

Where Gravity Sleeps

1 - Finder

“You two look so serious! Here’s something that might change your mood. This came today for you Ian.” His mother held out an envelope. Ian’s high school sweetheart, Helen, recognized that it was from CSSI by its blue-gray color and the seal in the upper left corner. She’d received one three days earlier. She held her breath, staring at the envelope. Ian took the envelope and stared at it too.

“Its from CSSI.” He said, and continued to stare at it. News of Schrödinger’s cat was in the envelope, but was it dead or alive? Until he opened it, he would be in one world, where he didn’t know if Helen and he would be able to stay together. After he opened it, he would know one way or the other. He had applied to CSSI and this was either an acceptance letter, or...

“Aren’t you going to open it, Ian?” his mother asked.

Ian hesitated. He looked into Helen’s eyes for a few more moments and held her hand. Then he opened it. He started to read the short letter aloud.

“Mr. Ian Macbeth, we are pleased to...” He shrieked in joy. “We are pleased to inform you that you have been accepted to the California Space Science Institute, for the school year starting in September, 2142. We are also pleased to offer you a scholarship...” Then Ian read silently for a while. Then he said, “I’m in... but I’m going to have to take out a student loan and work while I’m there. *But I’m in!*” He and Helen looked at each other. Tears began to well in both of their eyes. It wasn’t their style to jump up and down, but their hearts were.

“Congratulations Ian! I’m so proud of you”. His mother beamed. Then she noticed how Ian and Helen were looking at each other. She patted Ian on the shoulder, touched Helen’s hand, then turned around and went into the house.

They embraced and kissed and cried. Their lives were not going to be torn apart after all. The tension of months of fears now came rolling out and they didn’t try to stop it. It was half an hour before they came inside. Their eyes were still red. But they were happy and unusually talkative during dinner.

Their terror evolved into wonder. Within a few days Ian and Helen were making their plans and wondering what CSSI would be like. Their senior year was easy to finish up and the summer arrived quickly.

Their graduation had been anticlimactic. They graduated along with 600 other seniors. Many of the best students had won scholarships to universities, but only two students were accepted by CSSI, and everyone knew who they were.

It was a glorious summer for the two. Helen and Ian eloped, even though most of their friends advised them to wait. They still lived at home for the summer, because they would be moving to CSSI in the fall anyway. They saved their money and reveled in the freedom of a summer with no classes. They savored their time together, because they knew free time would soon be a luxury.

Helen became ill toward the end of the summer. At first she thought it was food poisoning, and then the flu. But when her nausea continued into a second week she had seen a doctor on a warm Monday morning.

When Helen returned from her doctor's appointment she collapsed on her bed and lay there motionless.

"What did the doctor say? Are you OK?" Asked Ian.

"I'm going to be fine." She said flatly.

"Can I get you anything?"

"No." But she sat up and looked around the room, almost desperately. Then she smiled at him. Then she frowned. Then she smiled again.

Ian had never seen so many emotions cross Helen's face in such a short time.

"Are you mad at me for not taking you to the doctor today? Because I thought you said you didn't want..."

She cut him off. "I'm not mad at you." But she wasn't looking at him.

"I'll bet you're feeling sick then. How about if I leave you to rest?"

"No! Don't go!" She almost shrieked and grabbed his arm.

"OK! OK. Sweetheart! What is wrong?" He held her eyes in his gaze until she finally looked at him.

"Ian, do you remember that day when Marty O'Neil hit me with his paper airplane and you jumped up and challenged him?"

"Yea?"

"I fell in love with you that day." She said simply.

“Uh-huh, you always were slow on the uptake... I had a crush on you all year and you finally notice one day when...”

He stopped making noise when the pillow she had expertly wielded connected with his unsuspecting face. Instead of the rest of his sentence, his body made more of a falling-over-onto-the-bed noise.

“Ian, I’m glad you’re my partner.” She removed the pillow from his face, kissed his surprised face, and pulled him closer.”

“Yea. I remember.”

“I’ll always love you for that. You stood up and risked yourself for me. You defended me when I wasn’t ready to defend myself. I’ll always love you for that...”

“So, did the doctor say how long this nostalgia attack would last? Is it contagious? Because, I think school was unpleasant enough the first time I...”

This time he was able to block the pillow so that instead of the rest of his sentence his body made more of a “grunt-ouch-’Hey, Stop that!’-grunt” noise followed by a sliding-backward-off-the-bed-and-landing-solidly-on-the-floor noise. He basked for a moment in the overwhelming success of his blocking skills. Then he made a few more grunting noises as he righted his body and looked up to see Helen’s beautiful face staring down at him.

