than with the colonists. This is understandable because he had to deal with the murder of 10% of the Fleet population. But it was more than that. He picked the team (we thought) and he was such a good leader to get us to cooperate and form an effective team. But why were we all rebels?

- I had quite Fleet Management and was linked to the opens source coalition.
- Marga was obviously the enemy of Fleet Management
- Shafir made fun of Tillamook.
- Bink goes his own way no matter what. He would never follow Fleet Management
- Shelby was in trouble for working with me and keeping secrets from Fleet Management.

I motioned to the group to come into the shelter. They looked at me funny but preceded me in. I shut the door.

"I have to make this quick because they will wonder why we are out of range. My cover story is that I wanted to show you some strange psycho-magnetic signals. Kuona, if they ask, you will say that I was stupid and just interpreted it wrong.

"OK, but out of range from whom." said Kuan.

"Fleet Management may be setting us up."

"Why would they do that? We haven't done anything wrong. Not like when I challenged their top scientist, humiliated him, and disgraced his career. He was not much of a scientist anyway. He just towed the party line. What a blowhard.

"Well, that explains that. Jean what did you do to Fleet Management?"

"What makes you think ...? OH. It must be the vaccine that I was giving to the young girls and boys. They ordered all of the doctors to stop giving the cancer vaccine because they thought that it was making their children more promiscuous. It was related to sex, but the children were already promiscuous. Their argument was that if they get cancer it is God's will, and besides, we can cure that now with nanobots. The nanobots are an amazing tool, but similar to drugs from the 20th century, doctors are relying on them too much. Patients are getting into a habit of not taking care of themselves, always assuming we can fix them. But every fix has its price (although it is much better than the 20th century).

"So we are all rebels. They wanted us to fail and get killed. This is another link in a series of actions that are starting to become clear".

"Joe, are you saying that Fleet Management would risk Earth's chance to save humanity just to get power?"

"That's exactly what I am saying. But it was not much of a risk. It turned out that we succeeded in working with Cellity. They expected us to fail and be sacrificed. If we had failed, they would just send another team. I think they killed Shafir. they might have even killed off Gingerola."

"No! That was their own people."

"Yes, that is a little far fetched, but I am convinced that they planted the psychedelic drugs in the punch bowl to win the election."

"Wow!"

"Yes, wow. It is almost too crazy to be invented. But, if it is true, Rodney is with them, maybe reluctantly, but he has drifted apart."

"Kuan and Shelby."

"Yes Joe."

Yes Joe."

"Can you figure out a way to communicate so that The Fleet cannot eavesdrop? Maybe something with psycho-magnetics that can't be traced."

"Yes Joe."

Yes Joe."

"Now, let's get out of here. Remember the cover story. And don't talk about this or act any differently. And don't mention anything to Rodney. We have to assume he is part of the plot. I hope I'm wrong. "

Fleet Management did wonder where we went, so it was good we had a cover story.

It looks like I'm going to have to take more responsibility. I have been avoiding it for a long time. This is the critical time, and I need to step in. This has always been my MO, to jump in when it is clear that nobody else does. I hope I am up to it. Humanity depends on me. I'm glad that I have Jean to bounce ideas off.

"Bonk."

"Joe, why did you hit me in the head. Ouch.

"I'm bouncing ideas off of you"

"Very funny," Jean says sarcastically.

We are in the bioshelter. This is where Jean and Bink perform their experiments. Bink had stepped out for his morning constitutional. He was regular about his exercise. As usual, his insistence on regularity was irritating to the rest of us. Jean would have an epiphany about Ginger cell mechanisms and would start to explain it. He would say, "Sorry, time for my walk," and leave while she was in mid-sentence. Here Jean was so excited about a discovery, and he totally deflated her.

Bink and Jean have been testing the compatibility of Earth and Ginger cells. Many of the structures are similar, but are different implementations. The master planner of the universe must have liked to play around with a variety of methods to perform the same function, as well as different functions. Earth and Ginger cells both have membranes made of lipids. The structure and mechanisms are very similar. The membranes control the concentrations of the various molecules inside the cell by passive and active transport mechanisms. The membranes also enclose the organelles. The organelles are different parts of the cells which perform special functions. Mitochondria are an example In Earth cells, which are the energy factories. Ginger cells also have an organelle for energy production and they have the psycho-magnetic organelle. Bink postulated that this organelle developed because there is a background radiation of psycho-magnetic waves in the Luyten's star system. Kuona and Shelby have detected the levels, but it is not clear where this comes from or what natural phenomena could cause it.

Would there be a way put the psycho-magnetic organelle in an Earth cell? So far the cells appear to be incompatible, not poisonous to each other. They just don't interact. What is interesting is that Ginger cells don't even interact with each other. When a cell divides (in a process similar to Earth cells) they jump apart. The cell membranes have a positive charge on the outside, keeping them apart. This is why there have been no clumping of cells to form colonies. On Earth, the colonies of cells developed differentiated functions and then became organisms. This could not happen with Ginger cells.

"Jean, we have to prepare for Fleet Management becoming an oligarchy." We were protected from Fleet management ears and eyes inside the shelter. She looked away from her screen and said, "Joe, don't you think you are jumping the gun. It is

really hard to believe that these people we have traveled with , that we have known for 100 years plus, would actually try to subjugate us.”

“People may have evolved socially, but we are still people. And once humans get a taste of power, well, you know the saying.”

“Yes, power corrupts. but why would they want to control use. They already have the power.”

“This is just my theory about why they would do it. You know that I am not a political scientist. They made sure that there wasn’t one of them on our team. But the evidence is leading me to that belief. I hope I am wrong, but if I am not wrong, we need to prepare now. It will be too late when their plans come together.”

“I don’t like the preemptive argument. Many wars were started on the basis of striking first before the other guys do.”

“This is why I am bouncing my ideas off you. You are practical and will see the flaw in my arguments. I sometimes get carried away and go down a rabbit hole. Do you see any problems?”

“Unfortunately, it seems that you are right. We just need to be able to keep our preparations secret. Even if there is no Fleet management conspiracy, this type of activity could be seen as seditious.”

“Agreed.”

Just then Bink walked in, “OK, time to stop goofing off and get back to work.”

I could see Jean bristling with anger. I chuckled and said ”See you later.”

AS I was organizing the resistance. (I can’t think of a better name for it. In fact everything going on seems like such a cliché, sometimes of real conflicts and sometimes of conspiracy theories:

power corrupts

‘First they came for the communists and I didn’t speak out because I wasn’t a communist ...’ (From Hitler and World War II)

Killing some of your own people and blaming it on the other side (Conspiracy advocates claimed that 911, when the planes crashed into the world trade center in 9/11/2011, it was the government that wanted to go after the Muslim terrorists.)

Creating diversions to avoid to deflect public attention (20th century attack on Serbia to deflect the country’s attention of the President Clinton incident with Monica Lewinski.)

All of these things are true and not true. When you need to decide what to do, there is not enough information to be sure. All one can do is to gather as much evidence as possible and go with your feelings. And I know these guys better than most. That is why I got out of Fleet Management. This is not just a life and death decision for my and my friends, but could be life and death for all humanity. Boy, do I want to punt, and just avoid the situation. I want to go play some chip games, fool around with some technology, anything but face the situation.

So far I believe we have evaded suspicion. Even though I think they want to kill us, they are going to wait for the right time. So we have time to prepare. Besides, if they kill us now, we have not accomplished anything. I just somehow can’t see that Rodney is on their side. He

must be really torn. They must have some leverage on him. In any case, we can't trust him.

Silence, really

I am trying to be careful. It is natural for me to wonder around. They know that Jean and I have a thing, so it is natural to visit her. Also, I have some expertise with nanobots which are supporting the bio research.

I wandered into the psycho-magnetics shelter. That is my normal working location. Marga and Kuona are working.

Kuona said, "I'm glad you are finally realizing the oppression of Fleet Management."

He has been telling me for months that they are slowly taking away our freedoms. It started with putting in extra controls on travel between ships in the fleet when we were still a few months from orbit. The last straw for him was the psychedelic drug incident and, he says, the fixed election.

Then all of a sudden, the blinking lights went out and Marga collapsed. We ran over to her. She said, "Cellity is gone!"

"Are you alright?"

"I am fine. I was just startled. It was as if Cellity communication was holding me up. And then my support disappeared.

Kuona said, "The blinking lights were indicators of the different channels of transmission, and now they are gone. I can still sense intercellular communication, but nothing is being broadcast."

"Do you think it can hear us?"

"There is no way to tell."

"We must assume it is listening. We'd better keep the channels open. Keep sending messages."

<rant>

There is nothing like mountain-biking, sliding down the valley, dragging the back wheel which is shimmying, stopping just before going into the lake. Well, no, that was my buddy. I went right through the 1 foot of water and out the other side. It was almost like slaloming.

<rant>

It was at Heavenly. It was still snowing but not quite as hard. There weren't many people on the slopes, especially on the Nevada side. We are at the top of the bowl. pristine snow. Alright, let's put all of my powder lessons to the test. Lean back and get the weighting and unweighting going. Back and forth, like a serpent. The spray is coming up so high that I am half buried. The last time I went down this bowl, I fell and lost my ski. I didn't have the ribbon on. I tried to dig it out but it had plummeted a dozen feet down. [I did get it back in the spring. They sent it back to me] But this time my balance is just right. I have the confidence.

It's like flying.

And then coming back to the California side is breathtaking. First at the top of the hill at 10,000 feet (You have to climb up from the lifts another 20 feet to get this view.) You can see the Nevada side with different shades of brown paths - the dessert. And Lake Tahoe, white and gleaming. then from the top you go along a trail, and then drop down into some virgin snow in the trees. Remember the time we ran into a tree on one of the trails when I panicked. No panic this time. I follow the grooves and then bounce out of them. Then the trees stop and I am in a small V shaped valley About 30 feet high on each side. It is like a half pipe, but this was before I knew what a halfpipe was. Starting at the top edge and diving down into the bottom. going so fast that I have to go all the way up the other side. that was fast. The second time I went down, I was able to control the descent and zipped back and forth on each side of the valley. then it opened up and I had to go down Gunbarrel. It had been skied a lot so the moguls were big. However, the snow was still good. It wasn't icy. Like sometimes when I was scraping along the back of each modug trying to get the 400 yards down alive. [Of course, it is not like the east coast, Stow, Vermont, where a sheet of ice is a good day.] No this day I was popping off the top of the moguls and then weaving in valleys between. down at the bottom, I said," I was king of that hill!"

</rant>

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We dialed up the Fleet Management. (What a funny anachronistic way to say connect.)

"Yes, we sensed the same thing. Cellity went black. This only was true for the continent. For the rest of the world, psycho-magnetic radiation stayed the same. Of course, none of the other sources were messages. The rest of the world was just background radiation."

Kuona said, "What a great experiment. We couldn't separate Cellity from the background. Where did it end? "

The fleet scientist said, "Cellity shut down so that there is not even background transmission all over the continent, except in a couple of rock places. It is black off shore in every direction at varying distances. In fact ..."

"Hold on," somebody said in the background of the transmission. The scientist turned around and said,"OK". He turned back the "camera." (It can get any camera angle because all of the surfaces are coated with active bio paint that can adapt to being a multi frequency camera, and microphone. We all see the transmission in our chip.) I can't tell you any more. I think you understand, we don't want anyone to pick up the transmission."

"How could that be? This transmission is encrypted."

"You have the old encryption code 23. That has been cracked. You need to update to Code 24."

"I don't have time to go through the protocol." It takes 24 hours to update to a new code. This is so that all sides can verify the safety of the encryption. It takes so long, because it almost never happens. The last time was 45 years ago. Pretty fishy timing if you ask me."

