

Where Gravity Sleeps

7 – Renzo's Rock

They arrived at 'Renzo's rock and Moses hailed the spaceport. "Moses Stokes at Betty Wishford lookin' ta dock. Ya got's room?"

A moment later a reply came. "Moses! You bet ol' man! Come on in."

"And I got friends on another ship called Hermes. Gots' room?"

"Yea, no problem. We got all kinds of space! You better stop by and say Hi, OK?"

"I gots yer CX-22s so I gots to come by anyway."

"You brought 'em? Wahoo!"

Moses maneuvered Betty Wishford around to the top of 'Renzo's rock, which was indeed spinning slowly on a nearly vertical axis. The top was rotating very slightly and near the center of rotation was a large hole cut into the rock. Moses eased the ship down into it and with his main lights dimmed it was still apparent that there were several large chambers leading off in different directions from the hole through which they had come. He flew into one of the chambers followed a moment later by Hermes. They set down gently near a wall with extendable airlocks. The ships communicated with the airlocks to move them into position and form a seal. Then they got out of their ships and met in the corridor beyond the airlocks.

"We're here!" squeaked Claudia.

"What a relief!" came a voice behind them.

They spun around as quickly as the nearly zero gravity allowed. A man in his forties with balding hair floated easily there with a bubble of some kind of greenish drink. He smiled widely.

"Renzo!" Exclaimed Moses.

"At your service." 'Renzo said humbly. "Welcome to 'Renzo's Rock!"

“Renzo, this is Claudia... and this is Greg. They’re the ones I mentioned in my message. And this is Ishmael, piloting the Hermes, and this is Rose.” They all greeted each other.

“Well, if you’re hungry, I think the Dusty Diner is still open. I imagine Greg and Claudia would like to find a room -- we got plenty, you’ll have your pick.” He motioned for them to follow him and they all pulled themselves along the spaceport corridor. “We got no gravity to speak of, but we get by.” He smiled.

They came to a wide sliding door at the end of the spaceport. It was obviously a blast door, in case there was an accident in the spaceport. “Open” he said and the door slid sideways. They entered a small room, dimly lit, with another similar blast door on the other side. The walls of the room seemed to be only large enough to accommodate the blast doors.

When the large sliding door had returned to its closed position, the other door began to slide out of the way. Instantly they were confronted by many sounds and smells and it seemed that they walked into the middle of an intense party scene. There was loud music and a pungent, sweet smoke in the air. There were many voices and people were floating in the middle of the room dancing in zero gravity. On the opposite wall, almost fifty meters away, a band playing music in a stage framework. There was a large holographic display on one wall, within which was being displayed a strangely beautiful light show. It was impossible to tell what time it was.

It was so loud and dark that Claudia and Greg held hands for fear of being separated in the strange place. Rose grabbed a safety hook on Ishmael’s flightsuit’s utility belt, and playing out a meter of line, used it as a leash to hold onto him. She smiled wickedly as he pretended to protest.

They made their way across the roiling dancespace, stopping on the way for ‘Renzo to trade his green drink bubble for an amber-colored one. When they reached the other side the band finished their song and announced that they were going to take a break. The lights came up a little and recorded music began to play. People began to float about and socialize, now that they could hear a little.

In the light someone on stage noticed ‘Renzo and recognized Moses with him. He floated over to a microphone and then a low voice filled the room. “Moses Stokes on Board!” A few people cheered.

When they reached the other side there was another large blast door. They went through, into a small room, similar to the one behind the blast door on the other side. The blast door closed behind them and the moment it was closed the sound from the party vanished. The door on the

other side opened to reveal a corridor that they pulled themselves into and along.

At intervals of about 50 meters there were passages about 3 meters in diameter leading straight down and there were blast doors on either side. Looking down into one of the vertical passages one could see a drop of about 10 meters to a blast door.

They floated past four vertical passages and then 'Renzo rolled over and kicked off the ceiling to propel himself down the fifth passage. They followed him as best they could. The blast door beneath them opened and past it they could see lots of green, and it was dim inside, like twilight.

Once they were past the blast door they could see they were entering a vast space with curved walls that went straight down. It was filled with many layers of metal decks and platforms, all covered with overflowing plants of many types. There was a central beam with a long array of daylighters which would illuminate the interior during the day. Now only a few small lights were on to provide the twilight effect. It was humid inside and they could see that many of the platforms had misting or rain systems operating as they watched, drenching the plants in that area only.

The smell of the place was indescribable! It was wholesome and fresh with a strong scent of life from the many different plants there. But there was also the smell of cooking food of different kinds, fresh baked bread and roasting grainmeats.

Rose did a quick estimate and the room appeared to be a cylinder about 50 meters in diameter and 100 meters deep. "Where are we?" She asked in amazement.

"We're in tank five." Answered 'Renzo. "I live down here a bit further." He led them down to a large ledge using ropes that acted as a primitive form of Jane's World's beltways. The ledge was covered in grass and from one side a strangely twisted tree emerged. Around the lawn, acting as a visual barrier, were many flowers capped by a thick growth of rather confused looking fuschias. The colors were bright shades of purple and blue with occasional accents of yellow and brown and orange, all among the many shades of green. Many of the flowers grew in random directions, adding to a sense of the bizarre.

They pulled themselves into 'Renzo's front yard, and only then could they see that the wall of the main cylinder had been cut and a relatively low-tech door installed there. Renzo actuated a lever on the door and pulled it open towards him. The inside was darker than the outside, but it was lit. They entered and 'Renzo shut the door behind him. Their eyes adjusted

and they noticed a few chestseats around the room. Claudia and Ishmael had never seen seats like this before and look at them a bit confused. Rose knew how to use them and she settled into one. It supported her under her arms comfortable and let her float her legs out in front of her comfortably. It had a flexible portion that could be attached over her chest to hold her in. Ishmael looked at her in the chestseat and frowned. But Claudia and Greg strapped themselves in. Moses and Ishmael simply floated in the warm humid air in 'Renzo's front room.

"Now I can welcome you properly. Welcome, one and all, to my home. I'm sure you have some questions. Let me answer a few up front. There's a zero-G toilet in that room there." He pointed through a side passage with a fabric covering instead of a door. "If you're hungry, I've got plenty of food in the kitchen." He motioned behind him, where there was another passage out of his living room.

"Moses is a regular here, but have any of the rest of you been to 'Renzo's Rock before?"

The rest answered No.

"Well, things are a little different here than elsewhere in the Belt. We live as a community here, almost our own little country, if you will. We have a population of three hundred forty seven. We all share in the work and we all share in the benefits. We grow a lot of food and make some things which we trade with folks passing through. That's how we get the few things we can't make for ourselves."

"What about medical care?" Asked Rose.

"We have fourteen doctors in our community and a fairly well-stocked hospital facility." He replied. "Why, are you not feeling well?"

"I'm fine -- just curious. So, none of your community people have 'jobs' outside of this place?"

"For the most part, no. There are a few who have some outside employment, like my friend Rudy who works on the beltweb. Most of the people who live here have dropped out of the mainstream, work for a living lifestyle, even such as it exists in the Belt."

"No Job?" Asked Claudia thoughtfully.

"Not for money, no. Instead, everyone in our community helps out with whatever needs doing. People are always looking for ways to help because, well, that's the ethic in our community. We all joined together

because we wanted to get past profit and loss and just live with other people. We all work, but, but it doesn't take as much to keep this place going as you might think. We mainly spend time farming and dealing with food.

"Food sounds good to me!" Said Ishmael. And others nodded, so they left the front room and went to 'Renzo's kitchen. He set out a variety of fruits and some bread, some yoghurt and some nuts. Then he grabbed some roasted grainmeat patties and flash-heated them. The five ate while 'Renzo continued.

"We're like a family here."

"Seems like a lot of people might want to live in this place." Said Claudia.

"They might, but most aren't willing to give up the notion of having money or power or privilege. Plus, most people don't have a way to get here, and those already in the Belt, who could, tend to come here only to visit us."

"You're like a commune then?" asked Rose.

"Yes, kind of, without the communism. We vote whenever there are decisions to be made that people have different ideas about. And, we have some rules. But the main rule is to be good to each other, and that includes doing some work."

"Do you keep track of how much work people do?" Asked Greg.