“Are you ok?” She asked.

“I’m going to be fine.” He said flatly and stared up at her, trying to sound exactly like she had at the beginning of the conversation. “Are you going to tell me what the doctor said?” Then he climbed back onto the bed.

“Yes.” She was obviously thinking overtime as her eyes darted here and there.

He climbed back onto the bed. “Is it about that weird dark spot on your leg? He asked smoothly.

“What dark spot?” She looked down but instead of her leg she saw the end of his pillow strike her stomach. The pillow broke and feathers exploded into the air and rained down on them. They both started laughing and coughing and rolled onto the floor on opposite sides of the bed. Soon they were howling with laughter. The feathers covered everything. They laughed until they hurt. Then they crawled back onto the bed and held each other.

“Ian?” Helen gasped. She was out of breath from laughing so hard.

“Yea?” Ian was trying to stop giggling.

“We’re pregnant.”

Ian was shocked... “What? How?”

“Well, see the man has these little seeds and...”

“I know how it works! I mean... we almost always use *protection*.”

“Yea, well it’s that *almost* part that got us, I think.”

“But, what are we going to do?”

“We’re going to have a baby.”

“But, CSSI... I mean, what are we going to do?”

“We’re going to be parents. CSSI must have married students with children. People have babies, you know?”

“Yea, but that’s them — this is us!”

Hundreds of new freshman arrived at CSSI each year. Their eyes were darting; their hearts were rushing, fearful, and bursting with energy. While young looking, most were so intellectually focused that it made many people unfamiliar with CSSI uncomfortable. It was the week before school would open and each day hundreds of students would arrive from different parts of the world. The freshman class had over a thousand students most of whom were used to being the very best in their own school. Most of them would have to learn what it was like not to be the best, and for some it would be a more difficult lesson than the schoolwork. Historically, about one third of the freshmen ‘flamed out’ before their senior year.

CSSI was a four square mile campus filled with mostly ugly concrete, glass and steel buildings. It had a reputation for being one of the toughest universities anywhere. It was a place where brilliant kids went to become brilliant scientists. The school was widely known for excellence in their schools of space and computer sciences. They also offered degrees in all the standard fields such as physics, math, biology and chemistry. But by far, CSSI was best known for their school of space industrial sciences, including space station design and construction. Christopher Floyd himself, designer of the Floyd bubbles, had lectured there as recently as ten years before.

Ian and Helen were tired from traveling to the campus — a journey that had taken them almost a day. They had slept little the night before. They walked to

the administration building holding hands. There they applied for and received a small, shared room. It was easier for them to get on-campus housing because CSSI had reserved housing for married students and there weren't very many of them. Ian discovered he'd been assigned a job within the school of astrophysics even though he was a cognitive computer science major. He'd be cleaning telescopes instead of brainrooms. CSSI only promised him a job, not a relevant one. Helen didn't need to work because she'd won a full scholarship, but she knew she'd have her hands full being pregnant and trying to be a student too. Her pregnancy wasn't showing yet and they hadn't told anyone at CSSI yet either.

It took most of the day to register for classes and work through the admissions, housing and insurance paperwork. When it was finished they were exhausted. They ate dinner and then found their new home, a room on the 18'th floor of a dreary looking 22 floor concrete monolith. CSSI had no school of architecture. It was a school of technology and space science. At CSSI, function was deemed supreme. Nobody ever went to CSSI for a literature or art degree.

They opened the door and stood in the doorway looking at the tiny room. There was a kitchen on one wall and a desk on another. A bed in the corner occupied about half the room. There was a door on one wall and they perked up when they noticed it, hoping for another room. It opened instead into a small closet with a dresser inside.

"The Taj it's not." Helen said sleepily. "But, it's ours." She smiled and they kissed, crawled into bed, and fell quickly to sleep.

The next morning they were unpacking their bags, when Ian said "This is so amazingly cool -- we've finally got our own place! I don't care if it's small."

"Me neither." She looked around. "It's got an all-in-one stove and a fridge. Sink. Mirror. This is all we really need."

"Yup." He nodded vehement agreement.

"Hmm. Hunh." She said trying to smile.

A few thick moments passed and then Ian blurted out "It's so small its gonna drive us batty!"

"Two weeks, tops."

"Well, what can we do about it?"

"Learn how to hang from our feet?"

“Maybe we’ll get a bigger place when they find out that... we’ll need room for three.”

“Maybe...” she looked worried. “I hope so. In the mean time, lets get out and find out what’s around.”