"Sorry.

"I'll start the protocol."

"Over and out."

We are still in the shelter, and the Fleet Management cannot hear us.

“See what I say about Fleet Management?”

“I don’t see the point in their being uncooperative.”

“They are trying to irritate us.”

“It’s working.”

“Hold on. The reason they want us to be angry is two fold. First they want us to ignore their real strategy.”

“And what is that strategy?”

“They want to take over the world.”

“Funny. They already have the world.”

“They don’t own us and there are a lot of people like us.”

“What’s the other reason?”

“They want us to rebel, so that they have an excuse to nail us. That is why we have to keep cool. We must have the support from the rest of the people if, and when, we need to take action. We need to take action on our terms, on our timing. ”

Marga said, “I want to get one better.”

“What’s that?”

I think we can bother them with cooperation. I can suggest to the BeNice people to be extra nice to fleet Management.”

Kuona said, “And they always do what you say.”

She answered, “I know you’re trying to be funny. Yes they follow me. I am not sure why. I just try to do what I think is best, and I think they sense that.”

“And you are a natural born leader,” I said.

“Thank you Joe.”

“And showing off those those legs doesn’t hurt either.”

“Thanks again.”

“OK, Kuona, what did you mean about the experiment that was run. What is the significance.”

“Joe, we have been trying to understand how the life on this planet is put together. Jean and Bink are looking at the micro level, but we are looking at the macro level. Sensors from orbit have shown psycho-magnetics everywhere. There seems to be natural molecules in this star system which produce it.”

Marga said, “We sensed it from Luyten’s star from a 1 light-day away (about 100 days).”

“Yes, you were ahead of us on that one, but now we have hundreds of sensors and transmitters in the frequency on the fleet,”

“How many do we have in our possession?”

“We have 3 in the shelter, 5 in Wingman, and 3 portable units. They can either receive or transmit.”

“Sorry for the interruption, but we may need them.”

“No problem,” continues Kuona, “The planet has much higher levels than the sun. Our macro compared with Jean and Bink’s micro has shown that it must be the cells that create the planet

background radiation. There must be cells all over the planet, which, as you know, is almost all water. We took robotic sample before we landed and found cells located in all corners of Ginger. There has only been one place which originated the transmission and that was from the continent. We felt that from the first time Cellity made our lasers malfunction. But it has been the only broadcast. We wondered whether there were any other entities, even ones less intelligent. So far we have found no evidence of that. So we thought that all of the cells must be Cellity. The area which went dark was Cellity. It is tied to the continent. And now we (well, at least the Fleet) knows exactly where it is."

What Next

"So," I said, "how are we coming along with our stealth transmissions?"

Marga said, "I am glad you asked. My team has been in communication with Kuona and together they have come up with a scheme. We have just downloaded the firmware to our chips and were just about to try it out when Cellity went dark.

Kuona said, "Tasting , 1,2,3,4 ,Tasting ... shlurrrp."

Marga said, "Get your tongue out of my ear! I can hear you in psycho-magnetics, ear, and tongue. Yech."

"Sorry, I couldn't resist. And I got your psycho-magnetic response, which can't be repeated."

"I couldn't catch any transmission," I said. "Well done."

Kuona said, "We took advantage of interference to focus the beam to the desired party. But it will only work within 400 yards. Any further and the power would be too great. The Fleet would sense it. that range seems about right. In that way we could be working close by, but not gathered in a conspiratorial group.

"There are a couple more features. One is that it will work like a grid network. the man in the middle will forward the transmission. As long as you within 400 yards of anyone in the group, you will be in contact.

"Even better."

"And," Kuona was grinning, "we can communicate between shelters. We are installing repeaters."

"How are you concealing the installations?"

"It's time to change the light bulbs."

Everyone updated our chips. It took a day, because we had to do it slowly to avoid notice. And now we could communicate in all media, video, audio, and collaborating with documents, all without being noticed by the Fleet. We still had to be careful. Rodney had now come back from Enterprise.

He seemed like his old self, although a little subdued. We all were a little subdued after the Gingerola tragedy. Maybe I was wrong about him.

We were starting to assess our capabilities and weaknesses.

If we could contact the ship we had the BeNice people and the open source crowd. Both of these groups could be great assets, if we could communicate with them. We know it is possible using open codes. This was used by Marga to get help on the stealth psycho-magnetics. The open codes hide a little information in the middle of a transmission. It cannot be picked up unless you know the algorithm. It is indistinguishable from a little noise in the signal. This type of encoding was used to transmit messages to terrorists in the 21st century by hiding a few bits in some images.

Both of these groups on the ship could be liabilities, especially the open source group. They were loyal, but maybe a little loose. (We already know what that they were doing psychedelics. They did not deny hacking the food synthesizers. They just denied spiking the punch at the Fleet Management party party. They said that they would never waste good drugs on that boring crowd. I never know when they are kidding.

We have Wingman, at least we think we do. we are not sure that we can override the automatic circuits. It is likely that the Fleet Management installed some new security on the last trip. Shelby is convinced that she can handle whatever they throw at her.

Of course we have the talents and experience of the the members of our group and the synergy we have developed.

We were counting an advantage as the relationship with Cellity, but that may be gone.

We hope to have the advantage of surprise, if we need to act. And we have God on our side ... No, not really. We may have the BeNice God but they have the Chosen God. All-in-all social science studies have shown that the belief in any God has not affected the outcome of a conflict. we'll have to depend on ourselves, and a little luck. Having the moral high ground makes us a little more confident. I hope that helps.

The Fleet Management has all of the other advantages.

Our biggest disadvantage is that we are not sure that there is a conspiracy. We lack conviction. We need to prepare in secret, just in case I am right.

What Happened

The overriding mood of everyone was depressed. A tenth of the people that were on the fleet were dead. They were killed by the entity that inhabits Ginger. This mood made all of the conspiracy talk seem pointless. What difference did it matter who was in charge, if we could not survive on the planet.

So we dug in, to try to find out what happened. Bink and Jean gathered samples from what was left of Gingerola. Not much was left. The location of Gingerola looked exactly like the surrounding area. But maybe the cells could tell a tale.

Kuona and Marga were replaying recordings, starting before the massacre, trying to find an indication of what happened.

Shelby and I were working on improvements in Wingman to enhance the survivability on Ginger.

Rodney was keeping track of our progress. In fact he assigned us those jobs (not that we wouldn't have done them anyway). It was good to work with him.

Kuona and Marga were trying to get the stored data from Enterprise and the other ships. We had the new codes (having followed the 24 hour protocol). But there was more red tape. (It is amazing that these anachronistic terms are still with us. This term came from the US Civil War, well before computers, when bureaucratic documents were actually sealed with red tape.) They appealed to Rodney, who said, "You can't fight city hall." (Where do these terms come from and why are they still here?)

So we hacked the Fleet recording database. This was a task that we did not tell Rodney about. It was tricky to continue working and keep him in the dark about our suspicions of Fleet management. We did not tell him about our 3 pronged attack. Marga had a group of Devas in the BeNice church who loved to flaunt it. They distracted the security (and had some fun at the same time). Kuona constructed a computer virus, and uploaded it with a transmission of his TPS report. The virus left a hole that the open source guys exploited to get the recordings. The data was too much to send down over our open coding protocol so the open source guys had to analyze it. Kuona gave them the algorithms to search it. But before they even started the analysis, they noticed that there was a large amount of activity. We were in open coding from the psycho-magnetic shelter.

So I said, "Wouldn't you expect a lot of activity doing the same thing we are trying to do, analyzing the data?"

They answered, "Yes, we would expect a lot of activity, but this is a lot of moving around of the data. And then the data seems to disappear."

"They must be deleting duplicate data."

"We wouldn't be so suspicious [yes they would] if there were just deleted data, but it is as if they are trying to hide the deletion. Nothing like a cover up to prove the wrongdoing."

Kuna said, "Try to identify what they are deleting. That will help focus our search. And make sure you cover your tracks."

The open source guys said, "What do you think we are, amateurs. Just for that we are going to expose what your sleep with at night."

"How did you get that!"

"We just wanted you to know that you all have weak spots."

I said, "Contact us when you find out more information." We have to wait.

In the meantime Jean and Bink were investigating their samples from Gingerola.

Shelby and I were working on Wingman.

"Boy, what a slob Rodney and his fellow travelers were. I just goes to show you that people that are in power do not care for the little things."

"I agree with you, but it is not limited to the ego enhancers. Regular people just throw their trash anywhere. They have no respect for the public places. I've heard more than one person say 'We wouldn't want to put the cleaning robots out of a job.'"

"I know. The cleaning robots can't get everything. some of it gets into the mechanisms."

We were talking about this as we were cleaning out one of the door mechanisms. Usually there are people who perform the tasks that the robots can't quite manage. But we don't have that support on Ginger.

A different society has build up over menial jobs over the 1250 years in orbit. The Fleet could not afford to take menial workers. Even though some of the generations after launch prefer menial jobs over thinking jobs, they did not have the luxury to allow that. They did, however, allow a Gaussian distribution of accomplishment. Some people only had to get the equivalent of a College Masters degree. Most had a PHD equivalent and multiple post-docs. And there were always incentives to get more education and perform more original study. Once people got to be 100, the pressure was relieved a little. There was some attempt to be politically correct, to not criticize people who had not accomplished as much as others. But it is hard to balance the needs of the Fleet with the desires of the individual. So the bottom line is that there were no menial laborers. Robots picked up the greater part of the slack, but they were still (even after 3000 years) not as flexible for varied tasks as humans. People got credit for performing those menial jobs. Everyone had to earn at least 10% of their income at menial jobs. This was less than the 25% that could be earned with watching commercials.

What would happen, you might ask, to people who didn't want to perform menial tasks? Was there punishment? The answer is yes, in a way. The one substitute for menial labor was time in an isolation booth. This was not voluntary. If you did not meet your quota for the week, Fleet Security showed up at your door, and took you to the booth. This almost never happened, not because people were afraid of security, but because some people liked the isolation time. The fleet Administration was able to adjust the ratio between labor and isolation time to get all of the labor done. Marga's group was famous for opting for isolation time. They meditated in the booth. Some of them did both, because they enjoyed the isolation so much, they felt they needed to donate some menial labor.

As for Shelby and me, we were enjoying the reconditioning of the door mechanism. It is cathartic to do some repetitive work, that does not take a lot of mental effort, and that does not have the pressure of making a decision.

We did have some moments of stealth communication. We only switched on each other, not the whole group. Another special feature that Kuona put into the stealth mode was to substitute random conversation in the Fleet receiver for the stealth talk. A blanking would have been too obvious and picked up by the standard oversight bots. the video was also altered for the lip reading programs.

"Shelby, what do you think of all this conspiracy talk?"

"Joe, I don't know what to make of it. It makes me very uncomfortable. I like to do my job, not get involved in the politics. I like the machines and the people that I work with. I don't really like computers or management - they are just necessary evils."

"Ugh," I said standing up stiffly and switched out of stealth mode, "I'm glad someone likes the machines. I can't get down and work on them." It is better to have short conversations to avoid suspicion and detection.

"What a wimp you are. All you have to do is a few stretches every hour and you wouldn't get so stiff."

"I just can't seem to get to it. You know I am busy."

"Let me get the whahmbulance."

"I'll just write a computer program to do the exercises."

"You should write a computer program to adjust your head. It is all in your mind. Man, what an excuse you used with the crater ball injury. You have played that for all it's worth."

"That was a machine malfunction!"

"Tell me about it."

We finished that door and went on to a number of other mechanical problems. I had to admit that it felt good to do real work.

"It looks like we've got it all done. Good job, Joe. UDAMAN!"

"No UDAMAN!"

