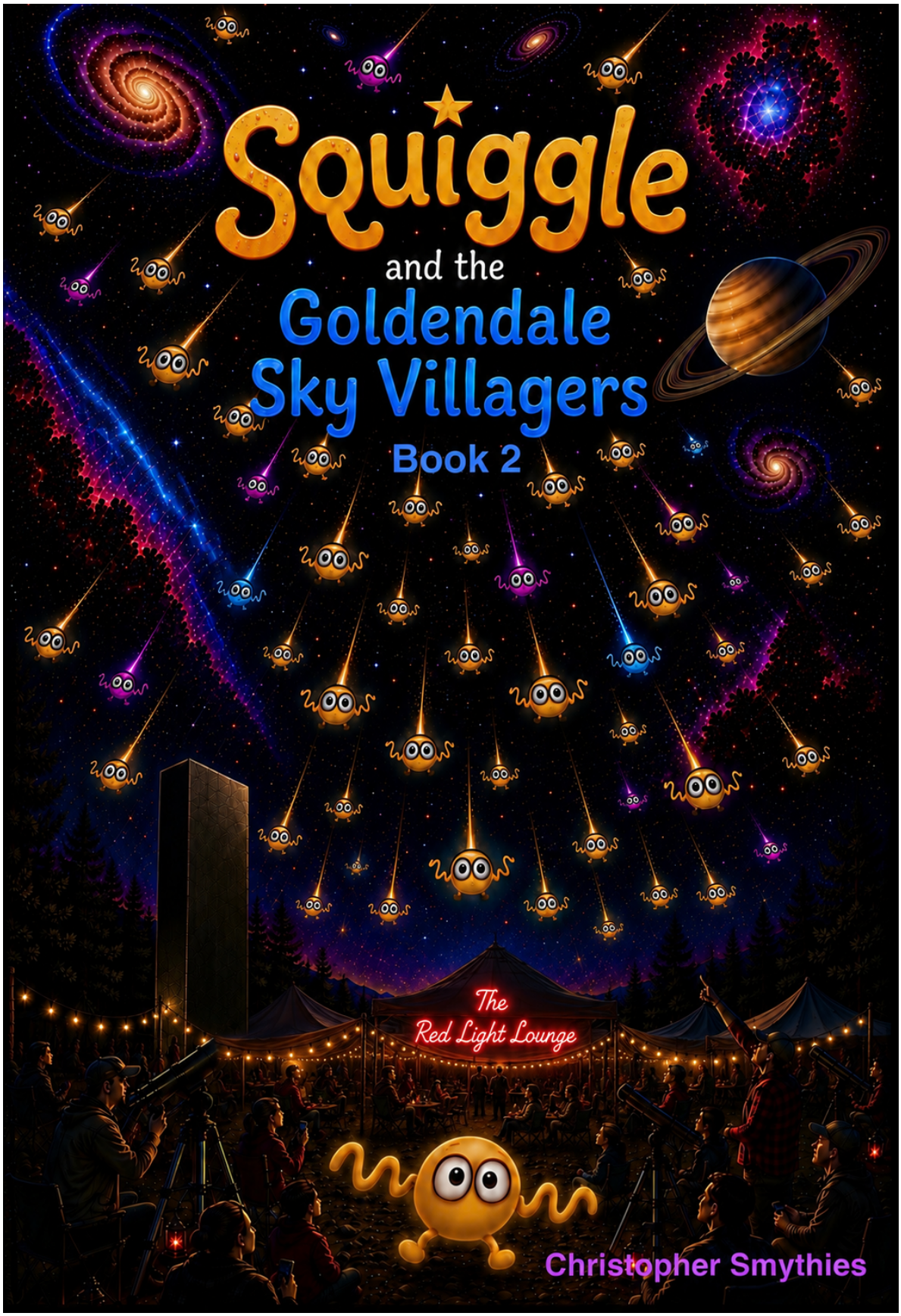

Squiggle
and the
Goldendale
Sky Villagers
Book 2
The
Red Light Lounge
Christopher Smythies

Chapter 1

I'm Squiggle the Photon.