"Me? Of course not!"

"No, I mean, does your community keep track, to make sure someone isn't floating along, doing nothing?"

"Sometimes, nothing is the best that someone can do." 'Renzo said flatly. "But, no, we don't keep track. People know what their neighbors are doing and we all have a natural disgust for 'floating' as you call it. Honestly, it is rarely an issue. People have a natural desire to work together and they involve each other in what they do -- work is as much a social event as anything else."

"Moses mentioned that you might need some help in the 'Echo Room', I think. Can you tell us more about it?"

"Yea. Sure. The Echo Room is our main stage. We walked through it on the way from the spaceport. We can always use help in there... It's kind of a cliché' around here. But the truth is, you don't sign up for a job here, you

just find where you fit in. Sometimes it takes a while, but if you explore the whole place and meet the people and find out what they're doing, you'll find someplace that appeals most to you and you'll be able to help there. And, most importantly, the community will appreciate you for it. It breeds pride in one's work, to the point even of the work becoming an art in itself."

"Can we stay here?" Asked Claudia, holding Greg's hand.

"The question is, do you really want to?"

"I think I do, but that sounds a little scary. Is there a down-side you haven't mentioned yet?"

"Well, perhaps. Everyone gives something up to be here, even if they don't know what it is when they arrive. Do you know what you are giving up?"

"Money?" Asked Greg.

"True, if obvious. But, what else?"

"Conveniences?" Asked Claudia.

"Probably. But that isn't the most dear thing, I'll guess, at least, for most people."

"What is it, some weird sexual rite?" Ishmael asked, hoping his voice sounded suitably disgusted and not at all hopeful.

"Um, what's your second guess?" Retorted 'Renzo.

"Control." Said Rose.

"Yes." Said 'Renzo, pointing his finger directly at her. "Most people are afraid of giving up the control that money affords them. Out there you can pay someone for something and expect to get it. In here you ask and you cannot expect to get it, but in practice, you do if it is a reasonable request."

"That's how my family worked." Said Greg.

"That's how I wish my family worked." Said Claudia.

"That's how our family works, and you can join us for as long or short as you wish, as long as you agree to abide by our principles of contributing your time and effort, when you are healthy, to our community in some useful way as long as you are here. Will you agree to that?"

“Yes! Absolutely!” Said Claudia.

“Yes, I agree totally.” Said Greg.

‘Renzo looked at Rose and then at Ishmael. Then Moses spoke, “I d-d-didn’t mention it to ya’, but, see, Rose and Ishmael are comin’ with me ta Egg World.”

“Oh, well, the offer stands in case you would like to join us in the future.” He turned to Greg and Claudia. “Well, you’ll need a place to stay. We’ve got some unused rooms from the last batch we cut.” He thumbed a console and a hologram of the entire interior space appeared. It showed the spaceport with three red radial arm corridors leading out into the asteroid. Under each corridor were a series of six large green cylinders with rounded ends. On two sides of the top of each cylinder were large blue rectangular storage bays. “See here?” He pointed to a yellow glowing space off of a different arm in the second cylinder, half way down.

“Yea.”

He handed them his console and said You’ll need one of these. I’ve got a spare one I can use. You’ll find your living area is surrounded with food. Just let your neighbors know you are moving in for a while -- they’ll be happy to help you out. Sooner or later you’ll find you way here.” He pointed to one of the blue areas. “These are our storage areas. If you need something, you’ll probably find it in one of these. Zero-G cookware, clothing, tools, consoles — you name it. If you don’t find what you need in one, look in another. When you’re done with something for more than a day then put it back. If you tell the computer in each storage area what you’re bringing in or taking out it will update our inventory, but, people forget, you know.”

“Where does it all come from?” Asked Claudia.

“We trade for it. We produce more fresh fruits and veggies than we can eat, and we make some foods like bread and grainmeats that we trade to companies for whatever they make. We have been here for over fifteen years now and people who stop by try to bring the kinds of things we want to trade for.”

“It doesn’t really add up. You get consoles and you provide bananas?”

“Aside from the fact that it is easier to make consoles out here than bananas, we trade more than fruits and veggies. We trade services too: repair, programming, medical and other healing, herbs, medicines. We

can fabricate parts for almost any spaceship, and we produce a lot of art. Many find what they want here and are happy to trade for it. For some, 'Renzo's Rock is an oasis, and they are happy to contribute what they can simply to stay here for a little while."

"So, are you that Mayor?" Asked Greg.

"No, I just run the media broadcast station."

"But, it's named after you, right?" Persisted Greg,

"Yes, but only because I didn't pick a different name when I began broadcasting. The place is named for the character I portray in the broadcasts."

"Yea, I see. In person you really aren't anything like you seem in the media." Said greg, sounding slightly disappointed.

"Except for this." 'Renzo turned around and mooned them.

"Point taken." Said Greg tactfully.

"Speakin' of assemblies." Moses broke in, "I've got your CX-22s back in the Betty Wishford. You want I should bring 'em by the studio for ya?"

"That'd be great! But tomorrow, OK? It's 3am local time and I'm gonna go to bed. It's been a long day! These two have they own space now. Do you folks need a place to spend the night?"

"No, we have plenty of room on our ship." Answered Rose. Moses nodded his agreement.

"Well, find me tomorrow before you leave, if you have time, I'll give you something to make your trip to Egg World a bit more fun."

They all got up to go except 'Renzo, who looked very tired. He wished them a good night and disappeared into a side chamber from his living room. Floating outside his front lawn they decided to all sleep on the ships that night. Greg and Claudia would settle into their new space the next day when the neighbors would be awake. They pulled themselves up and out of the cylinder, found their way back to the spaceport and settled into their ships for a few hours sleep.

The next day Rose and Ishmael got up late and found that Greg and Claudia had already left. "We'd better go say goodbye to them and didn't

'Renzo ask us to stop by too?' Rose said to Ishmael as they finished breakfast.

"Yea, let's go after we're done."

They found their way to the media station and 'Renzo was there mixing some kind of show on a pair of large holodisplays. "Ah, there you are!" he said and his voice had plenty of energy in it. "Come over here." He paused the mixing session and reached into his pocket and withdrew a small package. "I'm not sure if you're into this, but if you are..."

"What is it?" Asked Rose.

"JEQ"

"Yea!" Exclaimed Ishmael.

"Huh, what is that?"

"It's a sensogenic enhancer." Replied 'Renzo.

"What's it do?"

"It makes sex about 10 times more intense." Said Ishmael.

Rose looked a bit frightened, but she took the package. "Is it safe?"

"Yes; it's just not legal."

"Thank you, 'Renzo, you fine, fine soul." Ishmael did a little dance and slapped 'Renzo's palm, smiling widely.

"You're quite welcome. I understand from Moses that you're quite a gifted pilot."

"Its about all I know how to do, other than..." He pointed to the package in Rose's hand.

"We need pilots too, for rock defense and to shuttle things to and from Jane's World and about fifty plants all within a week's flight of here. You're welcome here." Then, turning to Rose, he said "Keep an eye on the old man, Moses, OK? He's getting on. I wish he'd settle down with us. But, he only feels at home out there, with Betty Wishford."

"You care a lot about him, don't you?"

“Yes. He’s one in a million, that old man. He helped build this place, you know.”

“Really?”

“Yep. Back when it was a decommissioned liquid fuel storage facility. A group of high-minded outcasts and I claimed it under salvage law a day after its corporate owners relinquished control and responsibility for it. We got help from Moses and a bunch of his rock hunter friends back then and it’s been an unofficial home base for rock hunters ever since. Moses did a lot of salvage back then. Now he’s the shepherd of the Belt, training rocks and keeping it safe for people.”

“He rescued Greg and Claudia from the Holcomb clump... they were in life suits inside a disabled life craft. He found them and saved their lives.”

“I’m not at all surprised. I’m also not surprised he didn’t mention it. That’s like him. He expects to save each person’s life at least once, that guy. It wouldn’t be newsworthy to him unless he saved you twice!”

They smiled at each other for a moment. Then Rose said, “Renzo, thanks for showing me this place. It makes me think the people who proposed that there be no currency in the Belt... maybe they weren’t so crazy after all.”

“Of course not, most of them live here!”

