

THE EPHEMERAL SPECIES

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THE EPHEMERAL SPECIES

A hard science fiction story

PATRICK SMITH

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THE EPHEMERAL SPECIES

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This is a work of fiction. Names, characters, places, and incidents either are the products of the author's imagination or are used fictitiously. Any resemblance to actual persons, living or dead, businesses, companies, events, or locales is entirely coincidental.

No part of this book was written using AI. Chat-GPT was used to create the 110 high-resolution illustrations in this book. See the last section of the book, About the Illustrations, for how this was accomplished.

See The Science Behind the Story, for how major themes in this book are supported by verifiable science.

Cover design by Patrick D Smith

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Nisha uses Reddit data to determine the direction of the transmissions.

In the near future.

“Good morning. My name is Nisha Chandra. This is Intro to Astrobiology, 101. I'm happy to be here at Caltech's newly expanded Beckman Auditorium. I'm excited to see so many of you interested in extraterrestrial life.”

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She felt tingling sensations in her ears but ignored them. They startled her, but this was her first lecture as a professor, and she wanted it to go smoothly. She linked the presentation in her eyepiece to the big screen behind her. Some students focused on their devices, despite the recent passing of the Anti-Digital Feudalism Act, which banned students using AI and big social media platforms in classrooms. It also broke up the AI monopolies, to slow the AI takeover of intellectual and monetary property. This had limited success. She supported the ADFA and longed for the days when people talked with real people. Her AI agent activated airwave blocking and prompted her to begin the lecture. A few students shook their heads in frustration.

“My team at JPL here in Pasadena recently discovered evidence of ancient water-based multi-cellular life on Mars. In this crater, rock layers exist like those we find on Earth in ancient sea layers.”

“What did you find?” a student in front said.

She walked to the edge of the stage.

“A few days ago, the Mars geology team dug six meters beneath the surface of the crater you see here. We discovered thousands of small objects. They’re like the 3.5-billion-year-old bacterial micro-fossils in Australia. We’ve dated the Martian objects to about four billion years old.”

“Do you have pictures?” a student in back said.

“Yes. Here they are.”

The students gasped at the images on the big screen.

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“They look like fossils, don't you think? We'll post more photos of them to the JPL website. If you think of alternative ideas to explain these, let us know. I believe primitive life flourished on Mars four billion years ago, when conditions were more hospitable than today. The planet had an oxygen rich atmosphere a billion and a half years before Earth did. Much of its atmosphere was stripped away due to a loss of its magnetic field and for other reasons. Today, pockets of life might still exist underground. I'm excited about this possibility. I wake up every day hoping to find alien life somewhere. Nothing would make me happier than to examine extraterrestrial life with my own eyes. Soon we might know for sure.”

She surveyed the fresh faces in the audience. These weren't the average kids walking down the street. They came here from around the world because Caltech had a legacy of great people making state of the art discoveries. The school still had the highest percentage of Nobel Laureates on the teaching staff of any university in the world.

For a few seconds, she heard hissing sounds like those of a large crowd rise behind her. Her heart raced. Her ears tingled again. She glanced back, but nobody else was onstage. She thought her inner-ear tinnitus was acting up again. A few students chuckled.

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“Sorry about the distraction. The aliens in the cage behind me are getting restless. I'll bring ‘em out later.”

The students laughed. She didn't know whether they were laughing with her or at her. She ignored her elevated heart rate and continued her lecture.

Caltech had a long tradition of pranks. As a new professor, she knew she could be the next victim. She didn't want to lose control of the class.

“How many of you think intelligent life currently exists in our galaxy at our level or above?”

Everyone raised their hands.

“Okay, what's going on here? In a class this big, there's always disagreement.”

She could hear a pin drop. She smiled and glanced up to the ceiling.

“Okay, I'll play along. How many of you think extraterrestrials have visited us in the past?”

Every hand rose.

“Do alien beings live on Earth right now?” she said.

As she expected, everyone indicated the affirmative.

“You think so?”