Then they went out to explore the campus and meet people. They made friends with their neighbors and found the buildings where their classes would be held. They bought their books and a few other supplies. During the next week they attended a few orientation presentations, and some parties, but they spent as much time with each other as they could, sensing that when classes began and her pregnancy developed their private time together would all but vanish.

The school year began with an alarm that went off too early in the morning for their likes, but they made it to their first class on time. They had some of the same classes.

They both struggled with the volume and complexity of their schoolwork, but they managed to keep up. Helen checked in with the school physician; she told him about her pregnancy and asked a lot of questions. She gave lots and lots of answers, some blood, and a good deal of time she would have preferred to spend on her work.

She came back to their apartment to find Ian with his head down over his work. “Hi sweets. Whatcha workin’ on?” She asked.

“Physical chemistry...” he said distantly.

“I went to the school doc today. I told him about it.”

“Yea? How is it?” He said automatically.

“It’s green and has horns.” She said matter-of-factly.

“Yea? Wait. What?” His attention abandoned his homework like a roach when the lights come on.

“The school doc said that we’re gonna have a baby.”

“News flash!”

She stuck out her tongue. “I had to give blood.” She pouted.

“Oh, honey, I’m sorry.” He got up and hugged her.

“That’s better.” She said.

“Do you need anything?”

“My bag.” She said quietly.

“Your bag?”

“Yes.”

“What for?”

“I can’t very well pack up to move into our new, bigger apartment with out it.” She smiled.

“Well! Can I get you anything else? Maybe the keys to a new car or, how about the password to a new Thinkbox 7?” He asked hopefully.

“It doesn’t work that way.” She said, feigning annoyance and then sticking out her tongue again. “You little snot!” She added as an afterthought.

“Too bad. Just the bag then?”

“And your bag, too.”

“Why, do I get to live in your fancy, deluxe apartment too?”

“No, I’m just planning to pack badly and I figure I’ll put the excess in your bag.”

“Oh! You little...” is all he managed to get out before they were kissing passionately. When he had a chance to breathe he tried to speak. “I need to... physical... chemistry...”

“Yes, yes and yes.” She replied and they lost track of time for a while.

For Helen, school was hard work, made harder by her pregnancy. She had always prided herself on her independence, but now she needed some help, and she didn’t like it. Before she knew it, her body was going through dramatic changes. Her emotions battled her intellect. She tried not to harm Ian, but there were times when she was unkind. He tried to understand what she was going through as best he could. Many times he would choose to say nothing, but held her instead. It usually made things better.

A month into her third trimester of pregnancy, Helen was beginning to have problems keeping up with her schoolwork. She’d become very uncomfortable and that sometimes made it hard to study or even think straight. Ian helped her

with the classes they shared, but there were three they didn't share. She had only three weeks left to the end of their quarter. She desperately wanted to finish her classes. Then she'd have a final month of pregnancy with no school work.

She struggled. they struggled. It took a big toll on them both. Each day was a trial from beginning to end. On this day, March 18, 2143, Ian awoke as usual at 6:00 AM to go and clean the telescopes in the Ingersoll observatory. When he arrived there, he found a note in his mail slot. It was unusual, because nobody ever even noticed him there. Nobody ever said anything to him, or passed along any information to him. He was a high-tech janitor and they treated him like one. He read the note.

Mr. Macbeth, please report to me immediately regarding your work here at the observatory.

Dr. Robert Highland

Dr. Highland? What's he want with me? Ian wondered. Dr. Highland was an influential and vocal astrophysicist. *Maybe he's noticed my good work*, Ian hoped.

Ian found Dr. Highland's office. He knocked on the professor's door — maybe a bit too quietly. He waited a moment, but there was no answer. He started to knock again a bit louder, but a voice inside said "Come in" just as he began. Ian already felt foolish and he wasn't even in the professor's office yet. He opened the door, went in and stood there silently. Dr. Highland had bushy eyebrows and thick mustache made him look vaguely like Albert Einstein.

Dr. Highland wasn't nearly as nice as the man he resembled though. "Yea? What do you want? I'm busy." He barked.

"Sorry to bother you sir, but you asked to see me?" Ian held up the note.

"Oh, you're Macbeth? Sit down. You've caused me quite a bit of trouble young man!" Dr. Highland said severely. "You know, we expect you to do a high quality job cleaning the big mirror. If that's too hard for you we can find you something else to do, like flipping hamburgers in the student union."

"Sir? Did I do something wrong?"