Then together, "Weidemen!"

I switched on stealth mode as we were walking to the boat.

"Joe I'm really worried."

"Me too, Shelby."

"No. I mean about you. Don't you think you are taking this too far? I've always trusted your instincts, but this is pretty far out. Do you really think that Fleet Management would put us in slavery?"

"Slavery isn't exactly the right word. It is some kind of control. All that I can relate it to is something that happened 3000 years ago on Earth. Starting in the 19th century, and even before, there started to be an amazing concentration of wealth. This had happened in the past, in Roman Empire days and even before. But this was different. This was a group of extremely wealthy families that started to make plans for the future of the world. Some people called them the Illuminati. They planned most of the significant events, wars, famines, massacres, and more. They used science to control what they could, and politics and news media to influence opinion. They managed to make money and gain power for any event, whether they caused them or not. the game was rigged."

"Why would they do that? They already had the power and the money."

"It is difficult for us to understand the drive for more. You and I are technically oriented. We like to know how things work. I understand a little about power. I did enjoy the ability to push my agenda when I was Chief Technologist for the Fleet. I liked that I could ask people to perform some tasks."

"No you didn't. You wanted to do everything yourself. You were the worst at delegation."

"OK, I guess you're right. But I do miss the loss of status when I run into people"

"I can see that you do. I never wanted that. I just enjoy working with people and doing a really good job."

"But I have been watching Fleet Management personnel change as we approached Luyten's star. They have progressively migrated towards more power and more restrictions for the rest of the fleet."

"That's true, but there were reasons for it."

"There are always reasons, and then the next thing you know, we have no control on our own lives."

<clique>History repeats itself</clique>

"Now I understand how you got to your position, but what if you are wrong?"

"I think about it all the time. It would be disastrous if I am wrong. I might cause the unnecessary death of all of us."

"Then why do you pursue it?"

"What if I am right?"

We switched off stealth mode.

Not Cellity

Shelby and I got on the boat and took it back to the landing. We wanted to see if Jean and Bink had made any progress on the debris from Gingerola.

"So how is it going?" I asked as we walked into the bio shelter.

"It is going pretty good. We've made a little progress. The debris is making it slow."

"Debris? I thought it was clean."

"Yes, the surface was clean, but the ground samples we took show a lot of dead cells, various minerals (from the structures), and, sadly, some human cells. There are also plenty of live cells." Bink turned on stealth mode.

"You need to know this and we don't want the Fleet to know. "

"This sounds serious."

Jean said, "Joe, you're not going to believe this."

Bink said, "Belief has nothing to do with it. These are hard facts."

"What, already!."

"We spent a lot of time separating out the different components of the debris. We had to use multiple techniques, centrifuge, a variety of diffusion tubes, and, once the bulk of the uninteresting material was removed, nanobots selected the important cells."

"I guess I have to be patient."

"Joe, I will get to the point. It is important that you understand the whole story as it unfolds. I

am not going to present it in a non-linear progression.”

Jean said, “I’m loading the images.”

Bink continued, “You’ll see here two cells. The one on the left is the type we have associated with Cellity. The one on the right was pulled out of the sea, from the other side of Ginger.

Shelby jumped in, “They look the same to me. A cell is a cell.”

Bink scoffed. He does not suffer fools gladly. This is why it was so fun for Shelby to act the part.

“A cell is decidedly not a cell, Madam Shelby. In fact, these cells are quite different. As Jean zooms in,” he glances at her to proceed, “you can see that the Cellity cell contains more and larger organelles, especially the one stained in blue, which is for psycho-magnetic send and receive.”

“Why didn’t you show us this weeks age?”

“It wasn’t important then.”

“And it’s important now, because …?”

“This is not the important part. Can I get on with it?”

“Go ahead.”

Jean said, “Now I am replacing the ocean cell with another cell found in the debris.”

“Now those look identical”

Bink said, “Yes they do. They have the same characteristics of developed organelles. We can zoom in as far as you want and we cannot see anything different, other than random variations.

“But we have started to do DNA studies. The life forms on Ginger have different DNA but it has some similarities to Earth DNA. We have had to modify our techniques to sequence it. Just last week we were able to get it going. Since then we have sequenced thousands of cells. All of the cells that we sequenced before are related. The number of mutations is small compared to the number of DNA pairs.”

“How long is their DNA?” This was starting to get interesting.

“Human DNA has about 3 billion base pairs. Earth DNA and Ginger DNA both come in pairs, with matching coding in separate strands. The strands form the familiar double helix. When the cell splits, the DNA splits. New strands are constructed to match the split strands and become the nucleus of the new cell. Ginger DNA has about a billion base pairs. By comparison, rice has 400 million base pairs. So even though it seems simpler, it also seems to have less junk DNA than humans.

“The reason I go into this is that the DNA in the cell on the right is not related to the cell on the left.”

The Other Shoe

“What does that mean?”

“There is another entity.”

“You mean besides Cellity.”

“That is what I said. I would appreciate it if you would not make me repeat myself.”

“OK, go on.”

“We are good at understanding the frequency of mutations, sometimes called SNPs (Single Nucleotide Polymorphisms). The mutation rate is different on Ginger, but we have been able to determine the frequency based on the thousands of cells we have evaluated. The cell on the right was separated from Cellity 400,000 years ago. On Earth this would be a separate species. It is just that Ginger does not have the obvious variability of Earth, but the genetic difference is extreme.”

Jean said, “We have tried to look for other evidence of this cell DNA. We have not found any in our records. The records from the hundreds of sample sites, both the robotic before we landed and after, show only relatively dumb cells and Cellity. We have been racking our brains to explain where they came from.”

“Why are these few cells such a big deal. Maybe they are anomalies.”

She continued, “We wish they were isolated, but they actually appear to be the majority. Bink and I are at a loss. We understand the biology, but not how this could happen. Do you have any ideas?”

We all shook our heads in stealth mode.

I said, “Do you think this has anything to do with the silence of Cellity?”

Jean answered, “There does seem to be some competition between the type of cells. They are tuned for different frequencies of psycho-magnetics. Cellity’s frequency seems to inhibit cell function of the other. The other’s frequency inhibits Cellity.”

“How do you know?”

“Don’t you think we have asked each other these questions.” she said frustratedly.

“Sorry, but we are having trouble understanding this.”

“You are right, we have been working on this without rest, and without many answers. We focused different frequencies of psycho-magnetic waves on the samples. We are not even sure why we suspected competition from the two type of cells, but we wanted to try something. This was a lucky guess that it worked.”

Bink said, “Luck, yes, I’ll agree, but it was an educated guess. The whole world to these cells is related to psycho-magnetics. So the answer to the previous question is that we believe that the silence of Cellity is related to the appearance of the other, as well as the stress from Gingerola and the destruction of it. This is more than a chicken and egg problem. It is a fly, egg, and larvae problem. We have the destruction of Gingerola, the appearance of the other entity, and the silence of Cellity. These are related but what is the cause and what is the effect.”

We all just stood there for a few minutes, letting this information sink in. Marga and Kuona were also tuned in over the stealth connection. But we could tell they were busy trying to analyze the after effects of the Gingerola massacre from the radiation standpoint. They were also waiting for word from the open source guys.

Shelby piped up, “Well if nobody has anything to say, I might as well make a suggestion.”

Bind said, "Please do. I am sorry to say that even I am out of ideas. Maybe we need one from the mouths of babes."

"She's no babe! She's every bit as smart as you," I objected.

"No worries, Joe. This girl is comfortable with her skill. Could this have to do with the amount of daylight? I noticed that it is getting cold and the days are pretty short. We are well past the equinox."

This is still the first Ginger year which is 550 Ginger days (857 earth days because the Ginger day is 37.4 Earth hours). We arrived in mid Spring and it is now mid Autumn. We cannot call it fall, because there are no trees and no leaves. The weather has been remarkably consistent (except for the one Gingercane). I didn't notice before Shelby mentioned it, but looking at the records, it has dropped significantly lately.

Bink said, "The babe comes up with a good idea. We will pursue this line of investigation."

Jean said, "Way to go, my fellow babe!"

Week 4

The Other Glove

"Are you guys finished in the other shelter? It seems like you are played out," said Marga.

"Why is that?"

"We are getting naked over here. Are you in?"

"I'm already on my way."

Jean said, "Hold on big boy, I think she was just trying to get your attention. But next time, don't leave me out."

Kuona couldn't wait and blurted out, "Fleet Management is doing it. The conspiracy is on!"

"If I didn't know the situation, I would say that you are a crackpot, Kuona."

"Am I a crackpot too?" Marga simpered silkily.

These women are always making fun of me. I've got to get less serious. "Ok, What's the deal?"

Kuoan said, "We have gotten the preliminary word back from the analysis for the open source guys. Enterprise let loose a giant energy pulse just before Cellity went crazy. And, guess what, it was aimed at ... wait for it ... directly at Gingerola."

"Please explain"

Kuoan said, "Your open source gang can really work together. They zoomed through the data."

"I know that. They learned how to organize projects in a distributed way."

<history>

This can be skipped if you want to get on with the story.

Most organizations still are managed in a hierarchical fashion. This tends to limit creativity and experimentation. When the open source guys have a goal, each goes about it in his own way. Sometimes they overlap and that gets more ideas into the mix. They feed off of each other. But also sometimes there are holes in the project. Some parts don't get done, for example, in a programming projects, documentation. If there are enough people someone fills the hole. There is always someone who likes to do any task, if you make it easy for them to do it.

This movement started in the 20th century when computers started to be more affordable, first with UNIX operating systems and GNU (GNU's Not Unix) additions. With the advent of cheap PCs, the open source movement accelerated. People were contributing their time to write free software. Mostly, they were "scratching their own itch", writing a software tool they wanted to use. Other terms evolve like "eating your own dog food" which meant to use your own software tool in your project. This acceleration exploded with the advent of the 'World Wide Web' which enabled participation of everyone as a consumer and creator of information. An example of a tool that was frequently developed was called a framework. A framework (for example, Ruby on Rails) was designed to enhance a computer language to make typical tasks easier to accomplish. The programmer did not have to rewrite the same functions over and over. This is even better than copy-paste, because, as other people contribute, the feature set grows. In this way you could spend time creating a framework, and improve your productivity. And everyone else benefitted as well. This was win-win situation.

The last important step in the generalization of the open source movement was the creation of git, version control software. This does seem a little obscure that something so specific, controlling the version of each file in a project as changes are made, would change the world. But that is what it did.

Linus Torvalds, from a country called Finland, popularized the use of a Unix computer operating system. Kernighan, Ritchie, and others had written the operating system when with a phone company called AT&T. It was co-developed with a language called 'c'. Unix spread so that a lot of vendors sold their own versions on proprietary hardware, HP, IBM, Sun, SGI, and others. But the rights to it were always owned by some company. The specifications were open but the code was owned. Linus spearheaded the rewriting of Unix specifically for the PC, and gave it the name linux. (We must give a shout out to BSD unix for the PC as well, Berkeley Software Distribution, which has the roots all the way back to the beginning.)

But thousands of people were eventually working on linux. The file version control systems were not adequate. So linux wrote a new one, called Git. Git facilitated the distributed development of the software. This revolutionized software development. And then it was then picked up by anyone running a project, disaster relief, for example. Even governments started using it. It made everyone more productive and the projects better run. The bureaucracy and hierarchy was drastically reduced. There was waste in that some tasks were duplicated. But this

was much less waste than typical bureaucracies. And, maybe most important, people were working on tasks that they were interested in. There was even some erosion of the control of the world by the rich families of the world, the so-called Illuminati.

And then the doomsday asteroid hit.

The open source movement went extinct. All development went back to being hierarchical because people went back to organization being run by the ones with the most ego - in other words, bullies. At least the bullies were more cooperative after doomsday.