A student in back shouted out, “Yeah, they're in the cage behind you!”

The students laughed again. She smiled and glanced behind her, pretending to look at the imaginary cage. She blinked to activate her eyepiece, which displayed the names of each student

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seated before her in real time. The eyepiece assistant whispered in her ear, “Mr. Kepler last spoke.” She smiled confidently but wiped the perspiration off her forehead.

“Yeah, they’re in the cage Mr. Kepler.”

She tried to buy some time to deal with the prank when the sounds returned louder this time.

“These aren't human voices,” she thought. “They're more like the recording of a distant crowd cheering. The kids are up to something, but the sound is in my head. It's not coming from a speaker. How are they doing that? Well, this is Caltech.”

She turned around again. She hid her shaky hands behind her back.

“Don't keep us in suspense. Bring them out.” Mr. Kepler said.

The class erupted in laughter.

The sounds stopped. Nisha tried to compose herself and ignore the goose bumps.

“Okay, did anyone hear those sounds?”

The entire class raised their hands. She smiled, but her heart raced.

“Okay wise guys, what did they sound like?”

The students whispered to each other, thinking they were now the subject of a prank.

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“They sounded like the voice of the guy who does those intros for sci-fi movie trailers,” Mr. Kepler said. “You know, like ‘they came from a galaxy far, far away to enslave humankind as food.’”

The students laughed.

“Okay, okay,” Nisha said.

Her breathing grew shallow. She couldn’t get a handle on the origin of the sounds. She thought maybe it wasn't a smart idea to take this job.

“Let’s do a poll,” she said.

The class quieted down. Nisha smiled, continuing to hide her shaking hands. Her logical mind wanted to find the underlying cause of the prank.

“How many people heard sounds, just now?” she repeated.

Everyone raised their hands. Nisha shook her head.

“Okay, I want everyone to close your eyes. I want to find out exactly what they sounded like to you. Keep them closed. This includes you Mr. Kepler.”

“Did they sound human?”

Nobody raised their hand.

“Okay, open your eyes,” she said.

The class opened their eyes. Many giggled, unsure of what to think of this.

“Eyes closed,” she said. “Was there a language, like English?”

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Half the class raised their hands. People opened their eyes, laughing and talking.

“They sounded a bit like Klingon.” Mr. Kepler said.

The laughter continued.

“All right, let’s proceed,” she said.

They closed their eyes again.

“Did they sound like a huge crowd cheering in the distance when passed through an electronic filter?”

Only three students raised their hands. A shiver went down her spine. She tried to ignore a heavy feeling of sensing the inexplicable. There must be a logical explanation.

“Okay, open your eyes,” she said.

Everyone focused on the three people. Nobody said a word.

“Tell us what you experienced.”

One student said, “I heard them the first time when you turned around, then louder the second time like you. They weren’t speaking in any language I know. The sounds were muffled and electronic with static. It was like hearing a crowd outside a stadium, but the sounds were in my head, like ringing in my ears. I can’t explain the experience. I’m sweating.”

The other two students kept their hands raised and agreed with the first one. Nisha kept a straight face.

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“That’s exactly what I heard,” she said. “Interesting. You thought of the sounds in terms of ‘them.’ As though it was the voices of a crowd of beings. Me too. We may be placing our biases on these noises though.”

She paused and kept her poker face on. She rubbed her hands together to relieve the numbness. A student in front giggled. The class nodded their heads in approval. Someone clapped slowly, alone at first. Then they all broke out in applause.

“Good one professor,” Mr. Kepler said. “We thought we had you, but you win.”

Nisha smiled and told the three students to sit down. She decided to carry on with the lecture. However, she knew something big happened. She never experienced anything like this in her life. The three students also understood. They exchanged knowing glances. She continued her lecture, with her popularity and authority intact. She felt her heart beating strongly, but she carried on as though all was well.

“Does anyone know of Fermi’s paradox?” she said, expecting at least a few hands to go up.

Most raised their hands.

“Are you serious?” she said.