"Did I do something wrong?" he mocked. He shuffled through dozens of sky images on his desk and brought one forward. "See this? Ok, here's the same piece of space the next day. See!" He said it as though the images were of Ian caught in the middle of a bank robbery.

"They look the same to me, sir. What's wrong?"

“What’s wrong? What’s wrong? Look at Cassiopeia? One day it’s fine, the next day it’s distorted? What do you think causes that? Hmm?” He seemed more furious for Ian’s innocent behavior.

“I don’t know.” Ian said quietly.

“I’m not surprised. It’s caused by a dirty mirror, boy! And that’s where *you* come in. It’s *your* job to keep that mirror *clean*. We can’t use any of the data we got that night because of this. We don’t know what other distortions there might be in the data!

“I’m sorry sir, it won’t happen again.”

“It already *has* happened again! Look at these!” He practically threw a handful of images at Ian. Each had coordinates in orange numbers in the lower right. Dr. Highland continued his assault. “For the last week the mirrors have been dirty and have spoiled our research. Now my project is being reviewed! Now I have extra work to do to prepare for that review and I was already behind schedule! *You did this to me*. You were too careless to clean the mirrors properly.” His accusatory voice penetrated deeply, and he was yelling.

Ian looked at the photos, but couldn’t think of anything to say. He looked up at Dr. Highland who was now scowling.

“If there is one more day of dirty mirrors, you’re flippin’ burgers fer sure, boy. *Is that clear?*” Dr. Highland was obviously practiced at delivering scorching criticism. He was opportunistic too, and this was a prime chance to deliver a righteous upbraiding.

Ian nodded his understanding, and backed out of the door, never taking his eyes off of Dr. Highland. Then he shut the door, still facing it, with his back to the hall. He knew he had cleaned the mirrors just as well last week as any other week and there had never been a problem before. It seemed strange that every day that week there was an anomaly. He turned around to leave and was startled to see Dr. Arnie Rosen, another very influential astrophysicist standing right behind him. Ian gasped and dropped the images on the floor.

“He’s an *asshole*. But he was in rare form today. He’s forgotten that this is, above all else, a place for learning. I’m Arnie Rosen.” He held out his hand.

“Ian Macbeth”. Ian shook his hand and then stooped over to begin picking up the images. Arnie got down on his knees to help. Ian tried to remember where he’d heard Arnie’s name before.

“I used to clean the mirrors on the big 'scope. Why don't we go down together and see what's wrong? I'll watch what you're doing and see if there is something you're missing.”

It was a gracious offer and unexpected in this harsh, sterile institution. It had been a long quarter. Ian had been struggling to remain strong. He was taking care of Helen more and more now. She couldn't offer him much support in return because she was in the midst of her own struggle. The juxtaposition of Dr. Highland's harsh judgment and Dr. Rosen's kindness brought Ian's emotions out. He felt a lump in his throat. He nodded his acceptance of the offer but could utter no words.

They climbed into the inner structure of the telescope. Ian began to clean the mirror while Dr. Rosen watched. It needed to be cleaned daily because it was impossible to keep all the dust out of the antique telescope room. Even a tiny speck of dust on the 108-centimeter mirror would affect the highly sensitive optical receptors of the scope. He worked with care and cleaned the mirror as usual.

“Looks good to me. I don't think I ever did it as well as you do. I'm sure tomorrow will be fine, Ian.” Dr. Rosen assured him.

“Thanks Dr. Rosen.” Ian said.

“Call me Arnie. My office is on the third floor. Drop by any time.” He said.

Ian returned home. He wanted to tell Helen what had happened, but Helen didn't need more problems in her life. Ian began to prepare a small dinner for them. He grabbed the carton of milk and the carton of eggs. He put the milk down, but as he was reaching out to put the eggs down, his finger struck the counter top and he dropped them. They fell in what seemed to be slow motion as he and Helen watched. When they hit the ground several broke and began to ooze from the carton onto the floor. Ian looked at Helen, to see what her reaction would be. She was already tired and she snapped at him “Now look! They're all broken!”

Ian thought about mentioning that some weren't, but he let it pass instead with only a weary sigh. Then she began to weep and said repeatedly “I'm sorry, I'm sorry.” Ian went to her and held her while she cried. She held him tightly and whispered, “I'm sorry” between sobs.

She regained her composure and sat back down to continue studying. Ian cleaned up the eggs and then made cheese sandwiches instead. They ate them quietly and studied together for a while.

They had only a week of classes left and then it would be finals week. It seemed like an eternity, but in less than 400 hours they would be done with the school

year. Then she could have the baby. She knew she would make it through this time somehow, but it was hell right now. They had arranged to stay at the campus and take the next quarter off. CSSI was extremely hard to get into, but once you were there, they made sure you had what you needed to succeed.