During the thousand years of the voyage, there was a movement to study pre-doomsday history. The bubbles had saved all of the knowledge accumulated in the World Wide Web. The the open source movement and Git was rediscovered, It was adopted as a guiding light for a group of people. They named themselves the Stallman Group, after Richard Stallman, the original driving force behind free and open source software.

This is how the open source group became so effective.
</history>

Kuona explained, "The open source guys were able to look at the radiation and transmission data that was retrieved through the combined hacking of the open source guys, the BeNice devas, and my virus. They focussed on what Fleet Management was deleting and worked it out from there. There was a high energy beam of radiation, across all frequencies of psycho-magnetic and electromagnetic waves. It was from Enterprise only. They wanted to limit the number of people who knew about it, so they didn't involve other ships. We also found out that they have built up over the last month an incredible amount of capacitance. They were building the capacitors and then changing them up. The charging peaked about a week before they fired the beam. There were records of slight brown outs on the Enterprise. Nobody thought anything about it because they gave a cover story of fusion reactor maintenance. They stimulated the response by Cellity"

I said, "That begs so many questions. How did they know what Cellity's reaction would be? Why did Cellity go dark, and did Fleet Management know about it? But most of all, why did they kill their allies and 10% of our population?"

In walked Rodney and said, "They needed this catastrophic event to declare martial law. And they wanted to get rid of the hard line fundamentalists, the Chosen. They were becoming too powerful."

We sat there with our mouths open. How much did Rodney know? What side was he on. How did he listen to our stealth conversations. And most important of all, why do I keep asking all of these questions?

Rodney said, "You can close your mouths now. Your stealth communication is not so stealth. But at least Fleet Management does not know about it yet. And they don't know that you are sending secret messages using the open code to the open source guys and BeNice devotees."

We just stood there and listened. We didn't have to ask any of the questions.

He continued, "But your open code algorithm is good. I couldn't figure out what information you were exchanging until I overheard the 'stealth' psycho-magnetics conversations.

There was more silence. Rodney's appearance not only meant that our lives could be forfeit, but humanity's existence hung in the balance.

Rodney continued, "Your secret is same with me. But it is time that we work together." Finally I spoke up, "What were you doing on Enterprise.?"

Rodney said, "They offered me a position into the inner circle."

I was about to have a heart attack. These revelations were like one blow after another.

"And I accepted."

Unraveling

The tension could not be kept up any longer. If Shafir were there he would have broken it with a witty or politically incorrect comment. So it was up to Marga. She sidled up to him, put her mouth next to his ear, and said in her breathy Marilyn Monroe voice, "So, big boy, what can I do to please the dark side? "

He shivered, but we all broke out laughing.

Marga could have such power over people when she wanted. We were lucky that her soul was so pure that she did not take advantage of the power that she had. In some ways this had been a mini power struggle with Rodney taking all of our personal confidence away. And then he was utterly destroyed by Marga.

So then he laughed, "OK, you got me. This is serious stuff, but if we don't have some fun with it, we are doomed. I really enjoyed my melodramatic entrance. You should have seen the look on your faces."

Still chuckling, "So what do we do now, Rodney?" I abdicated my leadership position, since I didn't have a leg to stand on; my feet were knocked out from under me; I was rudderless.

Then Rodney said, "Joe, I am glad you took charge of the situation. You are right that there is a

power play going on by Fleet Management, and it is serious. I am in a precarious position. Now that I am in the inner circle, any misstep and I will be liquidated.

"Your open source buddies are not the only ones looking back in history. Fleet management was starting to enjoy the power. They did not want to lose it. Being close to the landing, made the power grab more urgent. So they found the history of the Illuminati and started to realize that once they had power, they could control events to get more, and more, and then total control. If we do not stop them now, we will never be free again."

"Talk about being melodramatic," I said. "Is it really that bad?"

"How can you tell, for sure, but looks that way to me."

"How do we know that you are really with us. This may be one of the Illuminati tricks to appear to support the resistance. You could be that convenient middleman. The Illuminating in the 21st century supported the oil companies for the income and at the same time the environmentalists to control the people."

"I can see that you've studied a little history, too. There is no way you can be sure what side I am on. Fleet Management could have developed some convoluted strategy designed to keep you alive. They would reveal your group at the right time to quash a 'communist' rebellion and 'save' humanity. They could even send me to reveal their plan to get your confidence to make it easier. No, you have no ways of knowing my true allegiance. But what choice do you have but to work with me?"

Marga said, "Well, I think you're kind of cute. If we are going to go down, you might as well be part of it."

Marga had to break the tension again. We need to start focussing on some work to even out these ups and downs.

Shelby was always one to get down to the job at hand, "What actions can we take?"

Bink said, "We still need to understand more about the Ginger cells and the interaction between Cellity and the other. This is critical no matter who is in power."

Jean said, "Yes, I think that Fleet Management is playing a foolish game when humanity may be in jeopardy from the entities on Ginger. We do not know their intent (if they have such a thing) or their power. Cellity may have gone dormant to build up enough power to destroy us all."

Marga said, "I do not think Cellity intends us harm. But I also think the motives are not so simple, and they may not be motives that we can fathom."

Kuona said, "Shelby, we need some help with our psycho-magnetic sensors. We need to be 10 times as sensitive. I am getting some inkling that there is some information that we can get from Cellity, even in this dormant state. We also need better resolution on the frequencies, so that we can tell Cellity from the other entity."

"I am there," Shelby said, "I have been experimenting with a new miniaturization technique for the psycho-magnetic circuits that may be able to provide what you want."

Bink said, "Joe, I would like to request some assistance with our nanobot analysis techniques. We now know more about the structure of the cells. The nanobots need to be tuned to the structures we are finding. They need to be modified to penetrate the membranes without destroying them and then send back the information."

"I'm on it."

Jean said, "And don't forget that we need to add the extra swim algorithm for the different currents in the cell."

"I assuredly did not forget the swim algorithm," Bink said in his condescending way.

"Sorrriyy," Jean said, the humorous tone wasted on Bink.

"I know we are all anxious to get to work, but I would like to know how Rodney so easily penetrated our secrecy," I said.

Rodney began, "I thought you would never ask. I do have another small team of a couple scientists and technologists. I have worked with them for a while now and they are completely loyal to me."

"How can you be sure of someone's loyalty?"

"I did a Vulcan mind meld, Rodney said sarcastically, "come on, give me a break. They have some resources from Fleet Management but are independent."

"Shelby said, "Joe and I must know some of them. Yes, your may, but please don't try to figure out who. You don't want to put them in danger."

"So you are asking us to trust you," I said.

Rodney answered, "Again, you have no choice but to trust me. We have to play this as close to the vest as possible. And we all need to work together."

"You make it hard, but I guess I can go along."

"My other team," said Rodney, "was evaluating the different frequencies of psycho-magnetic waves and found some variations in the background radiation. As they investigated more, they found out the source. And since you didn't encrypt that communication, they were able to forward it to me."

Kuona said, "I knew I should have encrypted it."

Actually," Rodney answered, "It wouldn't have mattered. If Fleet Management had picked up on the signal, then you would have been discovered, no matter what the content. Just the existence of secret communication is damning. Luckily, we found about it first and arranged for the Fleet Management scientists to work in other directions."

"I guess it's nice to have someone on the inside," I said.

"Time will tell," said Rodney. "In the meantime, I think you have come up with a good working plan. We can only do so much with the politics of Fleet Management, so we need to concentrate on the entities. If my other team finds out anything useful, I will let you know."

I am glad to not have to be the leader, for now. It was wearing me down. It is natural, for me, to

insert myself in a vacuum. I was happy to be the leader, for a short while. But I can hold out in a vacuum only so long. I am glad it was filled by Rodney, and especially all of the other members stepping up with their own plans.

Grindstone

Everyone got to work on their tasks. Shelby was especially happy, because she had been left out of some of the exciting developments. She doesn't like politics. It is too messy. She likes to be useful, and since she is the best at circuits and machines, she is really useful in updating the sensors for Kuona. She is in heaven. I think she has a little thing for Kuona. He is distracted by Marga. But nobody can contain Marga. I think he will come to his senses when this all blows over and hook up with Shelby. If this can somehow blow over, if we can get into some "normal" life, we will need to pair off and make some babies. That should be a lot of fun. Since we live so long now, and we had to keep the population stable, we did not have many kids around.

I too enjoyed my task. Nanobots have fascinated me my whole life. The fact that we can make machines that are much smaller than can be seen by a light microscope, that it combines biology, electronics, and mechanisms is fascinating. We can take a standard *Escherichia coli* cell and attach the flagella from a paramecium for propulsion. We can then add some molecules to the cell membrane so that it can key into a desired molecule. We can add a receiver and transmitter so that we can give it directions and get feedback. And, of course, all this is in the DNA so it is reproducible. We set it to automatically die after the desired number of generations. And we also have the failsafe destruct mechanism that we can send. I was really proud of myself that with the instructions from Bink and Jean that I was able to adapt the Earth nanobots for Ginger organisms. The difference (besides the different DNA) was that there was no body. The cells just existed in water and land. They secreted a solution that isolated them from the environment and provided protection.

Bink and Jean did not wait for the updated nanobots. They were still making progress in identifying the different organelles.

energy extraction from the sun and transfer to other cells. Energy storage.

This was a note to myself, but it seemed like a fitting heading anyway. This is what Jean and Bink need to figure out. We are trying not to put too much pressure on them.

<slack>

This is some of what I am cutting myself.

</slack>

I bet you can't figure out the one above. It is beyond me, anyway.

I am trying my best to provide them the nanobot tools. But that isn't the only thing they need. They need to jury rig instruments, just like they did in the 20th century *MacGyver*, not in the 21st century *Battlestar Galactica*. Don't worry about the non sequiturs.

<rap>

They are concerned with the science and its ramifications,
I'm mostly working blind. They give me specifications
Pretty soon I go to graduations
PHDs and felicitations
</rap>

I just think that open source is a step above to be able analyze and then develop theories about nature. I can see the excitement in Jean's, yes, and maybe even more so, Bink's eyes, to be able to work on the most unique biology that humanity has ever encountered. And the best part is that they understand a good part of it. I don't understand much of any of it. I get excited about the use of the technology that man has created, and then applying it.

One my favorite projects was not about deep science or emergency situations. I invented a game/puzzle that was a combination test, graphics, video, executables. That may actually have been the reason I was on a well known list. I would like to have thought that it was because of my "terrific fusion eggs, for brunch or other". My corned beef hash is the best, even though it was mostly from the food synthesizer. The food synthesizer is pretty good. It makes a pretty good imitation of eggs over easy. (They can only do 2 eggs at a time. I can do 3.) The game/puzzle used all of my knowledge , and then some. It is strange how games can push the limit.

<sequitur type = non>

I lost my keys. We have keys in the future. too. And it isn't, as much as you might think, something to remember. It is a physical object. I looked everywhere. I thought about where I'd been. I was in the psycho-magnetics shelter, then Wingman, fixing mechanisms with Shelby. They I came back to the bio shack. Every time Shelby used her keys. Keys are designed, in medium security places, to enable the bearer to bring in 2 people, as long as they are within 5 feet. I've already traced my steps. So, I am going to have to admit it, and tell Jean - that is, if I want to get my keys back.

Jean said, "Did you look in your pocket?"

"Yes"

"Did you look in the Door."

"Yes"

"Did you look in the computer room?"

"Hold on ... here they are!" Thanks."

"When will you stop doing this."

"I haven't done this for a long time.:

"OK. I love you.