This time the students were serious. They nodded their heads.

“Well since most of you are familiar, I’ll give a brief overview for those who aren’t. Physicist Enrico Fermi and others wondered why we’ve never found evidence of extraterrestrial life,

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despite the high probability of its existence and the long time spent looking.”

“That’s because you’re hiding them from us in that cage,” Mr. Kepler said.

Some students chuckled quietly.

“He brings up a good point,” Nisha said. “Governmental organizations might hide evidence, but I want solid evidence. Perhaps we haven't developed the technology to detect them. I'm not sure. Maybe alien species hide themselves from detection to avoid being discovered.”

Nisha wrote on her pad. Her writing was displayed on the big screen behind her.

“The Drake equation allows us to make a guess as to how many extraterrestrial civilizations might exist in our galaxy. It's widely known of course. I'll present my own version of his equation. Let's do the numbers.”

She wrote:

“Number of stars in the galaxy: at least 200 billion.

Estimated number of planets per star: Two on average.

Number of planets in the galaxy: 400 billion.

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Number of Earth-sized planets near the habitable zone: 50 billion.”

“Out of those 50 billion Earthlike planets, some have no magnetic field, so they won't be able to keep hydrogen and water in their atmosphere. Some are dry like Mars, or hot like Venus, which are on the edges of the star's habitable zone. Many stars are red dwarfs that bake their planets with flares. Many planets are too young. My guess is there are 100 million Earths exist where life might have formed at some point.”

Nisha scanned her audience. She had trouble writing on her pad. The words appeared jagged. She felt dizzy and hoped she could make it to the end of the class without collapsing. Fortunately, she loved talking about this topic.

“Let's say 100 million habitable Earth-like planets exist in this galaxy that formed at least primitive life in the past 13 billion years. Early on, there were many collisions, ending life on those planets. Our question is, how many Earths have intelligent life at this moment?”

She received answers ranging from zero to a few million.

“I can only base my estimate on Earth, which is the only planet we know of where intelligent life evolved.”

“You lost me professor,” Mr. Kepler said as he smiled.

The class snickered. Nisha shook her head.

“Okay wise guy. For the sake of speculation, let's pretend there's at least intelligent life on Earth here in this classroom.”

“Agreed,” Mr. Kepler said.

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The class smiled and nodded their approval.

“Okay, the age of the Earth is 4.5 billion years. Intelligent humans, similar in appearance to us, roamed the Earth for at least 300,000 years. If you chose a random time to visit the Earth, there's only a one in 15,000 chance you would discover intelligent life at the cave dweller level.”

“Some modern people aren't at the cave level yet,” Mr. Kepler said.

The students snickered again. A bit of perspiration drained into her eyes, prompting her to wipe them clean.

“Very funny, now let me continue. Out of those 100 million habitable Earths, intelligent life might exist right now on 1 out of every 15,000 of them, which means only 6,000 planets in our galaxy. This is optimistic and assumes all planets with basic life evolve intelligent life like it did on Earth.”

“That's a big assumption,” a student in the middle of class said.

“I agree. Imagine if the dinosaurs never went extinct 65 million years ago. They'd still be here. Humans would never have evolved. We can't assume intelligent life will automatically evolve from common animal life. Animals evolved for hundreds of millions of years yet none of them evolved intelligence until recently. Earth was lucky. So, it's difficult to use the Earth as a

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standard model for calculating the probability of extraterrestrial life. How lucky is the Earth?"

"Very," Mr. Kepler said.

"You're right. Even after the dinosaurs died, humans didn't come around for over 64 million years. We weren't guaranteed. Intelligence isn't guaranteed. The evolution of *Homo sapiens* or *Homo neanderthalensis* is a long shot, even here on this friendly planet. My guess is out of those 6,000 hospitable Earths, only a few hundred Earths at most exist in this galaxy with intelligent life at this moment."

The students paid attention.

"That's depressing, only a few hundred?" Mr. Kepler said.