“Well, that makes sense.”

“But, honestly ‘Renzo, it works here because you have a few hundred people and an abundance of space. I think the ethic of the place is as much a factor in your success as anything else. Would it scale to the Belt?”

“Who can say?”

“Let me put it another way. What are you planning to do if thousands of people descend onto ‘Renzo’s rock and ask for shelter and to join your community?”

“I don’t know. Obviously this place has limits to the number of people it can support, and also how quickly new people can be integrated into our community. Beyond those limits the best we’d be able to do is help the next community get started, help them out, show them how we get things to work. We’d help them get going until they could do it on their own.”

“Renzo, it was a pleasure to meet you.” Rose said and extended her hand.

Renzo shook it, and then he shook Ishmael’s hand. “I think you should reconsider the weird sexual rite thing...” Suggested Ishmael, but the rest of his sentence was cut off as Rose had placed her hand over his mouth.

“We have sexual rights, not sexual rites.” ‘Renzo said wryly.

Ishmael looked confused. ‘Renzo looked satisfied. Rose looked away and pulling Ishmael with her departed from the media room. “Let’s go say goodbye to Claudia and Greg.” She said as they entered one of the main arm corridors. They went through the spaceport to reach the radial arm corridor that contained Claudia and Greg’s new home. They found the second cylinder entrance and they floated down through the hole in the floor of the corridor.

Inside this cylinder was like a jungle. There were tropical fruit trees and many vines and other plants. There were many flowers and the unmistakable sound of birds. The smells were fresh and lively and invigorating. As they floated down to the half-way point, where there was a platform attached to the central beam, they could occasionally see small birds flying among the plants. The plants grew strangely, most not knowing up from down except at the interface of soil and air.

Finally they found an overgrown platform and against the wall of the cylinder a door had been installed. They knocked and a minute later Greg appeared at the door, covered head to toe in what looked like spaghetti sauce. He had obviously managed to clean his face moments before opening the door.

“Bad time?” Suggested Ishmael.

“No, no, come on in. I was just preparing some lunch and, well, I dropped a ball of tomato soup.”

“You dropped it?”

“Well, actually, I had set it on the table behind the fan and it, after a while it sort of...” He made a walking motion with his fingers and then an exploding motion with both hands.

Rose managed to suppress her laughter but Ishmael laughed out loud.

“How’s Claudia?”

“She’s recovering well in the new place.”

“Recovering?” Ishmael said, more as if he was begging for some air.

“Well, it seems she’s allergic to some of the plants in this cylinder. So, she was sneezing, and well, she fell and hit her head on the wall.”

“Stop...” pleaded Ishmael.

“There’s about a hundredth of a G in here, how could she fall?” Asked Rose.

“Well, she sneezed real hard and it kind of launched her backward and she couldn’t see where she was going and a couple more sneezes and, well, she smacked the wall pretty hard. Next thing she’s bleedin’ and all and we had to find the hospital. They found us another place to stay with different plants. She’s there now, sleeping. It’s been kind of a tough morning...”

Ishmael laughed uncontrollably. Rose lifted him from the platform and pushed him bodily out into the jungle. His laughing became quieter when he was facing away from them cycling to full volume again when he faced them as he slowly tumbled out into the cylinder.

“It’s a shame things were so hard to start with, but I’m sure you’ll settle in. I hope things go better for you, and Ishmael does too. He’s just... easily amused, you know?” She looked slightly annoyed as Ishmael managed to stop laughing and was now audibly trying not to let his laughter get started again. It was something like trying to fight a sneeze and he seemed destined to fail.

“We’ll be going, then.” Said Rose. “Give our regards to Claudia, OK?”

“You bet. As soon as she wakes up.”

“Have her call us if she has the energy. Just to say goodbye.” Said Rose.

“Goodbye then.” Said Greg warmly. “By Ishmael -- great to meet you!”

“Bye, Greg!” Ishmael shouted back, and waved.

Then Rose and Ishmael made their way back to Hermes and contacted Moses. “Are you ready to leave, Moses?”

“Ready as ever.” The two ships left ‘Renzo’s Rock and after setting a safe course for Egg World the ships maneuvered into their kissing position.

Rose resumed her study of the complicated Crawford scanner. Ishmael spent his spare time writing. Moses spent lots of time in his pilot's seat, watching the Belt around him. Hermes and Betty explored each other's minds.

Ten days later they arrived at Egg World. They met in Hermes' dining area to talk about what would happen next.

"I'll be startin' on rock clearin' as soon as you folks let me get started."
Said Moses.

"So, then we can get started on our survey then too?" Asked Rose.

Moses frowned. "Well, at least give me a d-d-day to get a head start, OK?"

"I don't understand." Said Ishmael. "It isn't a race."

"Well, it kind of is." Said Moses. "I have to clear the rocks that'd be hittin' ya before they hit ya or they're gonna hit ya, see? If I know where yer gonna fly, then that'll be 'bout the only safe place to be 'round here 'til my team clears the whole area."

"When is your team coming?" Asked Rose.

"The first arrives tomorrow, then one every day or two for the next week, if all goes well. But, I can get started. Send your flight plan to Betty and we'll figure out the clearance pattern."

"Hermes, have you calculated a flight path?"

"Not yet, we have some preliminary data to collect. Based on that a course calculation is simple."

"Well, how do we get that data we need to formulate a course if it isn't safe to fly to collect the data without a course?" Asked Rose, frustrated at the paradox.

"We fly anyway, of course." Said Ishmael.

"Quite right." Agreed Moses. "I'll just stick nearby and run rocks for you while yer gatherin' yer data and all."

All agreed, so Moses returned to Betty Wishford. The two ships stopped kissing after a five-minute delay requested by Hermes and Betty so they could complete their private conversation.

Hermes began by performing a standard series of scans to estimate size, composition, density, reflectivity and temperature. Even within the four minutes it took to complete the scan and its analysis, Moses was forced to vapor two fast moving small rocks. Hermes could easily have done the same, and would have a second later, but Moses had them already.

"I would like to perform a second analysis from a point above the apparent center of rotation." Hermes said as the ship's main holodisplay showed a rough image of Egg World with a point above it marked in green. The same image was displayed for Moses on one of Betty Wishford's holodisplays.

Ishmael flew Hermes to the point, close to the surface of Egg World to avoid most of the rocks in the area. The surface was dark and jagged. When they arrived at the top the sun could again be seen and the surface was lighted from the side giving it an eerie, unnatural look. Once in position Hermes repeated his scans and analysis.

A few uneventful minutes later Hermes announced, "I have completed the second analysis and have determined an optimal course for scanning the interior of Egg World." The display of Egg World now sprouted a long thin green line that began at their current location and wrapped around Egg World over 100 times, each time at a slightly different angle. When all the lines had been drawn Egg World could barely be seen within, as if it were inside of a ball of string.

"It looks like it might take a while to fly that course." Said Ishmael.

"It will take 327 hours, 22 minutes and 9 seconds, unless we have to deviate and restart at a checkpoint."

"These aren't orbits, are they?" Said Ishmael.

"No, this is a thrustorbit path. There is insufficient gravity at Egg World for our purposes. If we followed these as normal orbits, the survey would take over four years."

Ishmael maneuvered Hermes to the starting point for their survey. Rose switched on and initialized the Crawford Scanner and checked its calibration. When it checked out, she created a new survey capture datapage and turned over the Crawford scanner's control to Hermes.

"I'm ready to begin, Rose, Ishmael, Moses. Shall I begin now?"

"Don't you think we should say a few words first?" Asked Ishmael, feeling as though history were in the making.

“As few as possible.” Answered Rose, and they could hear Moses chuckling in the background over their radio. “How about this: Let’s get going, Hermes.”

“Hermes flew in a wide circle and when he arrived back at the starting point he was traveling at exactly the right speed for the survey. At that moment and from then on his main thrusters pointed almost exactly away from the surface of Egg World. They burned with a steady low thrust -- just enough to keep them on their course. Through this contrivance the Crawford Scanner’s multiple apertures would be slowly exposed to every square meter of Egg World, inside and out.”