</sequitur>

My special expertise is in combining technologies. I don't go deep into science. I do not even

go deep into a human based technology. I also do not go big picture. I like to get into details of how things work together. That is why I am good at modifying existing nanobot features for the Jean and Bink specifications.

So while I was crafting the nanobots, Bink and Jean were making progress. They had always assumed that Cellity got energy from the sun. (We are calling Luyten's star the sun.) But they did not find the mechanisms. It did turn out that there were organelles that had something like chlorophyll. It was more evolved than Earth chlorophyll. It could accept a wide variety of frequencies, including, it turned out, psycho-magnetic waves. At this time in history the psycho-magnetic waves coming from the sun were 1 millionth of the energy of the visible light, but at sometime in the past they must have been much higher. Life on Ginger thus developed sensors and transmitters of psycho-magnetic waves. The Earth's sun did not produce these waves. So Earth life did not develop systems for them.

These organelles were small. Bink did not find them until the power of the instruments was increased. And there were thousands of them in each cell. Each energy producing organelle operated at a different electromagnetic or psycho-magnetic frequency. there was a small amount of energy storage, in the form of a modified molecule, similar to the scheme Earth life used of ADP converting to a higher energy ATP. But the larger part of the storage came in another organelle. This concentrated the energy and then migrated to parts of the cell that needed it, for example, the psycho-magnetic transmitters and receivers.

Trying to understand the transmitters and receivers was the next step for the nanobots. There were two different receivers, energy and information. Mentioned above was the energy receiving mechanism and storage. But there was also information transmission. There seemed to be standard messages that could be passed. My task was to make the nanobots decode the messages. It seemed that it was similar to a circuit address decoder, that each message had a matching physical molecule to respond.

Emergence of the other

Meantime Kuona and Marga have been trying to milk more out of the Cellity signals, Kuona with the Science, Marga with the intuition, and both with random knob twiddling. There is only so much you can do with analysis. Sometimes you have to be lucky. Kuona and Marga are taking a little break while Shelby is installing some upgrades to make the receivers more sensitive.

They click on the 'not completely stealthy' psycho-magnetic band while they ask Rodney some questions.

Kuona asks, "Rodney, how did they know how the powerful beam would affect Cellity. "

"They didn't know for sure, but their research on board was focussed on more destructive testing then the landing party. They were using the cells brought up by the robots when we first got into orbit. First they made sure that they could set up an environment so that the cells could

reproduce. They followed several different lines of cells, and were able to determine the ones that were Cellity. Since they were considering it an enemy entity, one that could prevent our settlement of ginger, they tested various chemicals and radiation, to determine the effect. They have catalogued thousands of effects.”

Jean piped in, “We would really like to get ahold of that data. Rodney, can you get it for us?” Rodney answered, “I can’t get the data without jeopardizing my other team. You’ll have to turn the open source guys on the track of that data.”

It seems to me that Rodney was not very much help. If he could only give us something a little more concrete, I would trust him more.

“So, Rodney continued, “they found chemicals that could enhance or inhibit growth, but the concentrations needed would be difficult to apply on a widespread scale.”

This is because the Ginger cells have tougher membranes than Earth cells. This is necessary because they are all single cells and don’t have the protection of other surrounding cells (like, for example, skin cells). The Ginger cells also secrete a protective fluid, that resists chemicals.

“The radiation looked more promising. A certain amount of radiation, both electromagnetic and psycho-magnetic would stimulate the cells to grow and divide. But once the power per cell exceeded a certain threshold, the cells displayed stress and damage. But then something unexpected happened. The cells emitted a burst of energy. There was some kind of defense mechanism. They tested a variety of combinations of radiation, to find the one that provided the most effect for the least power. But they had only done in vitro testing, They need to test it on the real subject, Cellity.

“That is when Shafir was killed. You might remember that Fleet Management approved the expedition soon after the Gingercane that wiped out our first deployment of equipment. It seemed too radical a move at the time, but I shrugged it off. It runs out they wanted to test their new theory. They waited a few hours to see if Cellity was going to react to our exploration. Then they focussed a narrow beam on the air scooters. Cellity reacted, not with an energy burst, but with a higher level defense mechanism. It created the whirlpool in the sand, sucked in the scooters, and then dissolved them. They then noticed that after the attack, there was an overall decrease in psycho-magnetic output Cellity, not just in the vicinity of the scooters. They think they have found a way to minimize the power of Cellity. They could stimulate it to blow it’s own wad.”

“So why was Shafir destroyed.”

That was the worst part. When I found out about Shafir, I knew that Fleet Management was against us.”

“What happened?”

"When they saw that Shafir ran onto the same spot, they carelessly threw the switch to turn the beam back on. They wanted to watch what would happen. They saw it, were satisfied, and then started the cover up. They acted with the callousness of killing a cockroach."

You would think I would be angry, but I only felt overwhelming sadness. Something about my personality is not set up to go after revenge. Nothing could bring shafir back.

But Jean had no problem with anger, "We are going to get those bastards. I will work night and day until we gut every one of them and spread them on the desert for the vultures to eat."

Well, we didn't have any deserts or vultures, but I understood the sentiment.

"They repeated the experiment with Gingerola, and a much larger scale. It worked so well that they not only got rid of a troublesome Chosen group but made Cellity dormant. Apparently Cellity has used up so much energy that it is not coming back."

"I hope it's not dead. It may be the landing party's only hope," I remarked.

Upgrades

I didn't really catch much of what Rodney was saying. I can report on it, because I watched it later. I can only do one thing at a time. I wanted to give Jean the tool to do her job. I was able to make the modifications in 4 hours, with the help of the open source guys. They helped explore some branches on the development. We merged the most successful design branch into the main trunk. Then I had to kick in the manufacturing engine. Sure the nanobots are self-replicating, but it takes time to make 1 million of the little critters.

Bink actually thanked me. (I wonder if he is sick.) And Jean gave a nice smile and then put on a face that acted amazed that Bink said thank you. I said, "You're welcome."

They had prepared their experiments. As long as we met their specification, they were convinced that they would learn a lot.

The purpose of the first setup was to look for ever smaller structures and the functions of those structures. They confirmed the dozens of tiny transmitter/receivers. They were able to get the each frequency by direct observations of the organelles. There was a difference between the cells of cellity and the other. Cellity's frequencies were tuned for the summer spectrum. The other's were tuned more for winter. The other reactions were also more efficient. They could not store as much energy as cellity, but could operate with a lower input.

Bink said, "I have a revelation. Cellity hibernates during the winter, and the other hibernates in the summer." He can make even a revelation sound dull.

Jean said, I've never seen anything like this. Hibernation in the summer! These entities share what is essentially the same space but different times. It is almost like a bird migration, but only a few inches. The other cells can spread out to catch more of the sun and block it from the Cellity cells. I wonder what the other will be like when it fully wakes up? Will it have sentient

osho-magnetic transmission, or will it be mostly mute? We are pretty sure it has the structure of the intelligent widespread entity like Cellity.

Kuona and Marga has some discoveries as well. Shelby came through with the psycho-magnetics sensors and transmitters, both with frequency separation and sensitivity. Kuona said, "I am increasing the amplification on the specific Cellity frequency. I am picking up on the intercellular waves. Do you see anything, Marga?"

Marga answered, "I am seeing signals from Cellity, but I cannot resolve the language yet. Can you crank it up a bit?"

"If I crank it up too much more it will distort."

Shelby interrupts, "Give it more power, Kuona, I put an extra pre-amp/filter in the circuit, so it should be able to take it without distorting."

"OK," he said, "I am bringing it up."

Marga said, "I've got it, Cellity is sending out a test pattern."

Kuona stopped cranking up the amplification and went back to his console. "I can see what you mean, Marga. None of my algorithms know how to respond to this. What message can we send that it might hear?"

Marga said, "We need to send it something kind and sweet. It has been through a traumatic experience at a critical time."

"Gosh Marga," I said, "it sounds like it's have a period."

"How observant. I always knew you were sensitive, Joe. Jean is going to like being pampered by you."

Shelby said, "I'm not even that sensitive, Marga,. What are you talking about?"

"Jean just sent me some specific codes that map to pleasure center in the cell. I've translated this into our message. Its the equivalent of sending chocolate. It will respond to this, if it can respond to anything."

"Should we call it a she?"

Wait for it.

"She answered!" shouted Kuona, "She not gone!"

"What do she say?"

Marga said, "Cellity said, 'more'"

"Now what about the other?"

Marga said, We need to concentrate on leaving Cellity some messages. Listening to what Jean and Bink had to say, it is likely that she will not be able to communicate much longer. And remember, we still do not have much of a vocabulary.

Doomsday

There are some details I should in about Doomsday. Especially about the politics of it. That is because what Fleet Management is now trying to do is a direct result of the events surrounding

Doomsday.

We had about 2 years warning about the asteroid, but Earth still haggled over what to do, and who would fund it. We know now that the haggling was part of the Illuminati (let's call them the rich families) plan. Nobody quite believed it would happen, including the rich families, even though they had the best scientists. The popular distrust of science came about when it was proved that humanity did not cause global warming (sometimes called climate change.) It was a big hoax, perpetrated by the big families, and then even they started to believe it. When it was disproved, it did not hurt the families, because they are always ahead of the people. But it did hurt science. People even stopped believing in evolution, which had been proved over and over. They used to say "It's not nice to fool Mother Nature."

The families thought that it would be good to reduce the population of earth a little. They had lost a little control from local, open source, and other internet movements. They did not think it would be as bad as it turned out.

Much of the preparation was in creating the bubbles. They were expensive. There were many different designs. The key was to have a long term power source. Fusion was not viable. There were some nuclear fission plants. But primarily, Earth resorted to coal, oil, and gas. The plants had to be in their own bubble but separated from the people bubble.

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I had to write about Rick and Vivian. They saved me from a bad job. I learned how to plant a garden and repair cars. We used to run down to the garden. We snuck in to see Barbra Streisand. I feel bad that I made fun of the Doobie Brothers ... and other things that I did. I wonder if they are still in Seattle.

</ancestor>

Every country had it's own solution to the asteroid. The use wanted to launch massive body and use gravity to pull the asteroid from its deadly path. The British and French wanted to launch a nuclear weapon to blow it to smithereens. But the Chinese acted first. They were warned not to by the rest of the worlds, and even some of their own scientists. Nobody really knows what the outcome would have been if they had not launched 1000 rockets with conventional explosives to break up the asteroid. It broke it up just fine, into thousands of even more deadly pieces. After that , nothing more could be done. They lanced through Earth's atmosphere, burning streaks across the sky. Some exploded in spectacular series of fireworks. Hundreds of big pieces made it to the ground. They hit with explosive force causing large craters and tidal waves. Within days, the coastal cities were destroyed. The air was filled with dust from the asteroid and the craters. The Earth got cold.

So the rich families controlled the bubbles, because they had built them. But the world had become much simpler. They couldn't hide behind convoluted financial properties. The people

in each bubble took control. But the rich families had untold number of alternate plans worked out. They went underground and worked for thousands of years to get control. they had always been long term thinkers. They still thought that they knew better what to do for the world - and themselves. (What arrogance. They almost destroyed the Earth by preventing cooperation, and then still think they know best.)

These threads of the rich family underground made up a portion of the Fleet. And they were concentrated in Fleet Management. They had been preparing for 1250 year on the ships and a thousand years before that. When the Fleet approached the planet, they started to put their plan into place and start off in control of the new planet.

The Other

We went back to Bink and Jean to see if they had found out more about the other. I feel like a ping pong ball. They had taken the lead from, the Fleet Management scientists and tried different frequencies and intensities of radiation to determine the effects on the cell. They had an advantage over the Fleet scientists because their nanobots could track the response in the cell as it happened and report back. That information was very useful to Kuona and Marga. But now they were going beyond.