I'm not just any photon. I'm a deep-space photon. I achieved that distinction by traveling across the universe for millions of years before finally reaching Earth. Every galaxy you've admired, every nebula you've photographed, every star twinkling in the sky—you're seeing them thanks to photons like me.

When I struck Earth and entered the girl's eye, I lost consciousness and everything went blank. When I woke up, I was on the ground, looking up. Standing over me was the same girl, maybe 14 or 15 years old. Her face had many more working parts than my own—eyebrows, nose, mouth, lips, cheeks, ears, and long brown hair. Even more strangely, she had a body that was attached to her head via a slender neck. Strangest of all, she had arms instead of wiggles. Two hands and ten fingers were outstretched towards me as she knelt on the ground.

"Hi, I'm Rachel," she said. "Are you okay?"

"I'm not sure," I replied, finding my voice.

"You're a photon, aren't you?"

"Yes . . ."

"From the NGC 3972 galaxy, I reckon. That's what I was observing when you arrived."

I nodded. "I've been traveling through space for 66 million years. Where am I?"

"This is Goldendale Sky Village," she answered. "You must be tired after such a long journey," she said. "I'll take you to my cabin. You can lie down and get some rest."

She held out her hand. My wiggles were too weak to take it, so she picked me up and carried me instead. We crossed a field towards a small cabin with a red light shining inside.

"What kind of place is Goldendale Sky Village?" I asked.

"GSV is a dark sky community where amateur astronomers come to observe the universe," she explained. "Here, we can escape light pollution and enjoy the Milky Way, and lots of other things too."

"Like me."

"That's right. We *love* deep-space photons. They make it possible for us to see the universe and give us a better understanding of our place within it. I was lucky to find you."

When we reached the cabin, Rachel pushed open the door with a foot and took me inside. The red light I had seen earlier turned out to be coming from a table lamp. "Welcome to the L-HOP," she said, as she laid me on a cot.

"The L-HOP?"

"Stands for Little House on the Prairie. Are you hungry?"

"I don't eat," I told her. "No mouth."

"Oh, sorry. I didn't notice."

"No worries. Photons don't need to eat or breathe."

"Maybe you should get some sleep instead."

"Photons don't sleep either."

Rachel lay down in another cot nearby and turned off the red light. "Well, I do," she said with a yawn. "And right now, I'm seriously overdue for some. Wake me up if you need anything—*anything* at all."

She fell asleep within minutes, and suddenly I was alone in the darkness. I looked out of a window next to me and saw constellations twinkling across the sky. The stars had been all I had known for millions of years, and now they seemed so far away. I had been on this strange planet for only a short time, and the novelty was already fading. In its place came something I hadn't expected.

I missed home.

Missing home.

Chapter 2

When the sun rose the next morning, I was feeling a bit stronger and so Rachel offered to take me on a tour of Goldendale Sky Village. The first stop was the Portal, a grassy field at the center of the village where several telescopes were set up. There were no human beings to be seen anywhere.

"Where are they?" I asked.

"Still asleep," she answered. "Most of them were observing all night, so they won't get up until at least 10 o'clock." She took me over to one of the telescopes and said, "This is the instrument I was using when I saw your galaxy. It's a 5-inch refractor, meaning the lens up front is 5 inches across. That's the part that collects light, bends it, and sends it down to the other end where there's an eyepiece I can look through."

I took a step closer and studied it. The telescope was attached to a mount which enabled it to follow the stars as they moved through the sky. The mount was resting on a tripod that kept it firmly planted on the ground. Counterweights stuck out below and kept everything in perfect balance.

Rachel's telescope.

"It looks so complicated!" I said.

"If you think that's complicated, how about the one over there?"

She led me to another telescope a few yards away. It had the same basic components—a tube, mount, counterweights—but there were lots of cables and no eyepiece at the bottom end of the tube. Instead, there was a contraption which I couldn't identify.

"What's that?" I asked.

"This telescope belongs to Mark who is an astro-imager," she explained. "You see, there are two kinds of observers—visual observers and imagers. The visual observers look through their telescopes with their eyes. That's what I like to do. Imagers don't look through their scopes at all. They take pictures instead. That thing at the end is a special camera designed to photograph stars."