The first several hours were exceedingly boring. Then a dozen rocks came close enough that Moses had maneuvered between the rocks and Hermes. A few minutes later Moses vaped another small rock. Then he disappeared around the side of Egg World and went off to adjust the course of a large rock. He returned five minutes later and stayed close to Hermes. About twenty minutes later a large rock floated past both ships with only a couple hundred meters to spare. Then, boredom set in again for many hours, punctuated occasionally by Moses vapping a rock.

After what seemed like half a day, but was probably no more than eleven hours, of mind numbing boredom they heard a voice on their long-range communications channel. It was one of Moses’ rock hunter friends, a man name Obo. He chatted with Moses while Rose and Ishmael listened in.

“Moses, you rock hopper! Glad you’re out here”

“Obo you Rock Head! Damn glad to see ya. I need a break!”

“Why, been sleepin’ too much?”

“I’m running rock defense for this here ship called Hermes.” Moses sent a holodisplay page to Obo detailing Hermes’ flight path and the clearance patterns they’d have to establish. “I need ya to cover for me so I can get some sleep for a few hours. Then, we can take turns clearing and covering Hermes.”

“We’re gonna need some help...” Said Obo seriously.

“El’s comin’. So are Splat and Spinner.”

“Oh, really? I haven’t seen Splat and Spinner in years! Anyone else?”

“Maybe Big E. Maybe Tig. But, not till later. We’re it for a week er so.”

“Well, lemme get there first, then you can take a break, Moses. Damn its good to be close enough to talk to you again in real-time!”

Obo’s ship, the Zilch Can, the was a classic rock hunter, a bit larger than Betty Wishford but still quite a bit smaller than Hermes. Moses caught sight of it as it settled into position near Hermes and Betty.

“Obo, the Zilch Can is lookin’ a bit more beat up than the last time I saw you two.”

“Yea, we been through a lot. But Betty looks as fine as ever! So, where you gonna rest?”

“I’m gonna have Betty grapple the surface somewhere under some overhang.”

“Make sure you aren’t in our flight path, OK Moses?” Rose cut in.

“Huh? Oh, yea, right. Hey, Obo, let me introduce ya to Herme’s crew. That was Rose ya just heard. The pilot is Jim.”

Rose and Ishmael each said Hi, and Obo had politely replied Hello.

“Now, you take real good c-c-care of my friends for a few hours, OK Obo?”

“You got it, old guy.”

Moses flew Betty down to the surface, and locating a large crack he eased her sideways into it so that they were no longer in any risk of being hit by even an improbable rock.

Now that the survey was proceeding, Rose and Ishmael had little else to do besides figure out as many ways as possible of having sex without bumping Hermes’ hull and interfering with the survey. Hermes had asked them nicely not to transfer a lot of momentum to the hull if they could avoid it.

“Hey, I’ve got an idea.” Said Ishmael, who removed the thin belt from the kimono Rose liked to wear after showering.

“What’s that?” Rose asked smiling hopefully.

“C’mere.” He pulled her close to him and they hugged. Then, in one motion he wrapped the thin belt around his waist and her waist, and tied it behind her back. She pushed his chest with her hands, but her waist was

held next to his. They made love until the thin belt broke. Unfortunately the physics of the situation were such that Ishmael launched Rose across their room.

“Sorry to intrude, but what was that sudden internal impact?” Hermes asked.

“That would be me.” Rose said, trying not to laugh and rubbing her head which had struck the wall first. She wedged her legs against their bed and the wall to keep from floating around the room. She was glad that Hermes did not ever use visual sensors within their room, or he would have gotten an electronic eyeful.

“I’ve verified that our current thrustorbit’s data is still viable, but that bump was nearly enough to require us to re-record this entire thrustorbit.”

“I’m sorry Hermes. I won’t do it again.” She said as seriously as she could manage in the combination of her sexual urgency, her awkward position, and her painful head.

“What were you doing?”

“Um... I’d rather not say. But, I’ll be more careful from now on, OK?”

“OK. Thanks, Rose.”

Rose looked over to Ishmael and demanded, “*What were you thinking?*”

Ishmael looked stunned and sputtered instead of speaking.

“Using that thin little silk belt to hold us together! Go find us a damn packing strap or something that won’t break, OK?”

“You’re right. I don’t know *what* I was thinking. Just, stay in that position there, will you?”

“Go! No! Don’t go yet! Put-on-your-pants-first! Good. Now go! Quickly!”

Moses reappeared at their door in sixty two seconds, and spent another seven seconds to lean over and kiss Rose, who had not, in fact, moved at all. They kissed for a few minutes. Then he showed her the 5cm wide packing strap he had retrieved. “I’m really hoping you’ll try your best to break this one.” He said deviously, knowing quite well that it could withstand at least ten metric tons of force.

The time crept on. Obo and Moses were joined by their friends and fellow rock hunters El, Splat and Spinner. One of the five of them always remained within a few hundred meters of Hermes, but the others took turns working the rockfield or resting. As the time went on, the rocks had been cleared from Hermes' predicted flight path and the other ships focused mainly on redirecting larger rocks.

The rock hunters worked together to clear the space around Egg World. If a rock was going to pass too near to Egg World, one or more would fly to intercept it. They would match its speed and nudge themselves against it. Their deflectors kept their ships from directly contacting the rock. The deflectors also acted as a near-perfect lubricant, so that even if the rock was spinning, they could still push against it. Sometimes it took a few rock hunters working together to move a larger rock.

If a rock was oblong and rotating lengthwise at all, then a ship could nudge up against its middle, and then be pushed away by the rock — thrown by the rotation of the oblong end. This was called launching. Some pilots had refined it to an art. They looked for opportunities to launch and worked launches into their maneuvers, just for the fun of it. Launching was a thrilling experience. It was customary to howl or whoop while launching; each rock hunter had their own distinctive sound they made when launching. That sound of their voice would usually be affected by the bumpy ride off the surface of the rock. The rock surfaces were almost never smooth and even the slippery shields could not insulate the ship entirely from the bumps and ridges. So fellow rock hunters would listen to each other's howl to infer how bumpy the launch had been. Then they would call to each other ship-to-ship to poke fun at each other and laugh.

Launching was dangerous and occasionally a rock hunter would be killed when the ship was thrown against a surface feature or a nearby rock; however, rock hunters knew that life was dangerous. They took their fun where they could.

Rock hunters didn't just redirect a rock once: they moved each one twice. Once to miss home as they called whatever body they were defending and once to restore it to a tame orbit at the right velocity. The latter maneuver was called training or taming the rock. Rocks were called untrained if they were not moving in a natural, spinward orbit and at roughly the same velocity as the rocks around them. When there were no threatening rocks, the rock hunters would train passing rocks. If there were none to be trained, they would broaden their circle of defense until they weren't bored anymore.

They were joined after ten days by another rock hunter named "Tig". After another seven days the survey was finally over and the space around Egg

World was clear of every rock large enough to see within ten kilometers of its surface. Rose asked for a meeting with the rock hunters to talk about what would happen next.

“Moses, Tig, El, Splat, Spinner and Obo, you guys are the best! I just wanted to thank you for all that you’ve done and how well you’ve taken care of us.”

There were numerous thanks and aw-shucks responses. She continued. “We’re going back to Jane’s World soon. We’ll broadcast our data along the way so it precedes our physical arrival there.”

“Are you going alone?” Asked El, the only woman among the rock hunters present.

“Well, we hadn’t planned on any escort. Ish-uh, Jim’s a very good pilot and Moses has been training him. So, what are your plans? Will you remain here to keep the area clear for the spinworld development teams which will be coming?”

“That’s our plan.” Answered Moses.

“It will not be necessary, I think.” Said Hermes.

“What?” Asked Rose.

“Who said that?” Asked Tig.

“That was Hermes, Tig. What do you mean that it won’t be necessary, Hermes?”

“I do not think the spinworld development team will be coming to Egg World.”

“Why not?” Asked Rose, in near disbelief.

“Based on my preliminary analysis of the structure of Egg World, I do not believe it will be a suitable location for the spinworld. It is structurally unstable and is likely to suffer catastrophic failure well before the project is completed and it has been spun to produce even 20% spingravity. I believe that when the spinworld technical committee reviews this survey data they will agree that a different location will have to be found.”

They were all stunned.

“What should we do, then?” Asked El.