Rodney opened up a stealth communication with me. Nobody else was switched in. "Joe, you know we have to worry about Fleet Management. You can't just be scientists and engineers and pretend that they are not trying to kill you and take over the world."

"Do you know anything about their plans?" I asked.

"The only thing I know is that they have plans, and probably backup plans, and backups of those. They are assuming that nobody is as smart as they are, or as well prepared. They will work both sides of a situation and take advantage no matter which way it turns out."

"And they probably don't really trust you."

"And, just like you, they don't trust me. Here I am, the nicest guy in the world and nobody trusts me. Oh well, one day you will find out - if you're not dead first."

The ping pong ball bounced back to Jean and Bink.

Bink said, "Jean actually had a good idea."

Jean chuckled, "Bink is starting to develop a little sense of humour - very little."

"She noticed that the Cellity cells and the other cells did not interact at all. It was somehow as if the other did not exist."

Jean added, "They do not compete for resources or even poop on each other. In fact the lack of interaction is almost impossible when they are in the same vicinity. So we thought we would try to fool mother nature (the Ginger version) and force the cells together. We put organelles of Cellity into the other.

"What happened?"

Jean said, "We expected them to destroy each other, but they even avoided each other in the cell. The native organelles functioned and the non-native ones did nothing. As we dived down

further into the molecular structure, we found that all of the proteins have an attached molecular group. Cellity's group was different than the other's. These attachments prevent the interaction.

"What good is that?"

Jean said, "No come on Joe, not every discovery has to be useful."

"We are trying to save humanity. You'd better be doing something useful."

"I was kidding you, but I guess it wasn't very funny. We have to go in unknown directions here. We are making hypotheses and checking them out. The more we learn about the cell, the better the chance we will find something to help us and the planet."

"OK. You know, as an aside, when you said 'the planet' just now, I felt proud. I am connected to this planet almost as much as to humanity. I hope we can make this all work. Jean said, Me too,"

Bink said, "Let's dispense with the sentimentality. We are calling the attachment an identity group. We have developed a technique to remove the identity groups and reattach them to the opposite entity's cells. As long as they had the right identity group they functioned.

"Hey Joe and everyone else." We got a call from Marga. "We have something to share about the other. You can see it on your chip"

"Good, I was tired of going back and forth between the shelters."

Kuona said, "You can see from the graph that the other's psycho-magnetic output is going up. Cellity's output has not dropped any further. At this rate it will be half the power of Cellity's peak in a week. We have tried to communicate with it, but have had no luck. It is not broadcasting anything complex, just some repeated patterns."

"I don't like talking right when I get up either."

Marga said, "That's what I said. I need my beauty sleep."

Kuona said, "We are going to keep sending it messages, until it wakes up."

Back at the Fleet

"I just got word from the Fleet Management that they want all of the landing party to come up to Enterprise," said Rodney.

"Did they say why?"

"They want to congratulate you for your accomplishments and give you a break."

"In other words, they want to eliminate us."

"You took the words right out of my mouth."

"How long can you delay them?"

"I think we can put them off at least a week."

"We have been sending back regular reports, leaving out the parts they wouldn't like."

"Do they think that we know about their murders?"

Rodney said, "They evaluate each situation. They set a probability that I can be trusted, that you know about their treachery, and a thousand other factors. The computer programs with autonomous input makes it easy for them to track. Kuona and the others have done a great job of sanitizing your reports to minimize suspicion."

“We need to get a plan together. Do you have any ideas?”

“You trust me now?” Rodney said.

“No. I still think you are a double agent. But you may come up with a good plan to convince us that you are on our side.”

“I have been thinking about it. We actually have 2 problems, the entities and Fleet Management. We don’t know what to do about the entities, so we cannot make a plan for them.

“As for the Fleet Management, we will need to take some action at the right time. We do have the power of BeNice and the open source guys, but without public opinion on our side, we will not be able to hold our positions. Most of the effort can take place on the Enterprise, because that is where Fleet Management is. We will need to have some sort of presence on the other ships as well. I think we can use the same techniques we used in the grabbing of the data. The old 3 pronged attack of Kuona’s virus, Marga’s devas, and open source hacking. We need a 4th prong to distract Fleet Management.”

“It is too bad that Cellity is dormant. We might be able to get her to create a distraction. “We may have to wait for the 4th prong to just happen.

Nexus

It is a week later. Kuona called us on the stealth line, “The energy emitted by the other has reached a peak. But we still have not been able to set up a line of communication.”

Rodney said, “I have some news from Enterprise. Fleet Management has monitored the growing power as well. They are concerned that it could affect the Fleet like Cellity did, and maybe even worse. They are getting ready to send a high energy beam in the middle of the other entity, to see what will happen. They would like it if all of the life on the planet would just die. They have found the perfect frequency, in the infrared region, to affect the other.”

Bink said, “That is what I have found as well. We can predict what individual cells do, but not the whole organism. We can affect the frequency by changing around the identity group. We have no idea what it will do on a large scale.

“Rodney, can you give us a warning so that we can get out of range. “

“I think I’ll be able to do that. Just remember, that they don’t realize you know about their beam.”

“We’ll keep that in mind.”

The Beam

Rodney I made our morning inquiry as to the progress in the two areas. I know that if there is something really significant, they would call us. I don’t want to interrupt their concentration. And they are working without much sleep. I don’t want my head to get bitten off. We are competing with Fleet Management to understand the entities. One little discovery could make a

difference in humanity's existence. Maybe that is a little too melodramatic, but that is the way we felt. Rodney and I have become best buddies again. I still don't trust him. It is like the old western movies from the 20th century, when enemies have to combine to fight an even worse enemy. We take what we can get.

I said, "What's up?"

Jean reacted, "You! Again! Don't you have anything to do?"

I felt like an alien had just bitten my head off. It is funny that I still think of aliens as some science fiction beast with one mouth coming out of another with hundreds of teeth and a sticky tongue. "Could you spit my head back out now?" Hopefully she will still appreciate my sense of humour.

"OK, thfffft," she faked a big loogie.

"We are making incremental, but definite, progress. Even though the other stores less energy, it has an organelle that is able to gather all of the stored energy and emit a powerful wave. What is more, it emits electromagnetic waves in the frequency of gamma rays."

"Gamma rays? We haven't seen that before from the cells."

Bink answered, "Yes, that is true. We have analyzed most of the structures in the variety of cells on this planet. We have not found any indication of gamma ray receivers or transmitters until now. And this appears to be able to output an incredible amount of energy. In fact, it appears that if it is released, it results in cell death. It is some sort of entity protection mechanism, not that dissimilar from a bumble bee, which dies when it stings."

"What activates it?"

"We haven't a clue."

Marga said, "Kuona and I have been listening. We have a clue. In fact this is not just an incremental discovery."

"Go on," I said.

Kuona said, "We have been able to track reactions to electromagnetic spectra from different frequencies. Our experiments are, of course, with the real entity. As Bink and Jean (and the Fleet) found earlier, the other is sensitive to infrared, but does not seem to react the way Cellity did. We have been testing with focussed beams with high energy, but little total power. Cellity reacted by creating a sophisticated coordinated defense. The other had a coordinated response, but it was just a burst of gamma rays. An incredible powerful blast. And then the background psycho-magnetics dropped by half in the area. Half of them blew their wad and then died. "

"Good God!" I said. Can we stop the infrared beam from Enterprise?"

Rodney asked nervously, "Why would you want to do that?"

"Don't you see? The other will blast Enterprise out of the sky!"

Rodney answered, "I don't think that is very likely. Let's not jump to conclusions. We cannot let them know that you know about the beam. And besides, you don't even know about the magnitude of the reaction."

Jean said, "Bink, Marga, Kuona, and I will work together to see how big the response will be. We'll have to estimate some scenarios of overall power and width of the beam. If it is over the threshold of energy per unit area to trigger the response, then it could be serious."

Rodney said, "I wasn't going to say this. They are going to fire the beam today. They are going to give me a half hour warning to get on the water beyond the entity."

"What about us?," demanded Marga.

He answered slowly and deliberately, with a hardened but sad voice,
"They said to leave you here."

We were to be sacrificed.

...

While our team was working furiously to estimate the energy, Rodney got the call to sneak away. He tried to delay them. He must have lost his double agent touch, because they fired the beam.

It was a maximum power of infrared beam from Enterprise. WE could feel the heat of the wide dispersal beam. I pulled Rodney into the underground shelter just after everyone else had jumped in. "Where did this come from?" he yelled as he tumbled in. I slammed the door shut just in time.

Everyone was safe inside (or maybe doomed). We felt a little of shaking, but not much else. Unlike most shelters, this did not have a lot of equipment. We had no sensors. It started to get a little warm. All we could do was wait.

"I guess that means you have chosen sides, Rodney," I said in a matter of fact tone.
"I guess I have. This could be the start of a beautiful friendship."

"Guys, how long do you think we have to wait before going out?" I asked.
Bink was the first one to answer. Everyone else was too stunned. It all happened so fast. It's lucky that we knew what to do. "Since we do not know the magnitude of the initiating beam or the nature of the response, there is no way to tell. We don't need to worry about nuclear radiation. There was no evidence of that."

Kuona recovered a bit, "We did not feel much of a shake. The other did not respond with a physical manifestation, like Cellity did."

Rodney said, "As long as we are stuck here, tell me how the hell do you build this thing without my knowing."

Even though she was shaken up, Shelby wanted to talk about this shelter, “Joe and I were bored, so we thought of what we could do. We were impressed that the Fleet Management could have such elaborate plans. We did not have time for the scope but we could take a shortcut to a safety net. We had to avoid attention, so we started digging a latrine. Nobody was interested once we told them that. We put a shelter in the latrine hole, and then lined it with two inner steel shells with vacuum insulation in between. We wanted to shield from every conceivable radiation, so we used the same material that we used for psycho-magnetic antennas and lined the inside. And finally we made an inside and outside door to create an air lock. We did not have time to make a life support system, so we only have about a half hour of air.

Rodney asked, “How did you send messages? You must have had some sophisticated communication system.”

“Yeah,” I answered, “we used hand signals and notes.”

By this time (even though it had only been 10 minutes) we were anxious to get out and see what had happened. Bink thought he was in control of the situation, “There may be some residual heat, but we can tell when we open the inner door.” He moved to the door and then

SHAKE RATTLE ROLL

It was horrible. We were tossed around the shelter, piled on top of each other. It seemed to go on and on. We rolled over and over. My head was smashed against a wall. I was bent over double, and then bent back. Then it felt like the shelter was spinning like a top. I stood up on the end of the shelter; I fell over dizzy, and then it finally had one more crash.

Moan

I woke up. Pain everywhere, head, chest, legs, wrist. I heard moaning from a lot of sources. I was alive (I think) and so were others. I heard a buzzing in my ears, and then realized it was a drill. There was Shelby, drilling, already half way through the side wall (or was it the floor?). Boy is she tough. I felt short of breath. I tried to talk, but Shelby said, “Don’t talk or move. We don’t have much oxygen left.” Amazing that she thought to bring the right tool. She broke through. there wasn’t a rush of air. Shelby had her mouth over the hole, sucking in the ‘clean’ air. “Just testing it for you boss. It is a little hot but tastes good.

Shelby moved over to the other side (or top) of the shelter and started another hole. Marga was the closest to the first hole and got her breath. Boy, she looked good even all bruised up. Then Jean gave me a mock slap in the face. “Always the boy. You can’t keep your eyes to yourself even in a disaster.”

We all broke up laughing, knowing that we were alive.

Shelby broke out the saw and cut a hole big enough to crawl through. What a girl! Then we took stock of our condition.