The next day Ian returned to the Ingersoll observatory and found another note in his mail slot. He read it:

“You’re incompetent. You’re fired.”

It was signed by Dr. Highland and it was stapled to two images of space. On one of the photographs, a star was circled. On the other, the star was missing. Ian was shocked. It was the first time he could remember actually failing at anything. Things didn’t always go the way he wanted, but he’d never been fired for incompetence. It hurt. It hurt like he had let everyone down, even though he knew it really didn’t matter in the scheme of things. But it hurt anyway. He couldn’t understand why he had failed and that in itself hurt too.

He took the note and the images and went home. It was still early in the morning and Helen had woken just before he returned.

“What are you doing home, love?”

“I...” He stopped and stared at her.

“What? What happened?”

“I got fired today. I guess I wasn’t doing a good enough job. I dunno...” He looked down.

“You what? Will you tell me what happened?”

He explained the events of the last couple of days. She took it well.

“That pinhead professor Highhead fired you? Did he even check to see if there was any other explanation?”

“It’s Highland, not Highhead. Other explanation? What do you mean?”

“Yes, like maybe the image scanners are bad, or there’s a bad memory chip or something. The mirror isn’t the only possible source of the problem is it?”

“I, uh. I don’t know what he did. I just accepted the fact that it was the mirror. He seemed pretty sure.” He shuddered at the thought of questioning Dr. Highland about anything.

“Did he explain why he thought it was the mirrors? Did he have any evidence?”

“Yes.... see these?” He held out the images. “See how on consecutive days different stars are distorted? He said it was because of the dirty lens...”

“Every single day for a week and a day? After months of no problems at all?” She asked, and her skepticism was an arrow that flew true to the mark of his willingness to accept judgment from authority.

Ian’s brain started working again as he realized that she had a good point. It was statistically unlikely that the errors could be due to his cleaning technique. It was all the more unlikely because Dr. Rosen had observed his technique the last time. “So, what else could it be? I don’t know how the telescope works and they won’t let me back inside anyway, because I got fired and all...”

“Well, maybe you can discover a pattern by looking at the photos. You could start with that.” She suggested.

“Next week is finals, love. I’m pretty busy.” He said modestly. *I really don’t care anymore why I was fired*, he told himself. *That’s bullshit* was his internal reply.

“Well, you can use some of the time you *won’t* be at work to figure it out then.” She replied.

It was a blessing that he had been fired just before the end of the quarter. Now he would have more time to study. They would survive a couple weeks on savings and Helen’s scholarship. The school was providing all of Helen’s medical support and it included different food than the freshman usually had. So they were saving a little more money since they only needed to buy food for Ian.

The next day Ian decided to spend a couple hours and search for a pattern in the image defects. He first sorted the images by where they fit into the skyscape. He was surprised to find that they were all in a narrow region. He programmed some calculations and plotted a graph. He discovered that there was indeed a pattern. He performed some more calculations and finally programmed an elaborate holographic simulation. He started it running and then he ran to his first class of the day. He knew it would take a few hours for the simulation to run to completion. After class, he picked up a copy of the results, but didn’t have time to review them. He raced to his next class. After that was over he went home.

“Did you find out anything Ian?” Helen looked like she was in real pain.

“I did, there’s a pattern, but I don’t know what it means yet. I programmed a simulation and I was going to look at the results tonight. I have them right here.” He held up a huffcard that contained all his investigation work and the simulation results.

She motioned for him to come over by her. She looked miserable. He sat by her. She'd been working all day, preparing for next week's finals. Despite being just over eight months pregnant, she was still in school, cramming for finals week. She was only 20 years old. Ian loved her for her strengths and for her goodness. Right now she was at the edge of both.

"Look at them, Ian... Find out what happened." She yawned, "I'm going to try to sleep." He tucked her in with a kiss and then he sat down to review them. He plugged the huffcard into their room's schoolweb console. The simulation had determined that an object at least 1000 kilometers across, traveling at approximately 8% of the speed of light would cause the interference with the images. The simulation indicated the object's distance and direction of travel. It was about a trillion kilometers away. Its course would take it somewhere within the solar system; however, because of the distance and steep angle, the margin for error was relatively high, so it wasn't clear where in the solar system it would pass.

Then Ian began studying and worked late into the evening. By the time he stopped for night it was late and Ian was tired. But he was relieved because he knew that he hadn't failed after all. What is more, he had discovered a new interstellar body, right under the upturned nose of Dr. Highland. Tomorrow would be a good day he thought and he nestled into bed with Helen, who was sleeping fitfully.