A telescope set up for astro-imaging.

"So photons arriving from outer space don't always hit eyes like I did," I said. "Sometimes they hit cameras instead."

"That's correct. They hit a sensor in the camera where they are converted into electrical signals which are then processed into beautiful images."

I stared at the camera with new understanding. "So that's where some of us end up!"

"Millions of you," said Rachel. "Maybe even billions."

"Are all telescopes like these two?"

"No, there are reflectors too. The one over there is called a Newtonian reflector because the design was first built by somebody called Sir Isaac Newton a long time ago. It doesn't have a lens at the front. Instead, it has a curved mirror at the back. When light hits the mirror, it's reflected forward, hits another smaller mirror, and then is reflected again into the eyepiece. Let me show it to you."

I went with Rachel to see the reflector, and was impressed by how big it was. "How can this get so big?" I wondered aloud.

"That's because it's much easier to make and operate a large mirror than a large lens. The biggest lens in the world is 40 inches across. If you make one much bigger than that, it'll sag under its own weight and distort the image. The largest single-piece mirrors are more than 27 feet across. They're supported from behind and work well even at that size. A bigger aperture—or opening—means more deep-space photons can be collected from the sky. The more photons you have, the better the view."

Checking out a large reflector telescope.

Suddenly, my legs felt weak and buckled. I was on the ground before I knew what was happening.

"Squiggle, are you okay?" asked Rachel, rushing to my side.

"Let's go back to the cabin," I said. "I'm not as strong as I thought."

Rachel carried me to the L-HOP, and placed me gently on my cot. Later that morning, I heard human activity outside—voices, hammering, music—as the sky villagers were beginning to wake up and move about. I felt as if I should go out and meet them, but buried my face into my pillow instead.

"What if they didn't like me?" I said, my voice muffled by the feathers. "What if they tell me to leave? Where would I go?"

"You're talking nonsense," said Rachel. "Of course they're going to like you. This is your home now."

I stayed on my cot for the rest of the day. When evening arrived, clouds rolled in from the west and hid the stars from view. Rachel was unable to observe and went to bed early.

I sat on my cot and stared sadly at the sky. That morning, I had learned that telescopes could reach far into space and gather photons like me. Perhaps if I looked through one, I would see something familiar. Might even make me feel better. But tonight, there was nothing to see.

Rachel had told me I belonged here now, but I never felt so far from home.

Chapter 3

"The sky villagers are having a star party tonight, and you're invited!"

I cracked open an eye and saw Rachel at the end of my cot, smiling at me.

"What's a star party?" I asked, conjuring up an absurd image of stars drinking and dancing to loud music.

"It's when all the villagers bring their telescopes to the Portal and observe together. They want to meet you."

"Oh, I don't know . . ."

"Squiggle!" said Rachel loud enough to make me jump. "You've been here a week now and you still haven't talked to anybody except me. It's high time you did! They're nice people. They want to make you feel at home."

"How are they going to do that?"

"They can show you objects in the sky. You might even see something you recognize."

I was about to dig in my heels and say 'no', but then I hesitated.

Something I might recognize?

That sounded interesting. Maybe it wouldn't make me feel any better, but it couldn't hurt.

"Okay," I said. "If I must. But I'm not going to stay out there late. If I want to leave early, you won't stop me. Is it a deal?"

"Deal!"

Chapter 4

As the sun set in the west and the skies overhead slowly darkened, a palpable sense of excitement ran through GSV. About 75 amateur astronomers and their families were part of the community, and only about half normally visited around the time of the new moon when the skies were darkest. On this occasion, however, almost everybody was there, and the Portal was packed with people setting up their telescopes. There could only be one explanation for the extraordinary turnout: news of my arrival had spread and everybody wanted to meet a deep-space photon.

Most star parties at GSV begin with a potluck dinner held at the Red Light Lounge, the social center of the village. Picnic tables and camp chairs were scattered about under four or five canopy shelters joined together. Strings of red Christmas lights hung from above, bathing the whole area in red to preserve night vision. Around the edges of the lounge were more tables laden with food the villagers had brought with them.