There were plenty of broken bones, but nothing too bad. Kuona had a concussion, but we weren't worried about him. He had a hard head. Shelby was still taking charge. Her little tight package had kept her from flailing around and getting injured. She also was really good at rolling.

We all had medical training and practice, but since Shelby was the most together, she took the hard jobs. Bink had a dislocated shoulder. She grabbed his arm, put her knee in his side, said "I'm sorry I don't have any anesthetic," stuck a piece of rubber in his mouth, pulled, and twisted the arm. "Pop!"

We waited for the scream. There was a brief face of anguish, but no scream. He was a definite stoic.

The rest of the bruises and cuts were quickly taken care of. The splints were put on wrists and legs.

Now that the people were stabilized, we took a look around. The shelter had been thrown out of the 'latrine' and had spun and rolled 100 yards away. The other shelters were scattered everywhere. We tried to establish communication with the Fleet, but with no luck. In order to do that, we needed relays from a shelter or Wingman. The shelters were inoperable. We didn't know about Wingman.

We could see Wingman floating a couple of hundred yards off shore. It didn't look damaged. It probably had gone into hibernation when it sensed the disturbance. We saw some lights coming on, so it was probably alright. We had to wait 10 minutes for it to boot up.

Rodney asked, "Well, what happened?"

Kuona said, "Search me. The only thing we know is that the Enterprise was going to beam some high powered broad field of view infrared at the other entity. We did not finish the calculations, but based on the preliminary estimates, the beam could have been over the threshold and triggered a massive response of gamma rays. That is probably what we felt in the first small rumble."

"I'll buy that," Rodney said, but what happened after that?"

Bink answered, "Any comment would be pure speculation. All we know is that some significant energy was expended to wreck our shelters. Presumably it came from an entity."

Marga said, "It couldn't have come from Cellity, I would have felt it."

Shelby said, "But Marga, we had our emergency shelter shielded from psycho-magnetics."

"Yes, I know you're right. But once we emerged I still sensed Cellity with my chip, at the dormant level."

"I couldn't sense anything with my chip when she went dormant," I said.

"I can sense her even now, but I cannot sense the other," Marga said.

"Could you sense him before?"

"It was always very faint. Our chips were tuned to the Cellity frequency. So I can't be sure."

Marga added ominously, "In any case, something is really wrong."

Bink said, "It is extremely frustrating to not have our equipment. I feel that I am blind and deaf."

Kuona said, "You can say that again."

At that point we heard the humming of Wingman. And our chips started to connect with it. So Wingman was OK. It could relay our communications to the Fleet.

Rodney said, "I am connecting with Fleet Management on Enterprise. It seems to be a little slow. I'll try frequency hopping (invented by a famous 20th century actress, Hedy Lamarr)."

Kuona said, "It is quite likely that the the gamma ray response from the other (if it happened) damaged the receivers on Enterprise. See if there are other ships in range."

We were so calm at this point. We thought that it was just another cleanup job. We were getting used to that. Only Marga had a sense for the doom that was coming.

"This is Superstring Manager, calling Rodney, can you read me?" It seem that he was just coming in range on his 45 degree inclined low altitude orbit.

Rodney said, "I can read you. What happened."

The answer came in, "Enterprise is an empty hulk. 3500 people are dead."

We're Not Gonna Take It

We all had our chips tuned to the transmission. We didn't know what to say, so we said nothing. The Supersting Manager waited a minute, to let the words sink in and then continued.

"Enterprise launched the wide beam infrared attack. It seemed like nothing happened for a few seconds. And then a massive gamma ray response hit the Enterprise. All the ships heard the transmission, because the attack was timed for all of the other ships to be over the continent. Philadelphia was in polar orbit. Albatros, Jimmy, and Superstring were in progressively inclined orbits, 15, 30 and 45 degrees.

They knew they only had a few seconds to live and said. "To hell with Ginger life, start the response protocol!" Then there was a pause. In his last breath, the Enterprise Manager said, he last transmission from the ship manager in enterprise was to the polar orbit ship, Philadelphia. It was a few seconds just before the ship went dead. He said, 'All in all, I'd rather be in Philadelphia.'

"So we started the response protocol. The other ships had also been fitted for the infrared

beam transmission and had been storing energy. We blasted that sucker with everything we could.

"Its reflex response kicked in again, even more than before. Gamma rays were shooting all over the place. It mostly missed the ships because we had moved on in our low altitude orbits. And now it's all gone. We have Ginger for humans!"

Rodney asked, "How do you know they are gone?"

The Supersting Manager said, "The energy was incredibly intense. Everyone was fried. And the equipment, too. Like I said, Enterprise is an empty hulk."

"But what about the shielding," Rodney said. "We have had gamma rays for 1250 years."

"It was 4 orders of magnitude more intense," he said. "The shielding was useless."

Here we were worried about being oppressed by Fleet Management and now most of them were dead and our friends, the Devas, the open source guys, and the people we worked with for decades, all dead. We slipped into the abyss of sorrow.

<ancestor generation=0 mood=sad>

It was a year after doomsday. Somehow I was lucky and ended up in the Pittsburgh bubble at the right time. Sure I had some skills, but there were 10,000 just like me. For the last year, all we could think about was survival. It looks like humanity will survive. But now I am experiencing the greatest sadness. 97% of the people were killed. Everyone that I knew before was dead.

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I was away at college when he died. He was the most noble of them all. His nose was regal. His mane was like a lion. The coloring was blue merle. He was a gentleman, polite and gracious. And he loved to go on a walk. We would walk through the alley singing Moon River to the rising moon. But he hated the garbage man. One day he got out, barking ferociously, and the garbage man kicked him in the ribs. He never really recovered. Sometimes I still think I see him, Paladin's Blue Moonstone, called Baron.

<ancestor generation=-2 mood=sad>

I feel like I will never recover from the sadness. I go through the motions every day. We need to cooperate and survive. But most of the time, I don't even care. I don't even feel alive, so much of me has been lost.

<ancestor generation=0 mood=sad>

We had to start to talk or we would wither away.

"What are we going to do?" I asked. Somebody had to ask the stupid question to get us started. We didn't have a bimbo available. All of the women were strong.

"I don't know," Jean said as she started crying. Crying was good. We all started to cry. Nobody tried to hide it. We were strong but so were the ancient Greek heroes. And they cried. Then we all totally broke up, and started hugging each other. Shoulders make a good place to deposit

tears. Even Bink joined in. He was getting more human all the time.

What's Next

One of the ships had to go into geosynchronous orbit, to keep in communication with the continent. It was normal protocol to have the biggest ship there to act as the center for communication. Philadelphia and Albatros were about the same size and the two biggest, with 2000 and 1900 people on board respectively. Philadelphia couldn't go, because it would be too hard to go from a polar orbit to equatorial. And Albatros was in the least inclined orbit from the equator, 15 degrees, so it was it was on it's way.

Wingman rendezvoused with Philadelphia to get some more equipment. We needed to find out what was really happening. The scans from the various ships so far showed only the non-intelligent microorganisms, the typical background radiation. There was no sign of the other from space.

As usual it took us a few days to set up the shelters. Well maybe a little longer. Our heart was not in it. Rodney was a little more active. He was used to compartmentalizing his feelings. He was almost in constant contact with Fleet Management, the new Fleet Management. This was not the same group. Most of them were dead. Rodney knew who were the part of the conspiracy to subjugate the rest of us, those responsible for killing Shafir and wiping out Gingerola. He worked with, we'll call them the good guys, to marginalize the 'bad guys'. Decisions are going to be made logically and not politically. Even the 'bad guys' realized that their actions were responsible for 45 hundred dead.

So one problem is solved. We thought we had a big fight on our hands. We spent a lot of energy scheming, sneaking, and encrypting. And then the conspiracy disappeared in a flash, a gamma flash. But now we were all on the same team. Nobody was trying to kill us. But we did have a close brush with death. The emergency shelter was almost an afterthought. A problem might have been solved, but we all would rather have kept the problem, if we could only have kept our friends.

We set up our equipment and got on with our research. We focussed on how to make it safe for the new settlers. We could find no trace of the other entity. He must have destroyed himself in the last gamma blast. The blast that also had some physical manifestation. We still are healing from being thrown around like toothpicks. We were able to feed Cellity some 'chocolate, but not able to get any other message out of her. It did not seem that she was damaged, but who knows how the ecosystem was upset by the destruction of the other.

Bink and Jean continued to do detailed experiments on the cells. They still had millions of cells from cell lines that they grew, of Cellity, the other, and the non-intelligent microorganisms. They started to be able to mix and match more complicated components. Nobody knew what good it

would do. But we had to understand the life in order to live on Ginger.

Colonization, One last time

After a month we had a fleet wide conference. By this time it was the middle of winter. It had been a couple months since Cellity went dark, and we were wondering when she would come out of her hibernation. And what would she be like. But we couldn't wait. We had enough power in the spacecraft to supply food and energy for another year, or two. That isn't very long, so we had to establish ourselves on the planet - now. The conference covered the settlement plan including introduction of agriculture, insects, animals, location and size of settlements, laws, and many other topics, even religion and social contracts. I was especially interested in the sex and reproduction discussions. We had been limiting population for 1250 years. And now we had to kick child rearing into high gear.

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We started to set up colonies. There will still 5,000 people left. It was decided to set up colonies of about 100 each. Each colony would have some specialty, as well as be able to provide basic survival skills. This would mean about 25 colonies so that half of the population would stay in orbit. This gave us the greatest chance of success. If any ship or colony were wiped out, for some reason, it would not be as tragic.

The first settlement, Inspiration, had survived the beam attack and response. It seemed to be working. They were already on their second crop season, cold weather plants like lettuce and garlic. Their mining efforts were established. They were not nearly self sufficient yet, but it was projected that they would be in two Ginger years

So it started with Babylon making ships, New New York making clothes, Arizona making power equipment/ There was a new colony every week.

Some people had already started to have babies. We had shut down the test tube babies before we orbited. They weren't supposed to start until we were comfortable settled, but as had been said in many vids, "Life will find a way." We had lots of room on Ginger and even some extra room on the ships so there was no attempt to restrict population. Like I said, building population was a priority.

The original landing party starting to get over the beam/response calamity. After all, we had been trained for 1250 years to be tough and overcome obstacles. Nobody promised us a rose garden, mostly they said it would be thorns. We could get on with life. there was still a lot to learn about the planet and

its life, and how we might work with it. But we could never completely relax. What would happen when Cellity came back? Would she wake up in a bad mood? What if she never came

back. Does she fit into some ecological niche that is now missing?

So we kept working on our science. We were able to relax and enjoy life a little. It seemed that the pressure was off. Jean and I would work hard during the day, and then have a nice dinner with some wine. The dinner was mostly algae, but we were able to eat some actual bread made with Ginger wheat. It tasted soooo good. The wine was from the food synthesizer. But there was a rumor that somebody had made some Ginger wheat beer. Next to reproduction, making alcoholic beverages seems to be a human directive.

There was a lot to get used to on Ginger. We hadn't noticed this before but there was a lot of dust falling on everything. Shelby modified some cleaning bots to help keep our shelters clean, inside and out. This dust got into everything. She was happy to have something to do. When the scientist didn't need help she would visit the manufacturing areas and help repair or modify the machines to be more efficient.

As the days were getting longer we spent more time out in the sun. The weather was similar to Earth, with occasional rain. There were some storms with 50 mile per hour winds, but nothing like the Gingercane that was created by Cellity. But as we more time that we spent outside our skin started to get red. We just chalked it up to sunburn. We knew that it didn't make sense because the angle of the sun was too low for the ultraviolet light to be strong enough for sunburn. But humans are pretty good at denial. And we were happy. Colonies were thriving. Politics had taken a backseat to the business of living.

