

Resonance

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Crash

Ezekiel frowned as his tired, worn hands yanked another diseased Aardapple plant from the ground. His damn old tractor and rusted-out truck needed repairs, and he never had time to do anything except tend the fields, maintain his failing farm equipment, and take care of his animals. Farming---it was something that he had inherited but never wanted. Whether his discontent came from envying others or failing to achieve his ambitions, his restless soul tormented him at night. His fifty-year-old back ached as he dealt with today's problem: diseased crops.

The planet of Tartarus counted on Ezekiel's crops. His close relatives---especially those on Tartarus---counted on crops from Tyche. Tartarus's starved, mineral-rich world required external food sources, while Tyche, Ezekiel's home world, required Tartarus's energy crystals. The two worlds formed a tight symbiotic economic relationship; ships continuously transferred goods between the two sister planets. Ezekiel, who went by EZ, felt particularly close to his cousin Peter and Peter's family who had taken up mining on Tartarus.

BOOM!

Startled, EZ dropped the diseased plant to the ground just as a second sonic boom rattled the atmosphere accompanied by a bright white flame. EZ looked up and saw a burning alien spaceship errantly fly overhead in a northwestern direction and then crash in the distance. EZ tracked the flames, hopped into his truck, and rumbled toward the crash site. Much to his surprise, he discovered a wounded gray alien with large black eyes, who had been thrown clear of a burning saucer with a shattered control panel. The alien had managed to remove itself from the burning craft, but it had sustained chest and leg wounds. It reached up from the ground toward EZ and fell unconscious.

EZ took pity on the injured creature as he gently lifted it and placed it into his truck. His diseased crops would have to wait. Recently, EZ had been feeling more like a doctor than a farmer in attending his diseased crops. It was going to be a bad crop year for Ezekiel's Aardapples; all of the signs were there. People would have to do without their side of starchy tuberous roots. Tending to an injured alien, in addition to his failing crops, would only magnify the strain on his family. He hoped his wife, Mary, who had been trained as both a teacher and nurse, would be up to the challenge.

Time Passage

With time and nursing, the alien gradually recovered. Mary had assumed responsibility for the alien's rehabilitation months ago as Ezekiel tended to his crops. First she taught him their language through children's picture books, television, and later through reading. The alien picked up the language quickly. It pleased Mary that she could use these skills once again. EZ occasionally visited when the alien wanted to play video or board games. His strategies often revealed his immense intellect.

With time, the alien became fluent and called itself "Fred," which meant "Peace Ruler." Fred's true alien name was unpronounceable to humanoids, who lacked a secondary tongue that

added the proper inflections and consonant rolls required for proper enunciation. The flabby gray being with large feet and disquieting black eyes took his first baby steps out of bed. Fred was taking his first baby steps out of bed with a bowl of food in its hands when Mary timidly approached.

“How are you feeling this morning?”

“Much better.” Fred held the bowl forward with both his hands as he gingerly stepped toward Mary. “What’s this lumpy liquid that you served me? It’s wonderful. I wish we had something like it on my world.” Fred ate the last spoonfuls before wiggling his seven toes and twisting his flabby torso. His gray skin had started to lighten, which may have been a good sign.

“Chicken vegetable soup. I’m glad you like it.” Mary smiled. She pushed her gray hair out of her worn blue eyes. EZ never complimented her cooking, but he was a good husband otherwise.

Fred handed the bowl to Mary, returned to his bed, sat on it, and focused on Mary with his large black eyes.

“Thank you for nursing me back to health. I feel better.” Fred stretched, twisting his torso back and forth again to increase his muscle strength.

“It was our pleasure. You should thank EZ. He brought you here and stored your saucer in the barn. He didn’t want others to discover it.” Fred opened his mouth and was about to speak when he heard someone enter the house. EZ’s heavy steps reverberated as he sprinted up the stairs, sweat glistening across his brow.

Taking a deep breath, EZ said, “Stephen is coming to prepare my taxes. Fred, I hate asking this of you, but please remain out of sight. My nephew Stephen is nosy and curious. Outside of credits, he focuses all of his attention on trying to solve puzzles or mysteries. I don’t want to explain you to him.”