"Yes. Most would be more advanced than us. Considering the immense amount of time available to colonize the galaxy, it seems a single species with a 10-million-year head start on us, could easily colonize the entire galaxy by now without faster than light travel, or even 10% speed of light travel. That's a mere instant compared to the multi-billion-year lifespan of this galaxy."

The students whispered to each other.

"So where is everybody?" Mr. Kepler said.

The students nodded their heads. Nisha took another gulp of water.

"That's exactly what Fermi's paradox is all about. Perhaps distances between civilizations are so vast, they never meet each other. There might be a *Great Filter* which makes intelligent cultures go extinct. We don't even see evidence of AI out there,

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which could spread faster than organically based life. Drake designed his equation in 1951 to make a guess as to how many planets in our galaxy might harbor life. We've found many Earth-like planets because we can detect bio signature gasses on habitable-zone planets which might indicate life. The Seager equation, named after the famed planetary scientist Sara Seager, allows us to estimate the odds of intelligent life existing on a planet right now. The Earth has been sending out bio signature signals for over 600 million years. Human-level intelligent life has been present for about 1/2,000th of that time, 300,000 years. Those are two variables in the equation. It's possible there's no intelligent life in this galaxy except us. Even with 1,000 civilizations in this galaxy, they average about 2,000 to 3,000 light years away from each other. Fortunately, we live in an empty part of the galaxy between the arms. Intelligent life needs a long time with no big planetary impacts. Only a small part of the galaxy has been quiet for long-enough to allow higher life to evolve.”

She took another drink of water.

“It sad to think we may be alone in the galaxy, or that each galaxy has only a few intelligent species who never meet each other before they go extinct. That may be to our benefit. As much as I want to discover advanced extraterrestrial life, I don't think our species is ready.”

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“I’m not ready,” Mr. Kepler said.

“Me neither,” Nisha said as she activated her astrophysics agent. “The most important variable, which is rarely mentioned, is that near light speed travel is dangerous. There is a potentially habitable super Earth exoplanet named Gliese 667C planet c. It’s about 23 light years from Earth. Considering the galaxy is 100,000 light years across, it’s nearby. But even with nearly unlimited energy, it’s impossible for a human to get there in one lifetime. If a ship were to accelerate at the force of gravity for 3 years, and decelerate for 3 years, it would reach the planet in 6 on-ship years, The peak speed would be 99.7% of the speed of light from Earth’s perspective.”

“So advanced aliens with unlimited anti-matter could come here with no problem.” A student in front said.

“Actually, no,” Nisha said. “The interstellar medium is made of up hydrogen atoms every few meters apart, which would turn into X-rays on impact with the ship’s hull or shield, roasting the crew in seconds. Hitting anything larger would instantly vaporize the ship.

“How about 50% of the speed of light max?” Mr. Kepler said.

Nisha’s astrophysics agent listened and displayed the calculations to the screen in back. The calculations were brutal.

“Not good,” Nisha said. “If the ship accelerates at 0.1 times the force of gravity for about 1.5 years ship time, coasted for about 20 years, and decelerated for 1.5 years, it would be coasting at

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about 50% of the speed of light for those 20 years. It would arrive in about 45 years ship time. That sounds good, but the interstellar medium would still bake the ship in hard ionizing radiation. A sand grain would still destroy the ship with the equivalent of 3 tons of TNT. And do that every few days.”

“OK, how about a max of 10% of the speed of light?” Mr. Kepler said.

Nisha’s agent did the numbers.

“It’s still not easy,” Nisha said. “Accelerating at $1/20^{\text{th}}$ the force of gravity for one month, coasting for over 200 ship years, and decelerating the same way, the maximum speed would be about 10% of the speed of light. Even at this speed, the interstellar medium would cause the hull to eventually become brittle, making it vulnerable to hitting even slightly larger particles. Smoke sized particles would still dull any glass surfaces. Hitting a dust grain about once per month would cause an explosion with about the power of 250 pounds of TNT. Still a catastrophic explosion. Shielding might help but would expend a great deal of energy. You don’t get something for nothing in physics. Perhaps an advanced technological civilization could deal with speeds like this. Also, there’s the risk of hitting larger particles.”