The next day he returned to the observatory. He waited until one of the staff opened the door and he went in too. He no longer had the privileges to open the door since he didn't work there and wasn't in a class there either. Not all of the staff knew that, however, and many of them at least recognized him. He found his way back to Dr. Highland's office. He knocked boldly and heard a distracted and slightly annoyed "come in" through the door. Ian went in.

"Dr. Highland, I know why the images were defective! I know why the stars were missing!" He said proudly.

"If you've come back to beg for your job, MacBeth, you can forget it. I don't have any time for your excuses. Good-bye." Dr. Highland summarily dismissed him with a cute, swirling motion of his hand that signified *turn around and go out the way you came*, followed by a sweeping motion, like he was brushing dirt out of the door.

"But you don't understand, I did an analysis and found an object. It's..." Ian started to explain.

"...on the mirror. It was dirt, right? Did you spend *all day* on that analysis?" His sarcasm was harsh and childish.

Ian decided not to let it affect him. “Sir, the outages are not caused by dirt on the mirror!” Ian said angrily. “They are caused by an interstellar object, traveling toward our solar system at about 8% of the speed of light.”

“Well, well, well. Look who’s an astrophysicist *now*. You didn’t even have to bother *graduating*, did you? Maybe by the time you do graduate, *if you ever do*, you’ll learn how to perform an analysis correctly, so you won’t be wasting my time!” He shouted. “Now get the hell out of my office before I call security and have you *thrown out!*”

Ian looked at him in shock. Dr. Highland wasn’t going to listen and he wasn’t going to look at the simulation results either. Ian knew it. There was no point in fighting Dr. Highland. Ian made a grunt of utter frustration, then he turned and left.

He went to the third floor and found Arnie Rosen’s office. Arnie wasn’t there. Ian had to leave for a class soon, so he wrote Arnie a note:

Hi, Arnie, I don’t know if you know it, but Dr. Highland fired me yesterday because the mirror was not clean again, at least, according to him. I have done some calculations and I ran a simulation. The results are here on this huffcard along with the images on which they were based. I think they reveal a new body in space. Dr. Highland won’t listen to me and won’t look at my analysis or the results of the simulation. I know you guys are always looking for something new in space to name. You can name this one yourself, if it really exists, but make sure Dr. Highland knows the mirror was clean all the time.

Thanks again for your help yesterday.

Best regards,

Ian Macbeth

He left the note on Arnie’s desk and then went to his classes.

It was Friday — the last day of classes. Next week was finals week. He and Helen just needed to make it through one more week. That was the limit of their horizon. They weren’t even thinking about what would happen next. *Just got to get through finals week...* he thought numbly.

They crammed. They worked all weekend. They slept a little, ate a little, and worked some more. They were so weary of the work, but they kept at it. Nothing in high school had ever been this hard. Helen behaved as if she had gained a

second wind, but Ian thought it might be an act. He was wearing out. They both had dark circles under their eyes from too little sleep and too much stress.

Monday came and they each took their first finals. Ian had one that day, two on Wednesday, one on Thursday, and two on Friday. Helen had some of the same finals, but she had only one on Wednesday and two on Thursday. They were studying Monday night when they heard a knock on their door. Dr. Arnie Rosen had come for a visit. Ian had blocked the events at the observatory out of his mind while he was studying for his finals. He was surprised at the visit. He recovered and invited Dr. Rosen in. There were other students in the hall watching. It was *extremely rare* for a professor to visit the dorms. Before he closed the door Ian heard the other students speculating on why the professor had come to visit them. "Maybe Ian's in trouble? I heard he got fired from Ingersoll." was the last thing Ian heard before the door closed.

"What can I do for your Dr. Rosen?" Ian asked politely.

"Its, Arnie, remember? Is this Helen? Helen, I'm very pleased to meet you. Ian is a very special young man, did you know that?" He smiled pleasantly.

"I do." She smiled. "What brings you by on a school night Dr. Arnie?" She asked a little more directly than she'd wanted, but she was tired and they needed to work.

He laughed and Ian was smiling, but Helen didn't get the joke. "No. See, it's Dr. Arnie Rosen, but I prefer that you just call me Arnie. See?" He smiled. "Look, I'm sorry to bother you both, but Ian, you've created quite a stir over at Ingersoll."

"Again? Shit, I don't even work there anymore..." He muttered.