Fred nodded. “I understand.”

“Good. I’m going to get Stephen to finish preparing my taxes and shuffle him out of here as quickly as possible.”

Departure

Two more months passed. EZ’s Aardapple crop disappointed him, but he managed to make up for the loss by investing in a bear crop market long before the investment gurus realized what had happened. Fred spent his time recovering and reassembling his ship. Critical broken components unnerved him, but with each new mechanical challenge, he managed to develop a workable solution. At times, when no other alternative existed, these solutions required melting down Mary’s gold and silver jewelry and casting it into parts. Fred resorted to creating interlocking wooden frames which served as foundry sand mold frames. He filled them with sand, pounded them so that the sand/wet clay mixture tightly fit around soap carved prototypes, removed the prototypes from the parting line, and then created a runner system so that when he poured molten metal into it an exact part would be made from where the prototype used to reside. He then created a furnace from hot charcoal bed to melt the precious metals into the parts he needed. It was painstaking work, but with time, he recreated the critical parts he needed.

With the saucer repairs proceeding faster than expected, Fred estimated that he would be leaving soon. Mary planned a going-away breakfast. Fred had become accustomed to pancakes, a meal that he knew he would miss, especially the syrup, which had no facsimile in

other known worlds. Anticipating that he would be craving this new food source after his departure, Fred stowed an ample supply of syrup, pancakes, and chicken soup on his ship. By now, he had become so addicted to humanoid food that his own food rations seemed like bland, sour oatmeal.

After polishing off a third helping of pancakes at his going-away breakfast, Fred wiped his mouth clean with a napkin and said, "That was the best meal yet, Mary. What fruit did you add to the pancakes?"

"They're called forest berries. They're ripe this time of year. Wild animals eat most of them." Mary smiled. During his recuperation time on the farm, Fred's compliments had inspired her to prepare increasingly elaborate dishes. "I've made enough chicken soup and pancakes to keep you from getting hungry on your return trip."

"That's kind of you. Before I leave, I want to thank you for your hospitality." They turned their attention to EZ, who was tinkering with an electronic device a few feet away.

Mary said, "EZ, breakfast is getting cold."

EZ struggled with his ham radio that he kept in one corner of the kitchen. With it, he sent radio signals to his relatives on their sister world of Tartarus. "Peter, for the final time, I can't spare any more seeds. This year's crop was a disaster, and we need to make up for it next year." With an annoyed flip of his wrist, he switched off the device. "I wish we could talk directly," EZ mumbled to no one in particular. It would take four days to hear a reply—two for the message to be delivered and two for the response to return. That is, if Peter was even paying attention to his incoming messages. Light speed hampered communication with Tartarus, which always frustrated him. EZ sighed and took a seat at the table next to Mary.

Sitting at the table, EZ buried his head in the newspaper and chowed down on the pancakes that Mary had carefully and lovingly made. The only compliment that she got was a slight smile as EZ lifted his face from his paper to refill his plate. He then buried his head in the newspaper again, scrutinizing the crop futures financial page. That wry smile was probably the best food compliment she had received in a year. Fred and Mary small talked as Fred quietly consumed his meal.

After EZ shoved the last bite of pancakes into his mouth, Fred said, "Please follow me to the barn. I have a surprise for both of you." Fred rose from the table and motioned for EZ and Mary to follow him through the back kitchen door to the barn, where Fred had prepared gifts for Mary and EZ. A small sack tied with a string contained Mary's gift, and EZ's gift was hidden below a large canvas cover.

Pulling back the canvas, Fred picked up the small sack and held it out to Mary. "This is yours, Mary. I know you miss your jewelry. Please accept this in return."

Mary put one hand to her mouth and gasped. Her eyes widened as she stared at the sack in Fred's outstretched arm and then carefully took it. Mary opened her gift and almost fell over backwards. A large, perfectly cut diamond sat in her trembling hand. "Where did you get this?"

"They're quite common in space. Many stars with just the right mass and chemistry end their lives as large, cool diamond structures. I hope you enjoy it."

"It's the most beautiful diamond that I've ever seen. Thank you so much." Tears rolled down Mary's face. Fred's recovery surfaced many of her past memories as both a nurse and teacher.