When Rachel and I arrived, there were dozens of people sitting around enjoying lively conversation. A woman broke away and hurried over to me.

A potluck dinner at the Red Light Lounge.

“Hi! I’m Jenny,” she said to me with a friendly smile. “Welcome to the Red Light Lounge. Before we eat, I always introduce guests who’ve never been here before. You’re Squiggle, right?”

I nodded, and was about to mention I wouldn’t be eating because I didn’t have a mouth when she suddenly turned away and rang a bell.

“Can I have everybody’s attention, please?” she said above the general conversation. When it died down, she continued. “We have a very special guest tonight. His name is Squiggle, and he’s a deep-space photon from the NGC 3972 galaxy 66 million light-years away. That means he’s been traveling through space ever since the dinosaurs were around. Forgive him if he looks tired, but he’s a little jet-lagged right now.”

Everybody broke into laughter and applauded.

Rachel gently elbowed me. “See?” she said quietly. “I told you they would like you.”

“This is the first time Squiggle has ever been to a star party,” Jenny continued, “so please show him things through your scopes. He might not be able to stay up very late, but we can surely take care of him while he’s awake!”

I wanted to tell her photons don’t sleep, but Rachel gently stepped on my foot and silenced me before I could say anything.

“I know everybody is hungry,” said Jenny, “so I won’t delay things any longer. Form a line over there, and help yourselves to some delicious food!”

Chapter 5

When the potluck dinner ended, the star party began. With red lights leading the way, the villagers went to their telescopes scattered throughout the Portal and started observing. As the sky gradually darkened into complete blackness, everybody became increasingly more indistinct until they disappeared altogether. Only the red lights in their hands, flittering around like fireflies, revealed where they were. Conversation was generally quiet and low key, punctuated by the whirring sound of mounts slewing their telescopes towards their targets.

“Come on!” said Rachel, grabbing one of my wiggles. “Let’s go and look at some things!” Following a line of faint glow stones on the ground, she led me onto the Portal. “We’ll start with the Moon.”

I looked towards the western horizon where a thin crescent of light was hanging just above distant pine trees. “What’s the Moon?” I asked.

“It’s a ball of rock over two thousand miles wide,” said Rachel. “Orbits the Earth at a distance of about 250,000 miles. Not much there aside from dust.”

“Let me show it to you!” a villager called from the darkness. I couldn’t see what he looked like, but Rachel knew who it was.

“Hi, Peter!” she said. “Yes, please show the Moon to Squiggle.”

“Sure!” Peter gripped the tube of his 16-inch reflector, swung it around, and carefully aimed for the target. After a few moments, he said, “I’ve got it!” and stepped away.

The Moon

Rachel lifted me up so I could look through the eyepiece.

"I see mountains!" I exclaimed. "And craters! What is this place? I never noticed it when I arrived."

"That's probably because you passed it less than two seconds before you hit Earth. You had more important things to be thinking about."

"Tell me something about this planet," I said, gazing at it in wonderment.

"It's not a planet," said Peter. "It's our only moon and it's tidally locked to us. That means it rotates once in the same time it takes to orbit Earth, so the same side is always facing us. We never see the far side from here. Takes about a month to complete one full orbit. As it goes around, the sun illuminates it more and more until it becomes a complete disk, and then less and less until it's only a crescent. Right now, it's getting thinner and thinner. In a day or two it'll be a new moon, and we won't be able to see it because the sunlit side will be facing away from us."

"Interesting! Do people live there?"

"No, not yet," said Peter. "It's a very inhospitable environment. No air at all. Just rocks and dust."

I studied the Moon for a while longer, noticing how the low sunlight cast long shadows from the crater rims and mountains, bringing them into sharp relief. Eventually, I stepped back from the eyepiece. "That was amazing!" I told Peter.

"If you think that was amazing," he said with a grin, "wait until you see Jupiter."

A star party on the Portal

Chapter 6

"I'll show you Jupiter!" offered another voice from the darkness. A red light moved around with urgency as if I was being beckoned over. "I'm Bob, and my telescope is already pointing at it."

I thanked Peter and said hello to Bob. He was standing next to a similar telescope that was aiming at a different part of the sky.