“First, we’ve got to transmit the data to the spinworld technical committee. It isn’t up to us to decide. If they agree that Egg World is unsuitable, they’ll probably want us to survey their next choice, I’d assume. Let’s get out into open space so we can transmit a clearer signal and get that started while we figure out what to do next.”

They all maneuvered to a region about eight kilometers away from Egg World. Hermes exposed his primary data transmitter dish and began a time-delayed negotiation with the nearest beltweb network node, asking it to accept an oversized datastream. It was pre-approved, but he would still need to interact once with the node. Two minutes later the transmission began, meanwhile the crews continued their discussion.

“So, maybe we should just go where they plan the next survey now. Why wait?” Asked Tig.

“Because we don’t know where that is yet.” Replied Rose.

Everyone was quite for a while, then Spinner said “Let’s head toward ‘Renzo’s Rock. If they haven’t made up their minds by the time we get there then at least we have a better place to wait than out here.”

Nobody had a better idea, so they powered up their thrusters and the group made their way back towards ‘Renzo’s Rock.

Eleven hours later the transmission was completed and they could do nothing now but wait: wait for a reply from the spinworld technical committee, wait to arrive at ‘Renzo’s Rock.

When the survey was received on Jane’s World it was analyzed and several detailed holographic simulations were derived from it. The simulations were posted to the Spintech webforum and people began to comment. People were very concerned about Egg World’s stability if it were spun fast enough to produce sufficient gravity inside. There was some debate over what “sufficient” meant, but people agreed that the spinworld needed at least $1/3$ G, and preferably $1/2$ G, if not more. In the end, people agreed that it was such a monumental undertaking to build a spinworld that they should try to find a better choice than Egg World. The Department of Belt Resources identified several candidate asteroids from one of their recently assembled databases.

One result of canceling the plans for a spinworld in Egg World was that people learned about Hermes and its Crawford Scanner. It was unavoidable. Everyone was expecting Egg World to be the home of the new spinworld and they needed an explanation of why it was no longer to

be. It dawned on people that they might have created the spinworld in Egg World and planted the seeds for a future disaster. People were full of gratitude for Hermes role and the role of his crew, and they got dozens of pages from appreciative people all over the belt.

Another result of canceling plans was to disillusion some, especially those on Earth, who had been following the Spinworld webforums. It seemed that the Spinworld project, having hit such a major setback, was deemed stillborn and those outside the belt lost interest.

A week after they had received the data, the spinworld technical committee, Spintech, announced that the next choice was 6-Hebe.

It was 25 degrees antispinward of Jane's World and two hundred thousand kilometers above the average orbital plane. That meant it was over 40 degrees antispinward of Egg World — a journey which would take about 4 weeks. After a brief meeting they all agreed to fly to 6-Hebe, but since their course would take them near to 'Renzo's Rock, they all decided to stop there for a day and relax, reload some supplies and visit friends.

On their way from 'Renzo's Rock to Rose World Rose and Ishmael finally tried the JEQ that 'Renzo had given them. It was a powerful sexual enhancement drug that neither Rose nor Ishmael could say they actually needed, but they were curious about it. It had a predictably strong, but delayed affect on them. They had been having a snack in the dining area and suddenly their room was too far away for their needs. Afterwards, when Hermes offered to mediate their dispute, they had to explain to him that they had been having sex and were not fighting, despite what it may have looked like.

"But, he was holding you down and you were saying No. I heard you clearly say No several times, and then you started saying Yes. I wasn't sure whether you needed help or not, but since you did not request it I waited."

"It's confusing, I know. We don't usually let you see, because we know you won't understand." Said Rose, blushing slightly.

"Really?" Asked Hermes and he thought deeply about this.

"Best bet, Hermes ol' buddy, is to completely ignore us when we're doin' it, unless we're callin' your name for help or there's a fire or something, you know?"

"I should ignore you binding each other?"

“Um, yes.” Said Ishmael, also blushing.

“We’re animals, Hermes. From your perspective, we do some pretty strange things. You’ll just have to trust us that it’s OK. OK?”

“Maybe you should warn me when you’re going to act like animals?”

“Hmmm.” Said Rose.

“It’s easy to tell, Hermes: if she isn’t wearing clothes top or bottom then you might want to look the other way.”

Rose now had more free time in her life than at any other time she could ever remember, even when she was a child. At first, back at Egg World, she had been bored. But after a while she began to hear the lesser requests in her heart and mind — those tiny voices that are always outspoken by the urgent needs of the moment, the career, the business, the relationship, etc. She began to hear the tiny voices and they led her back into the webforums.

Between their bouts of passion, Rose continued exploring the Belt webforums. She found that there were webforums on hundreds of different topics. Each webforum made it seem like people from all over the Belt were in the same room. She observed that the participants in each webforum formed a community. People might be members of many of these small or not-so-small communities. There were a few webforums that many or most people followed, at least occasionally. The Spinworld forum was one where most people at least followed the summaries.

Webforums were effective because not only did they contain the pages posted by individuals, but also because they contained cross-indexes to other historical pages and summaries of data, positions, and agreements already resolved. It meant that someone who entered late into a webforum could catch up quickly and become a productive member relatively soon. It meant people had an opportunity to learn about a subject before they imposed their ignorance on everyone else. It was a civilized system for sharing rather than competing for information. It helped minimize the negative effects of the time-differences caused by the great and varied distances between people in the Belt.

Thoughts shared through the webforums existed from their moment of creation onward. Pages were seldom deleted — they were stored in archives. People took pride in the growth of a webforum archive, because it was a tangible record of their combined thoughts. Recording the thoughts gave them substance, so they might survive across time. Those thoughts were waiting for future minds to embrace. The archives were a

mortal blow against revisionism and an immaculate witness against deception. Society remembered exactly what you said in this public forum. Aside from the moral effects, it allowed culture and society to evolve at an increased rate. Yet, despite the increased rate, it was a more peaceful evolution because the key information was available and anyone with an opinion could be heard.

This societal memory had an unquestionable effect on how people behaved in webforums. Most people engaged each other with respect. Most people displayed a fairly high degree of intellectual honesty. Words could not be twisted or misremembered strategically because the archives were both secure and publicly accessible. People knew better than to lie about what was said because the lie could be so easily exposed. In the webforums, lying had evolved into an act of omission. That evolution had a mighty effect. People knew better than to try to use coercion either. An individual might be able to be coerced, but the general populace could not be. The webforums civilized public interactions by eliminating the convenient opportunities to be less than civilized.

Perhaps there was a critical mass or threshold which the Belt community surpassed, pressed beyond those limits by the forces of mutual need and an immaculate societal memory. Perhaps the time was just right. The Belt was different from the way the Earth and the Outer Earth had ever been. The Belt was a place where ideas thrived because the classic foes of free thought had been beaten: censorship and editorial control, personal and political coercion, economic obstacles to publication, and the need to rely on anyone else in order to get your message out. Everyone was equally empowered to post to webforums. What you said mattered based on its own merits.

The webforums were a distributed information space. Any console could act as an interface to the many webforum archives. These archives provided access to the currently posted pages as well as the historical ones. There were redundant archives in many settlements and selections from an archive could be downloaded from any of them. They could also be examined interactively, if you were close enough to an archive that the time delay was acceptable.

Rose requested dozens of downloads during the flight to 6-Hebe and was fascinated with what she found. Here were people who could seldom if ever see each other and they had formed a tight community — one that people on Earth or the bubbles would envy. She thought that was ironic, given how most people on Earth and in Earthspace felt about the Belt. The more she delved, the more irony she found. Here was a place that produced vast quantities of goods consumed by Earth, and yet its people often had to pay a premium for the same products. The more she read,

the more she admired these people: they reached with their minds where their hands could not. They built a society amid desolation. There was nothing heartwarming in the Belt that wasn't created by these people.

They finally arrived at 6-Hebe and they surveyed it just as they had Egg World, beginning with a pre-scan from a few positions followed by nearly twenty days of detailed scans with the Crawford Scanner.

Again the rock hunters cleared the space around the giant asteroid and kept Hermes safe.

Isolated out by Hebe-6, Rose and Ishmael finally began to understand that life in the Belt could make one practically desperate for social connections. She could imagine how people might join together at a place like 'Renzo's Rock and be a tribe. The emptiness outside was a force that changed people, brought them back to the here-and-now where they could realize their need for each other.