Fred strolled back over to the canvas cover and quickly removed the remaining portion of it like a magician showing that he had made a large object disappear. "EZ, this is for you."

EZ stared at it with a blank look on his face. "I'm sorry to have to ask, but what is it?"

“I saw how frustrated you became when you were communicating with your relatives on Tartarus. It took two days for your message to get delivered at light speed. This communication device enables instantaneous information transfer through quantum entanglement technology. You may not be able to visually see the recipient, but the message will be transferred instantly in dot-dash code. I’ll leave this unit here, and deliver the quantum entangled twin communicator to Peter, your cousin on Tartarus. Through quantum entangled communicators you can have a live conversation in real time. Relativistic speed restrictions no longer apply.” Fred lightly tapped one finger on a panel door just below and slightly to the right of the main keyboard and monitor. “Instructions are shown in these figure sketches.” Fred smiled at the thought of repaying EZ and Mary’s hospitality. Then he pointed at EZ and gave him a stern look. “And now a fair warning: Put this technology to good use; it’s a rare gift and can easily be used inappropriately.” Fred looked down, knowing that it would soon be time to say goodbye to his humanoid hosts. He would miss Mary and EZ’s company.

EZ inquired, “How will you deliver it? It takes two years, even at top speed, to transport goods between our two worlds.”

Fred looked amused. “Not with warp technology. The speed of light can be transcended. The technology that breaks the rules involves bending space directly in front of a ship, riding a bent space wave, and returning space to its normal uncurled state after the ship passes. In fact, technically, you never travel faster than the speed of light, but when space is curled, you travel much greater distances. At your present rate of advancement, your kind may be two to five hundred years from perfecting it. I can’t say anymore about it. Every race has to learn it on its own. There are dangers associated with technological advancements, including the possibility of creating weapons that can destroy entire sectors. Besides, when you master it, you’ll end up spending all of your time traveling between worlds. It’s not as glamorous as you think.”

Fred glanced at his hosts, sighed, and then continued. “I envy you. Transferring goods across the galaxy is no life. I never have had the opportunity to feel at home... until now.”

Fred moved forward, hugged his two friends, and leaned his forehead against theirs. After breaking the embrace, Fred took one last look at his friends and the farm. He waved goodbye, entered his ship, and shut the ship’s hatch. A few moments later, he took off into the bright blue morning sky.

As they watched the ship, EZ placed his arm around his wife to console her as they returned to the kitchen. Unbeknownst to either of them, Stephen had seen everything. While EZ, Mary, and Fred said their goodbyes, Stephen had been peeking through cracks in the barn walls. As they emerged from the barn, Stephen had hid behind a large Eok tree. He had overheard the entire conversation and took careful mental notes.

Text Messaging

Not long after Fred left, Peter and Ezekiel began communicating with their new communicators. Their first lesson involved learning when the device transferred information instead of quantum noise. As Fred’s sketch directions indicated, when meaningful information transferred over a sufficient length of language, a negative 45-degree line in the use of dot-dash words occurred. Common words like “a”, “the”, i.e. articles, are used much more often than words like balderdash and the negative line of word usage versus the most common to least common word showed this negative 45 degree line trend. Also the consistency of the ratio of

dashes to dots in time gave the tell-tale sign of active communication. A ratio of two for the duration of a dot to a dash also revealed active communication. Repeated message loops ensured proper information transfer. If the tell-tale 45 degree line was absent or the dash/dot ratio varied from two, the output was only quantum noise. With a proper decoder, this annoying feature was minimized.

EZ was amazed the first time he read Peter's immediate reply. "EZ, we've had a rough year. The old mines are drying up, and we're going to have to explore new locations. Don't be surprised if the crystal prices rise on your world."

EZ responded, "You can expect the same thing from this past year's crop, Peter, but next year's should be better. I've been watching the long-term weather patterns and finally found a good crop hybrid that will withstand the outbreak of Aardapple rot fungus. How's Ema and the kids?"

"They're fine. Logan spent a year mining with me. He seemed to like it. Stacey is still in school. She wants to write about her travels across the galaxy. I tried to warn her that she can't realistically expect to see more than several hospitable planets in her lifetime, but she thinks that technology advances will remedy that problem. I don't want to dampen her spirit." Peter paused. "How's Mary and that no-good brother of yours, Stan?"