Now Arnie became very serious. "Ian, I double checked your calculations. Then I programmed my own simulation. I confirmed your results. I couldn't believe what I saw, so I ran it past a colleague of mine, Dr. Elizabeth Ashford. She performed her own original analysis and it agreed with both of ours."

"So the mirror was clean all along, eh? Won't Highland be thrilled?" Ian said with some disgust.

"Dr. Highland doesn't matter any more, Ian. You can trust me on that. The body you found is indeed moving toward our solar system. It will be nearby in about eighteen months if nothing alters its course. This is a huge event in the world of astrophysics. This body doesn't conform to our understanding of interstellar objects at all. There is a meeting tomorrow morning to discuss how to research this phenomenon. As its discoverer, I think you should be there." Dr. Rosen's voice was very serious. He waited patiently for Ian to respond.

“I don’t want my name on it. Can’t you just take credit for it? Leave me out of it, OK?”

“No, I won’t take credit for it, Ian. But I will name it if you wish. I think you should be there, even just to watch.”

“I have to study for finals. I have a test Wednesday morning.”

“You must choose what is best, of course. If you come, you will see Dr. Highland embarrassed and quiet. He will have to apologize to you. That might be satisfying for you.”

“No, it wouldn’t necessarily mean much. For his apology to mean something to me, he’d have to be able to understand why what he did was wrong.”

“I think he understands better now. He had under his nose the single most important astronomical discovery in recent history, and he missed it. He knows now that he wasn’t doing good science. I described his failures to him in some detail.” Arnie’s smile was subtle but powerful. Ian wished he could have heard that explanation. Ian admired the brilliant, fair, and eminently humble man that stood before him. “He doesn’t hate you Ian, despite what you might think. If you come, then when he apologizes, you’ll see that his experience with you has changed him. The conference will only last about an hour. I’ll bet you could use the break anyway.” He suggested.

“OK, I’ll be there, Arnie. And thanks. Thanks for everything. But, I don’t think I want you to identify me as the one who found it, OK? See, I just don’t want the distraction right now.” He put his arm around Helen. “I have more important things to worry about than some rock a trillion kilometers away.”

“Well, it isn’t possible anymore to protect your identity, but I will ask everyone participating at the conference privately to try to keep your name out of the proceedings as much as possible. Your name has already been associated with the discovery in the official papers we filed to register the discovery in the scienceweb. I’m sorry, Ian, But I don’t think this will necessarily interfere with your life... unless it interferes with all of our lives, that is.”

Ian looked puzzled; Helen looked too tired to care what Arnie meant.

“If you come tomorrow, no doubt it will all make sense.” Arnie said reassuringly but his face still looked worried.

They shook Arnie’s hand. Then he left. Ian and Helen looked at each other. Ian sighed and shrugged and then they returned to their studying.

Ian went to the meeting the next day. He stood on the perimeter of the room by an exit. There were rows of chairs surrounding a main table in the front of the large room. People who had assembled to observe and take notes were standing among the chairs. The only people at the table were the top astrophysicists at CSSI. They would discuss the possibilities for researching the phenomenon. Arnie was there and so was Dr. Highland. Ian recognized only a few of the other faces, but most of them were old. Ian waited while the crowd settled in and the meeting was called to order. Nobody took notice of him, except for one professor who asked Ian to get him a cup of coffee. Ian did — it gave him something to do to offset the stress he was feeling.

Arnie stood up and started the meeting.

Thank you... yes, please take a seat...Thank you for attending this hastily arranged conference. We're here today to discuss a new phenomenon that has been named Heccat. We have two separate simulations and analyses that corroborate each other and comprise all that we know so far about Heccat. We're here to review that data and determine how to study this new phenomenon. What we know so far is that Heccat is an interstellar object roughly a trillion kilometers away. It is at least one thousand kilometers across and traveling at about eight percent of the speed of light. Its course is toward our solar system.

There was some murmuring and whispering in the audience.

"How close?" asked Dr. Robert Harris, who looked as old as the stars.

Arnie replied, "We don't know. The data we have so far doesn't support a more accurate prediction yet, but I think we'd all agree that one of our primary tasks is to get an accurate answer to that question. Both analyses had a margin for error that was large enough to place it anywhere within our solar system or even slightly outside."

"Within our solar system? This interstellar cannon ball is coming through our solar system? Good god, if it hit a planet..." Dr. Harris' voice trailed off and he could not have looked more visibly disturbed if someone had lit his toes on fire.

The room was now silent. The information was sinking in.

Dr. Harris coughed and spoke. "Uh, I think we also need to find out what it's made of and how far away it really is."