"See it?" he asked, before I'd had a chance to reach the eyepiece.

I peered through with one eye and spotted a small sphere reflecting bright light from the sun. It had two orange bands wrapped around it, and a tiny red spot in the lower right. "Yes, I do!" I exclaimed with excitement.

"Jupiter is the largest planet in our solar system," he said as I studied the surface details. "More than 1,300 Earths could fit inside it. Just a giant ball of gas, really. Mostly hydrogen and helium."

"I was born when two hydrogens formed a helium!" I said. "Maybe I have distant cousins on Jupiter!"

"A day on Jupiter lasts only 10 hours," continued Bob. "Faster than any other planet despite its size. All that spinning makes its equator bulge and flattens the poles. Do you see the red spot?"

"Yes!"

“That’s called the Great Red Spot. It’s actually a gigantic storm that’s been raging for hundreds of years. The winds inside can reach 400 miles an hour.”

I stared at it for a few moments and tried to imagine a storm large enough to swallow Planet Earth. Then I noticed something new. “There are four little points of light beside it, all in a row!”

Jupiter and its four largest moons.

“Ah!” said Bob. “Now you’re looking at my favorite part. Those are four of Jupiter’s moons: Io, Europa, Ganymede, and Callisto. Galileo saw them through his telescope more than four hundred years ago.”

“How many moons does Jupiter have?”

“More than 90 that we know of.”

“More than 90!”

“Ganymede is the biggest moon in the entire solar system. It’s even bigger than the planet Mercury.”

I went back to the eyepiece. Suddenly, Jupiter didn’t look like a planet with four little points of light beside it. It looked like a miniature solar system.

Rachel’s voice reached me through the darkness. “If I’m not mistaken, Squiggle,” she said, “I’d say you really like telescopes.”

I pulled away from the eyepiece to let somebody else have a look, and thought about what she’d said. She was right. For the first time since my arrival on Planet Earth, I was not thinking about how much I missed home. I was actually enjoying myself.

Why?

I had traveled 66 million years from NGC 3972 to reach this place.

Thanks to the sky villagers’ telescopes, I was back amongst the stars.

Chapter 7

After Peter and Bob, other sky villagers showed me exciting things in the sky. Keith pointed his telescope at Saturn, and was flabbergasted when I casually mentioned that I had passed between the planet and its rings only one hour and ten minutes before my arrival on Earth. I also told him about my encounter with Pluto, and asked him to show it to me. I especially wanted to see the heart on its surface again—a special welcome I had received when I entered the solar system from interstellar space.

"I'm afraid Pluto is too small to see with my telescope," said Keith. He might have been shaking his head with disappointment, but I couldn't see him well enough in the darkness to tell. "It was discovered in 1930, only after an astronomer called Clyde Tombaugh took photos of the stars in a particular patch of the sky. When he compared photos taken on different nights, he noticed that one point of light had moved against the background of stars. That meant it was something much closer to us."

John was the first to show me some sights outside the solar system. He literally focused on nebulae, telling me there are five different kinds.

"Emission nebulae are glowing clouds of ionized gas," he explained, "usually energized by nearby hot stars. Let me show you an example—the Eagle Nebula."

Looking through the eyepiece, I studied the faint glow for a while.

"Where's the eagle?" I finally asked.

Can you see the eagle?

“You have to use your imagination,” said John. “Reflection nebulae,” he continued, “are dust clouds that don’t produce their own visible light but reflect the light of nearby stars. Dark nebulae are dense clouds of dust that block the light of stars or bright nebulae behind them. Planetary nebulae are shells of gas expelled by dying Sun-like stars. Despite the name, they have nothing to do with planets. And lastly, there are supernova remnants—expanding clouds of material left after a massive star explodes.”

John proceeded to show me examples of each, enthusiastically slewing his telescope from one target to the next and pointing out their most prominent features. I remembered Flatus, and wondered which kind he was.

When it was Stephanie’s turn to be my guide, she didn’t need a telescope. She simply pointed up. “See that faint river of light that stretches right across the entire sky? That’s the Milky Way—our own galaxy! Its core is in the south. You can actually see it shines brighter down there. More than eighty percent of the world’s population lives under light-polluted skies. Billions of people have never even seen the Milky Way.”