"They're fine. Mary misses Fred, that gray alien that gave us these communicators. Stan tends to his crops, like me. Stephen, my nephew, does our taxes and likes to play the futures market. He'll never be a farmer. It's not in him."

"You know, EZ, this technology could make us some extra credits. We know what will happen on our sister world two days before anyone else does. Stock prices, future investments, and sporting events are all fair game."

"I suppose we could all use extra credits." EZ realized that he could earn enough credits to break away from farming the land for the first time in his life. With that thought, EZ imagined how nice it would be to feel free.

Futures Speculation

During the next few months, EZ and Peter carried out their plan and made a small fortune trading on the futures market. EZ invested in crystal futures, while Pete's fortune came from crop futures. They attained enough credits that both retired, but soon they realized that they needed a full-time hobby to keep them busy. When their hobbies no longer excited them, they returned to their original occupations. The grass was no longer greener on the opposite side of the fence.

Unbeknownst to either EZ or Peter, they weren't the only ones placing safe bets. Stephen and Logan began to communicate with each other using the quantum communicators. They invested and reinvested in the stock market. In no time, Stephen had achieved financial fame and amassed such a credit fortune that he established an investment business that attracted young talent and many investors. The slow, steady growth his company promised contrasted with other, more aggressive competitors, which ultimately caused the entire market to shift with every new bet that he placed. This naturally lowered his profits. It got to the point that Stephen purposely placed bad bets—small ones—as a way of luring other investors into making bad bets. It was the only way for his business, fame, and, most importantly, his credits to grow.

Stephen thirsted for more and more success and became increasingly dissatisfied. Fame and fortune grew upon him but not in the way he anticipated. Instead of having fun all the time, hanging with the right gang, and having more leisure time, he found it confining. With time, he recognized the artificial way that shallow people acted around him. He began to feel alone and that he had no real friends or anyone he could count on other than those he had known as a young farmer. He couldn't even go out on the town anymore without attracting attention. Women threw themselves at him. At first, it overwhelmed him, and he took full advantage of it, but ultimately, he grew tired of the playboy lifestyle and gold-digging woman. He yearned to find someone who understood him. There had been such a girl once, but she no longer wanted him after witnessing how his ego consumed him. Stephen grew accustomed to his fame and fortune, but in the end, it left him empty.

Both EZ and Peter stopped making investments when wild market fluctuations threatened their security. Someone began to bet ever-increasing margin blocks on energy futures and consistently hit the nail on the head. The result: wild market fluctuations and the deterioration of both economies. Market behavior displayed what is referred to as "resonance," ever increasing swings in stock prices.

EZ and Peter maintained their spotty weekly calls.

"EZ, are you experiencing wild market swings on Tyche?"

"Pete, I'm not sure what to make of it. My accumulated wealth has dwindled because of the deflating market."

"I told you that you were over speculating yesterday."

"I wasn't on the communicator yesterday. You don't think. . .?"

EZ rubbed his chin. There was no way to know who sent the messages because the receiver only viewed dot-dash language. He knew that Stephen had struck it rich and started an investment firm downtown, but he didn't connect the dots until now. "Stephen must be tampering with the device and placing those bets. He's always been into get-rich-quick schemes. Someone must be doing the same thing on your world."

"It's got to be Logan. He's left us to become an investor, but he has often returned and lingered around our communicator. Okay. We need to teach those two a lesson. I will use the code phrase 'Aunt Matilda misses Uncle App.' When you hear that, reply that 'Uncle App is Esther's husband, not Matilda's'. If the right code isn't used, give them false information. The market will take care of the rest. They won't know what hit them, and it should teach them both a lesson. I hope they learn it before they jeopardize our economies."

Market Crash

Market swings grew wilder and wilder until bad investment bets led to large margin calls. Both markets crashed hard, very hard, and both worlds suffered. Depressions or recessions occurred in cycles every seventy to eighty years, and these down times always occurred during periods of high speculation and low regulations. It was as though the previous generation had passed, and the next generation had to relearn the lessons of properly balancing trading regulations versus profit. Without the trade regulations in place to keep the system from imploding, greed eventually caused a market break down when the bubble burst.