"The chances that it could hit Earth are almost infinitesimal." Dr. Highland said as cheerfully as he could.

“Well, there’s no reason to panic yet, as Dr. Highland suggests, but you can bet this will be the first question on everyone’s mind. We’d better find some answers.” Arnie said.

Then the conference continued and they discussed which methods they’d use to estimate it’s mass and composition and how they would triangulate to determine its course more accurately.

After about an hour, a dozen scientists left with checklists of action items. The students and other observers left too — many of them talking excitedly. This was the biggest discovery to happen at the observatory in a very long time.

Ian left as well and wondered what would happen next. He had no class to go to, so he started home to study. He thought about Helen and decided to bring her a rose to cheer her up. She’d taken a final that day. She cried when he gave it to her. She was due to give birth in two weeks and she needed her husband to defend her now in these narrow hours. This day, it was her heart he defended and his sword was a rose.

The next day was hard for both of them. Ian had two finals. Helen had one. They were both exhausted when they found their way home. Tomorrow, Ian had one final and Helen had two. She looked so exhausted. Ian massaged her back, especially her lower back. She tried to study, but she was too uncomfortable. She just wished it were over so she could rest.

The next day was Thursday, March 28. They woke up, ate something, and made their way to their first final. This was one of their shared classes and they would be taking the test at the same time, in the same room. They sat next to each other.

It was a three-hour test. About half an hour into the test, Helen began to have cramps. *I don’t need this right now*, she thought to herself. *I just need to get through the next two days. Just two days.* The cramps got worse. She began to breath shallow and quickly. She felt hot. She was anxious; she needed to finish these finals, or she feared that she’d have to repeat the whole quarter’s work. She’d worked so hard — it was too much for her. She began to weep, as much from the fears, as the pain. She tried to push the emotions aside, to bury them. She continued to work on the test using what seemed to be the very last fragments of her intellect and will. She felt like she was falling and the ground was approaching fast.

Then something happened inside her body and she shrieked in pain. Everyone in the otherwise silent lecture hall was startled and they all looked over at her. Ian leaped up to her side. She was dizzy; she was going into shock. He helped her lay down on the floor, the instructor called for emergency medical help. The rest

of the students continued their tests, but they were agitated and looked over at the developing scene between questions.

Helen looked up at Ian. "It's happening... but... it's *not right*." She said weakly and then cried out in pain again. He held her hand. "The test, Ian, take the test." She whispered. "You've... got... to... take... the... test." Her eyes were mostly closed and her voice was subdued and becoming distant.

He looked deeply into her eyes and held both her hands. "Listen to me, Helen. I am. *This is the test*, the correct answer is to stay here with you!" He said it with an ancient certainty.

She heard him, nodded slightly, and squeezed his hands gently. The power of the conviction in his voice helped her remain conscious.

"Where is that EMT crew?" Ian shouted, completely forgetting where he was and what was happening around him. Moments passed slowly.

Then they heard a siren and shortly thereafter a team of medical technicians was around her. They checked her life signs. Then they transferred her onto a gurney. They wheeled her out quickly and into a waiting ambulance. Ian left his test on his desk and rode with them. They raced to the hospital. One of the technicians was talking remotely with a doctor, who asked questions in a quick medical lingo Ian couldn't follow. A female technician was rearranging the gurney so it would take pressure off Helen's back. Helen sighed in relief but she seemed only minimally conscious.

She started to go into convulsions. Two technicians held her down with all their weight and another made sure her air passage was open. Medical instruments in the ambulance flashed out her life signs in vivid and terrifying detail. They put her on pure oxygen and the convulsions ceased. She passed out, and her life signs were erratic.

The ambulance arrived at the hospital. Two doctors met them at the door and ran along with the gurney. Surprised people in the emergency room stared at the procession as it swept past. They wheeled her into an operating room immediately. Ian ran behind them, feeling scared, helpless and totally useless.

They disappeared into the operating room. Ian thought he might be able to follow them, but a doctor held up his hand and shook his head. "You're her Husband?" Ian nodded. "I understand how you feel, son, but you can't help in here. Her chances are very good and so are the baby's." He put his hand on Ian's shoulder. "Stay here and you'll be the first person to know what happens." Then the doctor turned around and went into the operating room. Ian could not follow.

He stood there in shock for what seemed like a day, but it was really only about an hour. He was crying but barely aware of it. He was unconsolable, despite attempts by three separate nurses and a psychologist who had come by specifically to talk with him.

Then the doctor who had asked him to wait outside came out of the operating room. There was blood all over his smock, but he was smiling widely. "You'd do better to start thinking of names, son."