Nisha turned to the white board with the calculations, shook her head, and then turned back to the audience.

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“Maybe advanced life could do it, but it’s not for me. The point is, visiting even nearby planets is nearly impossible in a single generation. So why don’t we see extraterrestrial life? Maybe we’re all staying on our home planets because the physics are too costly to go elsewhere. There must be a big incentive for a species to leave a home planet.”

“Now it seems impossible to travel 23 light years,” Mr. Kepler said.

“It’s a big engineering challenge,” Nisha said. “Also, when reaching a coasting speed of 10% of the speed of light, the ship is constantly hitting those atoms and particles. That puts a steady drag on the ship, just as air slows down a car while driving. So, a lot of energy is required just to coast at high speeds. Then, there is the emotional challenge during the voyage of knowing that at any moment, your ship could strike something big enough to destroy the ship. There’s no way to track a pea-sized particle in space that could end your life. All this, just to reach our hypothetical nearest neighboring hospitable planet 23 light years away. It’s possible civilizations may be separated by 100 times that distance or even further. If the sounds we hear represent an extraterrestrial civilization, its engineering prowess is far beyond ours. And there must be a big reason for them coming here.”

Nisha continued her lecture until the end of the period. The class walked out of the auditorium into the hot and dry September air, continuing to discuss the lecture. Nisha called the three

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students to the stage to discuss the incident. They huddled close to each other, gripped with fear.

“I don’t understand what happened,” one student said. “I’ve never experienced voices in my head. Am I going crazy?”

“No,” Nisha said. “If you’re going crazy, then the other three of us went crazy at the same time as you. I doubt we’re going crazy.”

Nisha got an incoming message in her eyepiece. She read the message from her 15-year-old daughter, Priya.

“Listen to this message guys,” Nisha said.

“Mom, these scary sounds came into my head just now. My heart is racing. I told some friends at school, and they laughed at me. Sophie heard the sounds, but Amy wasn’t affected even though she’s the genius.”

“Perhaps we’re not going crazy.” Nisha said.

The three students felt relief, before realizing sanity meant something real happened.

“I’ll let you know what I find out about this,” Nisha said. “You guys get to your next class and we’ll talk tomorrow. I’m sure there’s a rational explanation, with all the crazy tech going on now. Someone’s got to make some laws before we kill ourselves, or it kills us.”

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The students left, walking close to each other and whispering. They behaved like old friends despite this being the day they met.

Nisha messaged back to Priya, “Hi Pree, I heard them too. So did three of my students. You aren’t going crazy. I’ll pick you up on the way home if you would like. We’ll talk. Love ya! xo!!”

Priya messaged, “Okay, I’ll be walking home on my usual route.”

Nisha messaged her husband, Quinn. He received it while working on a sculpture in his studio in the back yard.

“Did you hear any sounds or voices in your head just now?”

He waited for a second, trying to figure out if she was pulling one of her pranks. Then he replied.

“You’re funny Neesh. I think you’ve had your head in those star charts a little too long. It’s okay though, I still love you.”

She shook her head, smiled, and glanced upward. Then the smile evaporated as she began to consider the possibilities.

“Quinn, I’m serious. Voices or something entered my mind, and they also did to three of my students. Priya messaged me. She and Sophie heard the sounds too, all at the same time as we did. What about you?”

She stared into her eyepiece, awaiting his reply. She was unaware of someone waiting for her nearby.

“Sorry Neesh, I’m joking. The voices I normally hear in my mind were temporarily silent. Let’s talk when you get home. I need to finish this part of the sculpture before it dries.”

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“OK, see you at home!” she messaged.

She turned around and became aware of Mr. Kepler.

“Are you okay?” he said.

She hid her hands behind her back and tried to compose herself.

“Oh. Um, yes, I messaged my daughter. The sounds came to her too.”

He laughed.