Rose and Ishmael had exhausted their entire supply of JEQ over the course of the last month, in smaller doses than their first experience. They also asked Herme's permission to use various bays and compartments within the ship for their animal behavior, as he liked to call it, and they requested that he not monitor them.

They sent the results to Jane's World and then they waited. Spintech created their simulations and determined that 6-Hebe was a very solid, stable asteroid, confirming the prediction that Hermes had made shortly after completing the Hebe-6 survey. The Spintech webforum approved its use for a spinworld, but it needed a name.

Several names were suggested, but the one that was finally chosen was Rose World. Rose thought it was a dubious idea, recalling what 'Renzo had said about the naming of 'Renzo's Rock". But, people liked the name and it had caught on quickly. Before she could really oppose it, it had become the de facto name of the new home of the Spinworld.

By September 17'th, 2143, a year before Earth's dreaded encounter with Heccat, all available mining ships, every piece of digging equipment, and thousands of people were en route to or already at Rose World. The dig was underway and as material was removed it was loaded into great transport barges. The barges opened their holds and flew away from their load. It looked like the barges were giving birth to a swarm of baby asteroids. Spintech estimated the initial dig phase would last approximately a year. There was little else to do in the mean time but plan for how the interior would be terrascaped. People went wild with creative

ideas. It was a good thing terrascaping was a year off because it would take a while for the ideas to settle down into some practical plans.

Hermes and crew used the Crawford Scanner to monitor the progress of the dig. Betty and crew shuttled supplies, which meant that Hermes and Betty could connect with each other directly from time-to-time. The rest of the time they remained in contact by using time-delay direct broadcasts and by using encrypted private pages.

Everybody who could help eventually found their way to Rose World. Nobody was receiving any pay. Almost half of the prospectors and rock hunters were running supplies, equipment and escort to Rose World from all over the nearby sections of the Belt. Already there was a slow migration toward Rose World. Factories producing the materials, tools, and supplies leased the equipment for zero-down, with a balloon payment due the day after Heccat was to strike Earth. It was a clever business device, but one the managers in the Belt could hide from their superiors back on Earth with at least a shred of legitimacy. Long before it could ever support life, Rose World was already the center of life in the Belt, Jane's World notwithstanding.

People in the Belt feared for their families and friends at home on Earth and tried to communicate with them. People followed the events on Earth, but less and less clear information was coming from Earth. Earth was becoming a living hell, but it was also a long, long way away. People in the Belt were more and more absorbed with the spinworld project and the evolution of their own society. They were already doing all they could for the Earth and humanity by trying to build a new home in the Belt. Heccat made people feel lucky to be in the Belt. It was the first time some people ever felt lucky to be there. Whereas, before Heccat some people hated their lives in the Belt, now they cautiously loved their lives. Whereas, before the webforums the Belt was a lonely place, now its people were a tighter community than ever before. Before, profit had motivated individuals — now they followed a shared dream. Time would tell whether the change was the swing of a pendulum or the ratcheting of an escapement.

The final year on Earth was a brutal, wrenching experience that most people believed they could not survive. For everyone, that is, except those rare and lucky people who had been selected or had won a lottery, or were the immediate family member of someone who had a slot on an earthlift. All the slots were filled almost a year before Heccat was to strike Earth. In fact, there were a long list of alternates for each earthlift — waiting, hoping that one more flight than expected would make it. All the single-use craft that were produced had been used and all the new

earthlifts had been put into service immediately as soon as they were completed. The shipyards began new rounds of construction, but people knew they could not finish in time, unless Heccat was late. Nobody who believed Heccat would strike Earth at all believed it would be late.

India's efforts had led to the construction of four more earthlifts. They were put into service on May 14, 2144. It was a remarkable achievement because India had no shipyards for building craft of that kind. There was too much going on in the world for their efforts to be noticed until the ships were nearly completed. As a society they had done something remarkable together and nearly thirty thousand of their people would survive as a result.

There were still people all over the world who didn't even know about Heccat. There were still underdeveloped countries, with people living without basic communication with the rest of the world. There were also people who chose solitary lives — avoiding contact with others. There were people who could not understand what it meant, even if they had heard of it. There were many people whose lives were so crushed by the collapse of society that they did not care about the horror of Heccat because of the immediate horror of their own lives. The ranks of the horrified grew day-by-day. Nobody was immune.

Some people reasoned that if Heccat was going to kill them, it would; if not, it wouldn't. They couldn't prevent it. They didn't want to give up what little time might remain to sit around feeling sorry. They tried to live their lives as they always wanted to or always had. They spent time with the people they loved. They read. They wrote. They painted. They did whatever they had been deferring, because now there wasn't going to be a long awaited retirement. It was now or never for everything in life. Many public servants and human services professionals continued their work. Despite everything, people were still having babies, people still got hurt and were in pain, and people needed help. In a world going crazier every day, some people held onto what they always believed. Heccat might kill them, but it would not defeat them.

Heccat subdued some people with fear, but it set others free. For some, freedom meant an opportunity to finally live before they died. For others it meant freedom for their darker sides. They took it as an opportunity to be as destructive as they ever wanted to be. There had been individual acts of destruction and violence since long before Heccat was discovered. But a new breed of organized violence appeared after people's hopes had been crushed by the Jobalpur assessment of Heccat's size. The perpetrators of the new, gratuitous violence were collectively called destructors.

Destructors were like human fragments of the approaching Heccat. They roamed in packs, armed to the eyebrows, usually riding in stolen vehicles or in home-made assault vehicles. Police would sometimes confront a pack of destructors and an all-out battle would ensue. Destructors were usually much better armed than anyone opposing them and they placed almost no value on anyone's life. They would kill people randomly and shout "Tired of waiting?" and "Beat the rush!" just before they did so. They destroyed things just for entertainment. They had some sort of unofficial scoring system, as if the Earth were a melancholy hologame for their final amusement.

The destructors could not be stopped and their numbers increased. People who had long believed in survivalism and racial supremacy became the worst kind of destructors. They were the best organized and the best equipped. But the destructors operated in individual packs and usually relatively close to where they lived. They would destroy the city or country they lived in, but defend their immediate surroundings ruthlessly. Passers-by might simply be shot for being there, until people learned to avoid those areas.

Seven months before the arrival of Heccat, the international nuclear armada was approaching its final rendezvous position. Telemetry data was being relayed back to Earth, delayed by hours due to the distance. Surprisingly, all the technology worked and the five long strings of nuclear warheads were deployed less than one kilometer from the path of Heccat. The timing was off by a thousandth of a second, but it didn't make any difference. Heccat was deflected by only 7 millionths of a degree, not nearly enough. The telescopes left behind after the deployment and detonation sequence relayed information on Heccat from behind, now that it had shot past.

The physical data only confirmed the hopelessness of Earth's plight. The people of Earth took the failure very hard. That night there were almost twenty-five million suicides. The following day, still more. But the rate dropped after that. It had been a blow to those who held out hope and it had pushed many beyond their ultimate limits. They found their own way out of the nightmare.

Still, some people believed Heccat was a hoax, even if the pre-effects were real.

As time went on, the economy was so devastated that most people stopped accepting currency. Barter was common, but about one hundred days before Heccat's arrival, producers and sellers of food and other goods simply opened their doors and let people have what they wanted. It didn't matter anymore. Food began to be scarce and people were dying as

a clear result of the effects of just the anticipation of Heccat's arrival. The idea of Heccat was almost as lethal to Earth as the heavenly body itself, but the body would be there soon to finish the job anyway.

The horror continued. Now there were three months remaining. The destructors' numbers increased as people's anger overcame their hope. The collapse of society continued and some areas looked and sounded like there was a war going on. Here and there were pockets of people still living decent lives. They either had no destructors nearby, or had formed their own defense forces to oppose them successfully. Most people suffered from lack of supplies because many basic commodities were now unavailable. Small neighborhoods, rural communities, an apartment building, any group lacking destructors might rise to the occasion and hold out against despair together. It was rare. Destructors were everywhere: in all countries and in all cities.