The Last Straw

We were about 60 Ginger days passed the winter equinox in the northern hemisphere. Bink walked over to me and casually said (for him), "Sir, by any chance have you noticed the dust that has been falling this winter?"

"Why yes. What about it?"

"I took some time to analyze it."

"You must have been really bored."

"No, I just have a desire for knowledge. And I like to keep myself neat. This dust has made it impossible for my shoes to keep shined."

"OK, not bored, but compulsive."

"I did not come to argue a point but to provide some data. The dust are dead cells from the atmosphere."

"Oh"

"Remember that when we first orbited we found life everywhere, water, land, and floating in the air."

"Yes."

And then Jean walked up and grabbed my arm. Bink made a sour face. He was all business. Jean said, "Do you remember when we were landing and I told you about the floating

organisms?

"Yes." I've become a one word wonder.

"Well, they're not floating anymore."

"What do you mean?"

"What we are trying to tell you is that there is a mass die off of the organisms in the air."

"Are the land or sea organisms dying, too?"

"Not as far as we can tell," said Jean.

Then Marga and Kuona walked over. Kuona said, "Bink asked me to look at the atmosphere and see if there were any changes. I am used to looking towards the ground to monitor Cellity, but when I turned my instruments up I found that the air is 30% clearer than it was when we landed. Albatross confirmed my observation by looking at the ground. They had been happy that they were getting better sensor readings and did not evaluate the cause. They just thought it was part of the natural cycle."

"Is it?" I managed two words.

Kuona said, "We have no way of telling. We checked with the weather experts in the Fleet, but they do not have even a year of data to compare."

My best friend (next to Jean) Rodney, walked up. We were all there, except for Shelby, who was in seventh heaven helping to maximize efficiency of the mining machines. He put his arm around me, "It looks like we've got to mobilize our science again. What do we need to do?"

"I think we ought to contact the geologist. I'm going to ring up Shelby."

We were still using our stealth communication, but we had open sourced it. We still had a quarter of the open source guys left. And more people were joining as they observed the accomplishments and personal satisfaction. It was an efficient method of communication and allowed people to tune their privacy. We closed the hack that Rodney had used to spy on us. And the open source crowd reviewed the code to help prevent other security holes."

"What's up, Joe?" Shelby said, as our group was all clicked in."

"We need some help. How are you doing?"

"We just finished digging a half mile deep trench and found some promising ore. I am finishing up here. Do you want me to come back?"

"No. In fact, we need you there. The trench may come in handy. Do you have geologists there?"

"Yes, George is right here. Should I click him in?"

"Yes."

"Helloo. This is George. What can I do for you chaps?"

"We are having a massive die out of the floating organisms in the air. We would like to find out if this is normal?"

"Is that what all that dust is? Not that we notice dust much in a mining environment."

"Maybe you can look in your trench and go back a few years to get a sense of the normal deposits."

"That is a good idea, but we have drilled Ginger cores in a lot of different places, each a quarter of a mile deep. We have already catalogued them for each hundredth of an inch. I will look at the data"

...

George got back to us in an hour.

"That was quick, I said."

"It turned out it was easy. All the data was indexed by date. There are organics throughout all of the samples. There are more organics in the winter. It varies up to 20%, going back a thousand years. The cores are within 5% of each other, lending validity to the data."

"OK, so you have established a baseline. What about our fallout this winter."

George paused, as if he was apprehensive, "It's not good. It is falling at 5,000 times the rate of the worst winter."

Well, the good news is that we found out in an hour. The bad news was that it was really bad news. The ecosystem was disrupted.

I said, with my body drooping, "Humans were here less than a year and already destroyed the planet."

Marga put her arm around me, "Joe, we'll get through this. Maybe it isn't as bad as it seems."

Unfortunately, it was worse than I thought. You know that sun that felt so good? Well, the skin burns we were getting were caused by gamma rays. It turns out that the floating microorganisms intercept the gamma rays and neutralize them without dying. But now they are dying off and the gamma rays are getting through. We cannot survive gamma rays. We would have to stay inside all of the time. And our crops are starting to wither.

So Long, and Thanks for all the Fish

We jumped into action again. Not just us, but the fleet and all of the colonies. We had to block the gamma rays. They were getting worse by the day. By the time Summer came around, we would have to be inside shelters or the spacecraft.

<detail>

I wondered about the gamma rays. I thought you might be wondering, too. Why could the ships can protect us, but did not protect the people or equipment on Enterprise. It was a question of scale. The ships were designed to block a significant level of cosmic rays. They keep the level low enough so that tissue can repair itself faster than it is being damage. The Luyten's star system has a level that is 10 times that of the Earth system. So being outside on the planet without protection is deadly."

</detail>

We were back to brainstorming because we didn't have a clue. It gave us something to do instead of contemplating failure and eventual death of humanity. The open source guys

organized a large database and algorithm to process the suggestions and get input from everyone. I mean everyone.

It was like Horton and the Whos . If only everyone shouted, then we would be heard and saved. It worked for the Whos but it wouldn't work for us. People were on edge. They were starting to have fights in the ships and colonies. If they found someone goofing off or sleeping more than his allotted time, he was thrashed.

There were tens of thousands of ideas. People voted to boost them up in popularity. Sun screen, sun suits, nanobots, chemical sprays in the atmosphere, living under the sea. And those were the good ones. (We won't mention walking on our hands, finding an asteroid and blowing it up in the atmosphere.)

Most of the good ideas still had problems of scale. It would take too long to build up the blocks of the cosmic rays. By then the organisms would be dead. (Only the air microorganism could stand up to the rays. They protected the rest of Ginger life.)

We might be able to stay on the planet, but what would happen to the oxygen? Was this dependant on the ecosystem. We thought it would. We would have limited time on a dying planet.

I felt the overwhelming impending doom. Earth had survived the Illuminati and an asteroid. We had scraped by in bubbles and spent 10% of the world's GNP (Gross National Product) for 1500 years to colonize another planet. Our fleet had crossed outer space, 12.5 light years in 1,250 years. We had survived attacks by the intelligent planet entities, We had even outlasted our own human political stupidity. And now it was all over. We would last for a few years as our supplies would dwindle.

I found out that Jean was pregnant. This should be the happiest day of my life. But it is the worst. All humans really have is hope and now that is obliterated.

Well, we have one hope. Our group is working to find the real cause for the mass die off. If the cause is found, so might the cure.

... Two weeks later ...

Time is running out. If we don't stop the die out in another week, it will be irreversible. Our landing party was exhausted. We met under the awning for a break and to compare notes. The sun was too damaging.

Bink led off, "as you know, we think we know what killed the air organisms." He didn't sound very happy. "The intelligent entity on the continent was feeding them. They live off the waste of the Cellity and the other. This is where the other 5% of the energy went. Most waste products does not have much energy, but this was floated up to feed them. Without the entity waste, they

die. And without the air organisms blocking the gamma rays, Cellity will die (if she ever wakes up).

“Yes we found that out a week ago.”

“I am just repeating this because there are no new ideas.”

Kuona gave his standard announcement, “We have been trying to wake up Cellity for the last week. It seems like she is overdue. If she wakes up now, she can start feeding the air organisms and maybe get the ecosystem back on track. We have reached the same length of the day as when she went dormant.”

“Let’s go over what you have tried. Maybe we’ll see something new.”

Everyone groaned. We knew we had to do it. Hope dropped even lower with the exhaustion but we were stubborn.

Marga said, “We have been feeding her the psycho-magnetic ‘chocolate’ message. She is still just responding with a pleasure signal.”

“At least she is responding.” This is getting old. I have said this 5 times a day for a month.

Kuona said, “We have tried various frequencies and distributions of electromagnetic and psych-magnetic radiation. No luck.”

Jean said, “We have studied the various cells to understand the mechanisms. We have not found how and why it goes dormant, and so not what would wake it up”

Marga said, “If I could only communicate with Cellity, she would understand and take some action.”

Jean said, “Why Shelby, you look a little flushed, and why are you out of breath, and why are you wearing George’s shirt.” Shelby stayed with the miners. She would occasionally drop back to help us, but she couldn’t stay, She couldn’t put up with our gloom. If the world was going to end, she would enjoy life to the last.

Shelby blushed a little deeper, but with a wide smile on her face. She even made me chuckle a little. “George and I were, um ... busy.”

“George appeared in the picture (shirtless) and said, “Cheerio, no luck yet,hey?”

“Not yet,” I answered.

Jean said, “We were just talking about mixing the contents of the various types of cells.

Shelby said, “While George and I were ‘busy’, he said, ‘It’s too bad they can’t mate with Cellity’. Isn’t that the same thing as mixing cells?”

Jean said, “George and Shelby, you’re geniuses! We never thought of mixing with human cells. That is the first idea we’ve had in a long time.”

Marga said in as serious voice, far more serious than I've ever seen her, "If you figure out how to merge cells, I want you to do it to me. I must become one with Cellity. I miss her so much, I feel like a part of me is missing. I need to have it back."

Whoa. Two bombshells in a row. One possible solution and then an admission by Marga. She is always so positive that I didn't realize she had that deep sorrow about the loss of Cellity.

Bink jumped up with renewed energy, "Let's go Jean. we have some work to do. And Joe, we need some nanobot modification.

It took a week to perfect the transfer of Cellity DNA and organelles into human cells. Bink and Jean had previously figured out how to prevent them from rejection when working with different Ginger cells. They modified the side bodies. Biologists used to use viruses to perform this gene therapy, but once nanobots were developed they provided superior capabilities and targeting. The nanobots were also self replicating, because they were made from biological components.

Nobody tried to talk Marga out of it. We knew her mind was made up. No force in the universe could resist her. And besides, we had no other option.

Marga laid down on on a bed we brought out from a shelter.

Jean asked, "Are you ready?"

Marga answered, "And willing."

"Here goes nothing," Jean administered the shot with the active bots.

Marga got quiet. It seemed that she was meditating. And then she went deeper. She was in a trance. Jean was monitoring her vital signs. The bots were flowing through her bloodstream. It only takes a minute to cycle your blood. The whole process would take about 5 minutes. 5 minutes to know if Maraga would even survive. Who knows what effect it would have.

Jean said, "He heart rate is dropping. Give me the paddles." She applied the defibrillator.

"Clear" and gave the shock. Marga jolted but her heart did not start.

"Again. Clear." Jolt

Nothing

"Again, Clear." Jolt

Still Nothing

It was over, No blood flow, no brain signals. Marga was dead.

Jean turned around and started crying in my arms. I felt even more useless than my usual helpless self. We all turned away except Shelby who laid a blanket over her body and face.

All of a sudden the life sign monitors beeped and Marga sat bolt upright.

She exclaimed, "It's so obvious, a child could do it."

We stared in disbelief. Was she possessed? I guess the answer is yes.

"Marga, you're OK!" Jean cried

"Quiet! I'm talking to Cellity."

Wow. This is weirder than zombies.

Finally Marga turned to us. "Cellity understands the situation. She is going to wake up. That is what I did. I gave her the wake up call that the other would have given. The two entities cannot exist together, so they have a sort of tag team match.

Cellity woke up. The air microorganisms started to feed on the waste and were reproducing like mad. In 30 days it was clear that they were going to be able to recover. Humanity was saved.

Epilogue

It was 2 years later. This time we really felt that we really felt that the colonization was going to work. We were symbiotic with Cellity. The children being born were part hers. And now we could tell that she was definitely singing. We probably will never totally understand her. But now we have centuries to try.

Jean and I walked hand in hand. There was a beautiful sunset. We watched the two year olds play in the playground under the trees. Our daughter, Whoknowswho, was in my stomach pack and Cellity was watching over us.

This is The End

My only friend, the end. Jim Morrison