“That’s what I wanted to tell you. Your prank may go down as one of the best at Caltech. You had everyone fooled. I gotta go, but congratulations. I’ll be here tomorrow.”

“Thanks, but—”

He raced out the door before she could say anything.

Nisha left the auditorium and walked into a faculty lounge where a dozen professors were debating the old string theory. The Grand Unified Theory still evaded them. She wanted to find out if anyone else noticed anything. However, nobody mentioned hearing voices or any other unusual sounds. She said nothing and walked out to teach her next class. Nothing unusual happened for the rest of the day, though she overheard a few students discussing the sounds. Nisha mentioned the unusual events to nobody else.

At 3 p.m. Nisha walked to her car for her short drive home. The day seemed like any other. As she drove in old-school manual

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mode to distract herself, she flipped through the news pods, but the unusual sounds weren't mentioned. She didn't see Priya on her normal route.

She burst through the front door and ran straight into Quinn's studio in the back yard. A rounded human-like shape in clay stood in the middle of the floor.

He stopped working as she walked through the door.

"Neesh? Are you okay? You're shaking."

"Quinn, I barely survived the drive home. I almost hit someone, so I switched to autopilot."

He walked over and gave her a hug.

"What were you doing driving manually anyway? You're sweating. Sit down and tell me what happened."

She couldn't sit.

"During my lecture, the voices came from behind me. Well, they weren't voices, but more like artificial static. The sound fluctuated like a crowd of voices. At first, I ignored them. Then I got distracted. I turned around and nothing was there. The students thought it was a joke, but it wasn't. A few minutes later the sounds returned. They weren't like normal sounds in my ears though. It's like when I'm silently thinking. Three students out of 300 in my class heard the sounds. I'm guessing 1% of the general population is aware of them. I need to go online and find out who else experienced them. Nobody mentioned unusual sounds on the pods on the way home."

Day One

“I never thought I’d see the day when you’re talking of things you can’t prove, and I’m the one waiting for the facts. Usually, it’s the other way around.”

She smiled.

“I never thought this day would come either, but the sounds were real. I experienced them as plainly as my own thoughts right now. You must believe me.”

He took her in his arms and whispered, “I believe you Neesh. It’ll be okay.”

“Thanks Quinn.”

Nisha ran back into the house and straight to her computer, which she normally used for data analysis. Her Reddit page remained open from early in the morning. A stream of comments mentioning the sounds exploded down her screen. Several pages down the list, Nisha read a post from an astronomer friend at the La Silla Paranal observatory in Chile.

The post read, “While performing some exoplanet calculations, I heard a million scary voices in my mind. Anyone else?”

A shiver traveled down her spine and made her toes tingle. She stared at the post, wiggling her toes as Priya walked in the front door. Nisha awakened from her trance when Priya entered the room.

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“Pree, get over here. Check this out.” she said, pulling Priya onto the chair beside her.

She wanted to show Priya the post. Priya stared at the ground.

“Pree, are you worried about the sounds?”

“Mom, a car nearly hit me on the walk home because of the distracting voices inside my head. I walked from behind a bush and then had to jump back. I don't think the driver saw me and I didn't see the driver. So, I took the long way home. The idiot was driving manually. Anyway, I heard millions of them. My heart is racing, like it's going to explode out of my chest.”

Nisha put her arms around her.

“I can feel your heart racing. Mine was too, on the way home. I almost blacked out. That car might have been me. The sounds distracted me. I forgot autopilot.”

“Oh, that WAS you. I was too distracted by the sounds to notice.”

Nisha's face turned pale when she realized what almost happened.

“Sorry Pree. I've had a dreadful day.”

“It could have been worse Mom.”

Nisha stared at her computer and couldn't say anything for several seconds. She sighed.

“Yeah, you're right. I's so sorry. I need to focus.”

You sure do,” Priya said.

Day One

“Ok,” Nisha said. “I don't think we're the only ones who heard the sounds. Check out this post from Chile.”

Priya read the post.