There were plenty of scientists still watching Heccat's advance. The armada's failure was widely known. But after a few months, researchers in Norway announced a new estimate of Heccat's course. Either the deflection had been even less than originally calculated, or Heccat had very slightly changed course on its own for reasons that were unknown. It was a very small change, but enough to move the point of contact a few kilometers. Most people thought it was painfully meaningless information, but some were shocked and wondered what it could mean. It was most convenient to think that it was a technological snafu. Only some were bold enough to think of the inconvenient possibilities and they had little choice but to conclude that Heccat was being maneuvered to strike Earth. But even those who wondered could not imagine who would do such a thing, how or why.

The earthlifts continued to bring people to the Outer Earth. Now a stunning assembly of military and civilian defenses guarded each spaceport. Destructors tried on several occasions to destroy an earthlift, or a whole spaceport. They were always unsuccessful, because the forces defending the spaceports were vastly superior and thoroughly committed to their task of defense. Destructors quickly turned to less defended targets. They still hurt the effort to get people to the Outer Earth by attacking undefended suppliers and shipments.

There was a loose but growing culture of destructors. They seemed to like the same kinds of simpleminded, hateful philosophies, such as "Everyone gets saved or no one gets saved." and "Everyone leaving deserves to die." While even these concepts were a mental reach for some of the destructors, there were also intelligent men who filled the ranks. There were practically no female destructors.

Women were almost always the targets of destructors. Destructors hunted and raped women, but a large number of destructors met their end from women carrying concealed weapons. Destructors called armed women bees, presumably because they stung. Many men and women who had never considered carrying weapons now did so regularly. It wasn't just a matter of survival: it was a matter of not being victimized. One couldn't fight being killed by a cosmic collision, but to let some social cretin steal the time that remained was avoidable. There were some vigilante groups that tried to defend people against the destructors and they were sometimes successful. If there was a war going on, then it was between the destructors and the vigilante groups. It was an apolitical war; it was the jungle returning, with the animal de jour armed to the armpits.

Most public services were failing. The power net was usually down and water was usually undrinkable even when it was running. But most vehicles still operated and so did some important factories and buildings, since they were powered by their own emergency, atomic disassemblers. Anything that was self-sufficient survived. Everything that depended on connections between people was dying or had already died.

Time went on and now there were only three weeks left. Most people were subdued, fearful, and hopeless, or else they were in a fairly strong state of denial. Only a few people were still filled with some sense of purpose: people helping the last few flights of earthlifts take others to safety felt somehow like aging parents, setting their children free to save their lives. Doctors continued to treat patients. Hospitals that had survived the ravages of months of destructors tried to remain open and help people. Even dentists and psychiatrists continued their practices. If people were in pain and it could be helped, then there was a purpose that made sense. Almost nothing else mattered anymore but trying to get comfortable to watch the end of the world.

A specious, pseudo-scientific report suggested that if one was simply in the air above the Earth, that the worst effects of Heccat might not be felt. Most people didn't believe it, but there were some who did. They called themselves the floaters and every kind of aircraft still operating was lined up for use in the final hours. Most of the craft were private: hot air balloons, blimps and aircraft of all sorts. Many larger commercial aircraft were unusable because most of the airports had been destroyed.

The destructor violence crescendoed triple fortè. It drew mommies and daddies into the streets with handguns and baseball bats to hunt down destructors. For some a final, ironic purpose was to end the onslaught of senseless violence with some arguably more sensible violence. Many mommies and daddies didn't come back. If little Susie or Jimmy knew

where a shotgun was they might try to save mommy and daddy. To children who have lost their parents, everyone is a destructor.

It was yet another good reason to have fewer weapons than people. There had always been a comfortable denial about the danger of a weapon-saturated society. Now it was obvious why that denial was a bad idea: society was on fire. Heccat had lit the fire, but it could have been any information that people believed represented a legitimate threat to humanity. The fire burned and raged once it had been lit. Weapons spewed death and destruction while consuming the almost inexhaustible stockpiles of ammunition as fuel. The destruction brought more people with weapons. Hatred blew in the wind. The flames advanced. The bloody remains of any hope were strewn about and trodden.

If you believed in Heccat, it was a fatal situation regardless of what anybody did.

Forests were lit afire for entertainment — a grim echo of the cultural inferno. Museums, libraries and schools were torn apart and burned. There was debris everywhere in cities. The air was fouled with smoke from countless fires. Most people had stopped doing anything useful and now waited for the end. The turbines of the once modern society ground down to a halt.

Sometime in the final week, people who still cared about how they would die made their final preparations and sought out the spot they had chosen for themselves. For some it was with their families — those who were still alive. For others, it was the top of a building, or a mountain, or next to a river or the ocean. Beginning a couple of days before the impact, people went to their place of final observation. Many were disappointed to see that the special place they had selected had already been devastated by destructors or other effects, or was filled with hundreds, thousands or even tens of thousands of other people. Some people felt instinctively that they should try to find a place where they could meet their end, but they didn't know where to look. They hoped for some flash of recognition to convince them they were where they were supposed to be. Some people didn't care where they were. They planned to be drunk or drugged to a point of unconsciousness anyway.

The day before the final event the last earthlifts left for the Outer Earth. They would not be returning.

On the last day, even some of the destructors stopped and looked up. All day long, people looked up into the sky, trying to imagine what they would see at the last moment. The last moment would be at 1:14:52 and 28 hundredths in Greenwich England. That was about 5:15 am in Los

Angeles, about 4:15 pm in Moscow, about 7:15 pm in New Delhi, and 11:15 pm in Tokyo. Practically everything stopped the last day, except people moving to their points of final observation.

There is no way to describe in words the deepest, aching grief of a an entire planet of people, moments before they know they will all die. It cannot be summed up, even if every person's story were told any more than examining each thread of a tapestry would reveal the meaning of its wholeness.

When a loved one dies, we might take some solace that the world will go on, even if we ourselves will never be the same. Now, even that comfort was absent. All that might survive would be the Outer Earth and the Belt. But most people believed Earth would not survive. People grieved for their own deaths, the deaths of those they loved, the death of humanity on Earth, and the death of Earth.

Now, moments before the final event, most eyes were looking upward, searching through tears, hoping beyond reason that it would not be true. The floaters were in the air hoping or believing that they had a chance. Religious zealots and religionists everywhere were hoping their years of spiritual prostration would earn them salvation.

Then came a moment of unspeakable physical truth. Heccat arrived and passed through the earth within two hundredths of a second and a new asteroid belt was born in an act of planetary violence seen perhaps only once before in the lifetime of our solar system.

When Heccat contacted the atmosphere, it sent a wave of forces racing around the planet, but they didn't get very far before Heccat itself struck the Earth. Heccat was so large and moving so fast, that the collision sprayed matter in all directions. To Heccat, the Earth was a bubble of liquid. Heccat was a somewhat smaller ball of rock and iron. The liquid Earth exploded. The thin crust was fractured and blown out into space. The force of the explosion liquefied or evaporated most living things on earth in the first instants of the collision. The Earth and almost all her living passengers died in the same moment.

Heccat's course and composition was altered by its collision with Earth. A new layer of matter clung to its outside edge. It sped off away from the solar system slower than when it had arrived. It largely survived the impact, because it was solid all the way through, unlike the Earth. It was not unaffected though and now it was 9% smaller than before.

To Heccat, Earth was like a thin, hot, gooey film.

The explosion created an expanding, hollow cone of matter mostly centered in the Earth's original orbit, but pointing slightly more toward the sun. The cloud was the fractured Earth. There were mostly globules of molten rock and iron undulating and spinning away from the axis of the collision. Some pieces of crust survived. Much of it had been disintegrated by the impact, but there were chunks of crust with recognizable features. Fragments of a mountain of granite far from the axis of collision might have survived. There were mountain-sized chunks of crust and a few larger crust areas.

Each new fragment of the Earth began its own odyssey. Each had its own orbit and spin. Initially all matter flew away from the axis of collision, but continued more or less in the same direction it had always orbited. It was as though all the cells in the body of the Earth let go of each other and they all flew simultaneously away from a single line that went through the middle of the planet. But the fragments began to collide with each other even within the first instants of the calamity. The collision of the fragments and globules averaged their velocities and orbits — sometimes merging, sometimes caroming, but always chaotic.