Food lines became common on Tartarus, while fuel reserves were restricted to agricultural needs on Tyche.

Stephen could not longer walk downtown. People flocked towards him. They blamed him for what happened and questioned his morality. His investment partners, who stood in line for energy, glared and sneered at him when they saw him pass. People hated him now, and he knew it. He had become a recluse when he was away from his family. The golden cage of fame and fortune had finally closed in on Stephen.

EZ noticed Stephen's behavior change as Stephen entered EZ's kitchen. EZ remained at the table as he rested his bones between farming duties.

"What brings you by, Stephen?"

"Uncle Ezekiel, I feel awful. I think I'm partially responsible for the market crash." Stephen pulled up a chair to sit by his uncle at the kitchen table.

EZ shrugged. He had already suspected it. "Why do you think that?"

"I secretly borrowed your communicator and gambled on the futures market. I'm sorry." Stephen looked to the ground---looking into his Uncle's gray eyes proved difficult.

"Don't apologize to me. Apologize to the other investors. Return the bulk of your funds that you made by investing in energy research. Start another business that employs your coworkers. It's the only way to bail out the system and for you to be accepted by your peers again. You may not have done anything illegal technically, but what you did was morally wrong. Oh, and Stephen, don't ever use my communicator again. By now, Logan has received the same message from his father." EZ put his old hand on Stephen's knee before adding, "I realize that I have set a poor example for you, but at this point, I'm nearly bust." EZ paused. "I never went to the extremes that you did. I hope you've learned something from this." EZ returned his hand to his side.

Stephen looked dejected. "I have. All monetary gain should be earned. Easy credits lead to a viscous cycle of greed, envy, and a thirst to gamble again. There are never enough credits to quench your increasing thirst. Secondly, the future markets must be regulated. There's no other way to prevent greed from causing periodic future crashes. Margin insurance must go too. I'm guilty of insider trading through advanced technology." Stephen sighed. "Uncle Ezekiel, did you learn anything from this?"

EZ slumped in his chair. "Yeah, I did. When I made my fortune, I realized that I could do anything that I wanted. After searching for another way to spend my life, I finally realized that I was already doing what suited me most." EZ paused and then added, "I'm going to destroy the communicator to ensure this doesn't happen again."

Aftermath

Three years later, Fred returned to Tyche to visit his favorite couple. His saucer hovered over EZ late one evening as EZ finished his evening walk. Mary noticed the hovering craft and ran outside to greet their friend. This time Fred landed gently.

They watched as the hatch door opened slowly. Fred emerged and greeted his friends with a warm hug.

"I was passing through your galactic neighborhood and decided to drop by. Mary, your cooking is a galactic hit. You would not believe all of the credits that I received for your pancakes and syrup. It's a delicacy on the outer rim. They've got synthesis methods to simulate your food, but their synthesis doesn't capture your recipe completely."

Mary looked ecstatic. “If they like that, just wait until they sample my peach cobbler.” Fred smiled adoringly at her.

“So, EZ, how’s the communicator working out?”

EZ shook his head. “It’s too much of a temptation. I destroyed it.”

“Too bad. . . I’d hoped it would bring your family closer together.”

“It did for a while, but we couldn’t restrain ourselves. Peter’s son and my nephew really got carried away. That device nearly ruined two economies.” EZ sighed. “I still thank you for the gift though.”

“Why?” Fred’s head leaned slightly to the left.

“That device could have made me rich, but I learned that I already had everything that I wanted. It taught me humility. Even though my back hurts every day, I’ve never felt so content.”

Fred nodded. “There’s hope for you yet. I’m glad that it served its purpose.” Fred paused. “Now let’s turn our attention to other important matters. Mary, I want to sample your cobbler.”

Fred held the back kitchen door open for his adopted family. The threesome entered the back kitchen door, sat at the kitchen table, and consumed the new galactic delicacy known as peach cobbler. They relished each other’s company as they ate every last spoonful of Mary’s peach cobbler. Fred made a point to take a second batch with him when he departed the next morning.