“I'm sick to my stomach. What are they?”

“I don't know,” Nisha said. “Do you want something for your upset stomach?”

“I'm okay. I want to know what this is.”

Hundreds of entries related to unusual sounds scrolled down the screen. They were from all over at least half of the planet. She read the first two.

“I heard some eerie sounds. I went to the bathroom and got sick. Nobody believes me.”

“Anyone know about the voices in my head? They weren't like human voices.”

Nisha and Priya scrolled through hundreds of posts all saying the same thing. Some sarcastic comments appeared too.

“Mom, they're real, what's happening? They're calling them voices.”

Priya's frightened reaction surprised Nisha. Priya was the strong one. She hadn't shown her vulnerable side in a few years. Nisha found it comforting and it brought back fond memories of

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Priya's childhood. She put her arm around Priya's shoulder, rubbing it reassuringly.

“Yes, voices. I’m not sure what's happening. I doubt they're voices. We're putting our biases on it. The posts originate from about half of the world. They’re from North and South America, across the Pacific, and over to Asia near Japan. I see no posts about the voices from Europe, central Asia, or Africa. Why?”

They huddled close to each other as Quinn came in from the back yard.

“Are you all okay? What are you looking at?” he said.

Nisha glanced up and coughed to clear her throat.

“We’re not okay, but we’re not going crazy. Check out these posts.”

Quinn glanced over their shoulders. One post after another describing the strange sounds scrolled down the page, at the rate of about two per second.

“Is this happening all over the world?”

“No. They only seem to be happening on this side of the world,” Nisha said. “That’s the odd property of these sounds. If the sounds happen again and we receive them on a particular part of the planet, I’ll be able to start to trace an origin. It may be off planet.”

Quinn began to ask another question when the school bus stopped in front of the house.

“Sanjay is home. What should we tell him?”

Day One

“I’m not sure yet,” Nisha said. “We’ll talk about this at dinner.”

Nisha turned off the housekeeping robot. She felt technology was replacing her family interactions. They got up to fix dinner and set the table as Sanjay walked in the door.

“Sanj, how did your day go?” Priya said.

Sanjay glanced around. He couldn’t focus.

“Are you upset?”

“Yeah. At first everything seemed fine and then one of my classmates began crying. She said scary sounds like voices were in her head. She calmed down and the sounds came again. The teacher told us they took her away to the psychologist. I think she went crazy. I’ve never seen a crazy person before.”

“We heard them too,” Nisha said. “Many others did. We all might be going crazy at once, but I doubt it.”

Quinn looked across the table. They sat expressionless.

“Guys?”

They appeared preoccupied and glanced behind themselves simultaneously.

“Hello? Earth to anyone?” Quinn said.

“Mom, the sounds are back.”

“Yeah, they’re back.”

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“What do they want? I'm sweating. I want to rip them out of my brain.”

“I don't know what they want, but I'm going to find out.”

Nisha glanced across the table at Quinn.

“The sounds came again just now. Did you experience anything?”

“No Neesh, what did they sound like?” Quinn said.

“Hold on.”

Nisha did a quick post to her 250,000 members in her NishaAstro Reddit community.

“The sounds are back; did you hear them?”

The replies quickly rolled down her screen.

“Phoenix: My head is splitting.”

“Chicago: The sounds are making me nauseous.”

“Calgary: I'm sweating.”

Nisha's head pounded.

“The sounds reminded me of a crowd roaring at a baseball game after a player hits a home run. Something big happened. Now they're gone. A soft static sound filtered over the top of the low sounds.”

“Could you tell what they were saying?” Quinn said.

“No. If they're voices, they don't sound like any language I know. It's full of static, so I can't tell for sure. Artificial, like bad old school radio reception. Pree, do you agree?”

Day One

“Yeah. I can’t figure out what they’re saying. It’s just a noisy robotic crowd.”

Priya’s hands trembled. Her fork rattled against her dinner plate.

“Sorry about that.”

An incoming message appeared in Priya’s eyepiece. She dropped her fork on the ground.