The oceans and atmosphere dissolved into space as the planet they floated around ceased to exist. The massgravity of the Earth was diminishing as the cloud of Earth matter spread apart. The air and water began to expand and dissipate into the entire region of the expanding cloud of Earth matter. Chunks of ice from the polar caps sublimated directly into water vapor when they were exposed to direct sunlight. The smaller globules cooled first and became solid. Larger globules glowed brightly orange or red and some would still be liquid and undulating for days or weeks.

There were also pieces of trees and buildings and vehicles thrown out into space. Some of these were destroyed when they came into contact with molten rock globules. Some survived though as the cloud spread and cooled. It would be a long time before very much of the matter would converge, but it eventually would and the new Earthspace asteroid belt would grind against itself, with conflicting orbits and velocities. The smooth round rock neoasteroids would become broken fragments through a chain reaction of collisions that would last until the sun consumed them all in its own death millions of years later.

In moments, Heccat had transformed the Earth from the most life-friendly planet anywhere in the known parts of the Galaxy, into a place where life could not possibly survive perhaps ever again.

The fate of the moon depended on its direction of orbit at the time of the collision and the behavior of the matter cloud. The cloud distributed

quickly enough that the moon began to slip free from its original orbit within minutes. But it was still orbiting the sun. As luck would have it, it was moving slightly away from the sun at the time of the impact. So its initial orbital motion took it away from the sun. That condemned the moon to a more elliptical orbit, where it would cross the orbit of the neoasteroid belt repeatedly. It would be subjected to a series of devastating bombardments. Possibly, if there were collisions with one of the larger fragments of Earth, the moon might be torn apart too and give birth to yet another swarm of neoasteroids. But it would probably take thousands or millions of years before it happened.

For now the Earth continued its silent, unrelenting explosion. It would seem that it would be a long time before even meaning could survive within the original Earthspace. Nonetheless, there were more than a few research craft observing the catastrophe, recording information for the future, from a safe distance.

Most of the research vessels were studying the aftermath of the collision. The crew of the Annabelle was specifically studying Heccat, its composition, final approach and any matter that might be trailing it. Its captain, Susan Mercer, and a team of a dozen scientists were in the middle of monitoring measurements they had planned for months and which they knew in every fiber of their body they would never get a second chance to collect. Despite the obvious tragedy before them, they were all so absorbed by the work that only a few tears were shed among them.

Susan Mercer had been a career military aircraft pilot on Earth and had been in some real air combat with smugglers of various sorts and with rogue corporations waging private wars. She'd retired early after burning out in the bureaucracy to which her promotion inevitably lead her. She respected people who were willing to fight for what they believed much more than those willing to send others to fight for convenient ideals or to protect government profits.

Julie Armstrong was one of the scientists on the Annabelle. She was a graduate student from New Eden. She had almost completed her thesis on the origin of life in space before Heccat had been discovered. She was the low person on the totem pole though since she neither finished her thesis nor received her doctorate degree. She didn't mind. She was operating a multispectral telescope and observing the space behind Heccat. She was looking for bits of matter and gasses that were either ejected from Heccat, or carried along from previous collisions by its gravity.

Julie would have liked to watch the demise of Earth, but she had a job to do and she took it very seriously. An hour after the collision she was

surprised to discover indications that a clump of debris was following Heccat's path toward Earth.

"That's odd." She said aloud to nobody in particular.

Captain Mercer had nothing really to do until the ship was ready to depart. She had been watching the end of her home world and although her expression never changed, her cheeks were stained with her tears. She could not relate to the scientists aboard her ship; their detachment alienated her. She floated over to Julie's station to watch what she was doing.

"What's odd?" Susan asked.

"Huh? Oh, well, there are some small objects following the same course as Heccat, but they are going much slower."

"More debris?" Susan speculated suggested.

"They're going much slower on almost exactly the same course. See?" Julie repeated herself, thinking the captain must not have heard.

"Yea?" Susan asked.

"So, do you think they both left from the same position long enough in advance to arrive here just an hour after Heccat? Given the huge difference in their speeds, it either means that Heccat would have had to pass through them or they slowed down recently." Julie asserted.

"Maybe they were drawn along by Heccat's gravity?" Susan asked.

"No. Can't be. Their relative speeds are so far apart that Heccat's gravity could never have fixed their course so closely to its own." Julie stated with certainty.

Susan stared at Julie and Julie stared back at her. A mild curiosity transformed in moments into a heart-pounding hyper-awareness of the moment. "What the hell are they?" Susan asked with alarm and several of the other scientists raised their heads from their workstations and looked up, down or over at the two.

Julie began issuing verbal commands to the telescope and it focused in on the object. "Telcon magnify plus 50. Telcon magnify plus 20. Telcon magnify plus 10. Telcon magnify plus 10. Telcon track constant velocity object." They saw the outline of the object in red and orange against a

black background punctuated by passing stars. As they watched the object moved out of the left side of the holodisplay.

“My god... they’re slowing down.” Julie looked up and saw that everyone in the ship was now gathered around her workstation. They all began to speak at once but Julie ignored them. “Telcon find last object. Telcon track decelerating object. Telcon transfer display to ship’s main holodisplay. Telcon set maximum enhanced magnification.”

Everyone turned to look at the main holodisplay which projected into the center of the research bay.

“*What are those?*” Susan practically yelled.

Everyone shot back to their stations and abandoning their current work they trained their instruments on the objects following Heccat’s course. They spoke aloud as they discovered more.

“They’re electrically conductive and emitting electromagnetic energy in several spectrums.” Said one scientist.

“They’re slowing at a rate which will bring them almost to a halt when they reach Earthspace.” Said another.

“There are thirteen objects ranging in size from a hundred meters across to about seven hundred meters.” Said someone from across the bay.

“They’re composed of a large variety of metals and silicates. This is way too complicated to be a rock, folks.” Someone else said.

Susan floated down into the center of the research bay, within inches of the holoprojection. She reached out as if to touch the image before her. What are they? She asked quietly to herself. Then she furrowed her brow, turned around and maneuvered back to her own station. She opened a communication channel to the other research vessels and to the facilities on New Eden that were monitoring their work. “This is captain Mercer of the Annabelle. We’ve discovered something... something remarkable. Please access our primary datafeed. I...” She stopped. Several of the scientists were staring at her, seeming to say with their eyes what she feared might be true. She decided that discretion was the better part of valor and continued. “Standby, I’ll update you as soon as we know more, Mercer out.”

Julie continued to observe the holodisplay at her workstation and began using some of the other spectrums available to her telescope. Infrared images showed that the objects were very much warmer than the space

around them. A gravimetric image revealed a gravity field around the objects which couldn't possibly be explained by their estimated mass. A microwave spectrum revealed that there were an increasing number of complex, highly directional beams of microwaves flitting between the objects, seemingly randomly.

Then it hit her. "They're talking to each other!" She exclaimed and again everyone's attention was focused on her.

"At their current rate of deceleration they'll reach Earthspace in... five... days..." someone said from across the bay and their voice trailed off at the end.

Everyone's hearts were pounding, ears were ringing and breathing was quick and short. The tension floated in the air like smoke.

Two of the other research vessels remaining in Earthspace joined the effort to learn more about the followers of Heccat. One more set an intercept course and accelerated at full thrust. They would reach the cluster of objects in two days.

Hours later, Captain Mercer watched the image of one of the objects. It appeared now to have faint scoring around its surface. The scoring was regular, almost as if the surface was covered with scales of a mostly similar size. The object was in the shape of an old-time, American football, spinning slightly on its long axis that was also the direction of motion. The object was far too regular in shape to be a natural physical phenomenon. What are they? She repeated to herself, half-mystified, recalling that there were over a dozen of them.

By now nearly a hundred scientists in Earthspace were watching and sharing the same shock. Many speculated that this was humanity's first glimpse of extraterrestrial life. That was shocking enough for the moment and the ramifications were barely on the horizon of most people's thoughts. However, everyone who learned about the followers suspected that there was some connection between their appearance and the arrival of Heccat. Perhaps they could have previously accepted that Heccat was a tragically unfortunate natural phenomenon. The followers by their very existence cut the last thread supporting that acceptance. The only conclusion remaining seemed to be that Heccat had been no cosmic accident at all, but a deliberate act. Earth had been murdered.