“Ugh, that startled me.”

She read the message with intensity.

“What do you see?” Quinn said.

“It’s Sophie. The sounds came to her too.”

Priya messaged Sophie.

“Me 2. I’m shaking. See you tomorrow. Did Amy hear the sounds?”

“No, she didn’t.” Sophie messaged back.

Nisha stood up from the table and motioned Priya to follow. An unreasonable fear twisted her guts into a knot, but she didn’t want to make Priya even more frightened.

“Let’s go back to my computer and watch what’s happening. I’m sweating, but this is exciting.”

“Wait for me!” Quinn said as they left the room.

“Amazing,” Nisha said. “There’s a flood of posts from here on the west coast of North America, around to central Asia, but

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none from Europe or Africa. Only a few posts originate from the east coast compared to eight hours ago. That's a different configuration than the last time.”

Nisha manipulated Google Virtual Earth on her screen with the Reddit data overlay and noticed a pattern. Uneasiness settled over her as she spun the world around.

“The Earth has rotated about 1/3 of a turn in the eight hours since we detected the previous sounds. The posts shifted 1/3 of the way around the Earth. I think the sounds are coming from somewhere off the Earth. It's as if the sounds ‘set’ on the east coast like a sunset and ‘rose’ in central Asia like a sunrise. In a few hours, I think they’ll set here too.”

“Mom, you’re freaking me out,” Priya said.

Nisha tried not to upset her, though she feared the worst. She didn’t think Priya had the maturity to handle these events. However, she always insisted on openness and transparency. She wiped her sweaty palms on her shirt and put her arm around Priya who sat tightly against her.

“It’s okay Pree. Isn’t this exciting? This what science is all about. Discovering the answers to mysteries. If the sounds return in a few hours, we might not detect them here because we’re on the opposite side of the Earth from where they originate. Hmm, when I spin the globe, ‘Earth’ seems like a funny name for this planet. Its surface is mostly water, not earth as in soil.”

“It is exciting, but I feel like throwing up,” Priya said.

Nisha squeezed her.

Day One

“It’ll be okay.”

Nisha posted, “I’m noticing a pattern in posts about the sounds. Will keep you updated.”

She added another post to start a discussion with her astronomer friends around the world.

“If you speculate on the weird or scary sounds, post them here.”

They watched the posts for a few hours as the stream slowed down. People speculated.

“I think the sounds are from outer space.”

“Think of a more original meme next time losers.”

“The sounds are real!”

“This weird sounds thing is a farce. Get a life.”

“NishaAstro, I used to respect you as a legitimate scientist.”

An hour later, Priya and Quinn sat close by as Nisha worked on a large sample of Reddit location data. Her agent created a new overlay map on Google Earth showing the posts recorded after the two occurrences of the sounds.

“Guys, you may not believe this,” Nisha said. “The Earth has rotated, but the angle of origin of the sounds didn’t move. Let me show you.”

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She rotated Google Earth. The posts moved across the Earth but stayed in place in relation to the stars. The effect was like the pattern of sunlight striking the Earth staying in place as the Earth rotates.

“I’ll need a few more data points to be sure but...”

“But what Neesh?” Quinn said.

Nisha held up a finger.

“Wait a minute.”

She turned to the computer and posted, “From Reddit data, the sounds are coming from the direction of Saturn.”

“Saturn?” Priya said.

“Yes. They’re not necessarily from the planet itself, but from that general direction. The distance might be closer or much further away. I don’t know.”

This created an explosion of posts, many of them skeptical.

Midnight came and went. They stayed wide awake, but school awaited Nisha and Priya in the morning. Quinn had an art installation due early. Priya slept in their room in a sleeping bag.

Day One

End of Sample.

Over 1500 pages remaining, including 99 more chapters with a high resolution illustration at the start of each chapter, a section on the science behind the story with illustrations, a discussion of story topics, and two pages detailing how the 110 high resolution illustrations in this book were created.

See more at: <https://ephemeralspecies.com/>