For hours, I was shown a sky full of gems. By two in the morning, there were significantly fewer villagers still observing. Even Rachel had gone to bed. By three, there was almost nobody left. I went over to one of the few who remained. When I was close, I saw the dark shape of a man sitting at a table next to his telescope. He was hunched over a laptop with red light keys and red plexiglass covering the screen.

“Hi,” I said. “I’m Squiggle. You’re not looking through your telescope?”

“Hello, Squiggle,” said the man. “I’m Mark. No, I’m not a visual observer. I like to photograph the stars.”

Mark is photographing the Andromeda Galaxy

I remembered the telescope Rachel had shown me on my first day at the village—the one with a camera instead of an eyepiece. “How do you do that?” I asked.

“Well, I control the telescope with the software inside this laptop,” Mark explained. “It finds the target, focuses on it, keeps it locked in the crosshairs, and takes one long exposure after another . . .”

“. . . capturing lots of deep-space photons like me.”

“Exactly! Each of my exposures lasts five minutes, and I can take nearly 60 of them over a night like this one. During the day, I’ll stack them together and create a single photo.”

“What are you targeting tonight?”

“I’ll show you.” Mark tapped on the keyboard with his fingers and an image of a galaxy appeared. “This is Andromeda,” he said. “It’s our closest large galaxy, about two and a half million light-years away. It’s coming towards us at about 250,000 miles an hour. In about 4 or 5 billion years, it could collide with the Milky Way, although nobody’s quite sure.”

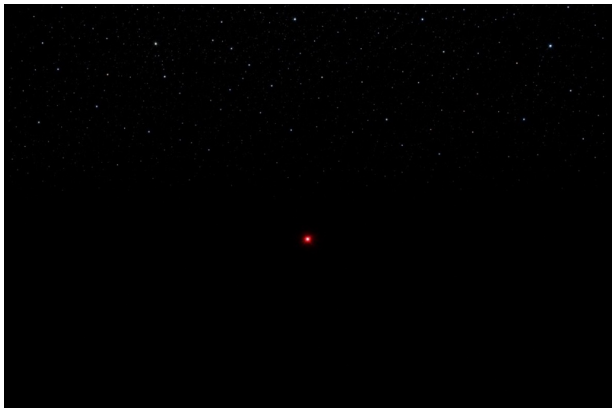
I spent an hour with Mark, watching him and learning as he took one five-minute exposure after another. Eventually, Mark also went to bed, leaving his rig to keep imaging while he slept. I was beginning to wonder whether my own night of observing was at an end when I noticed one more faint red light in the distance. I decided to investigate.

Little did I know I was about to make the most stunning observation of the entire star party.

Chapter 8

As I carefully followed a trail of glow stones towards the red light, I became aware of how quiet the Portal had become. Gone were the whirring sounds of slewing telescopes and subdued conversations. No more outbursts of laughter or calls to come and look at something really cool. The star party had morphed into something completely different.

A distant dog barked into the night while the stars watched silently from above. A gentle breeze whispered through the surrounding ponderosa pines. When the air stopped moving and was once again still, I had an overwhelming sense that the whole universe was holding its breath, waiting for something momentous to happen.



A single red light in the darkness.

When I reached the red light, I saw that it was coming from an electronic display near the ground—digital numbers indicating the coordinates of a target in the sky. I looked up and could discern the dark outline of the biggest reflector telescope I had ever seen—much larger than the one Rachel had shown me. This one was accompanied by a ladder which seemed to ascend all the way to the stars.

"Hello?" I called. "Is anybody here?"

There was no answer.

"I'm Squiggle," I said. "If it's not too much trouble, I'd like to—"

The huge telescope started slewing by itself. As it did so, I noticed the red digital numbers on the electronic display changing rapidly. When it finally came to rest, it was pointing in the direction of the northern sky.

"So, you want to show me something?" I said. "Okay, I'm game."

I reached for the bottom of the ladder with my wiggles and started climbing. I was about halfway up when I realized that this was not such a good idea. It was very dark, and the ladder was getting narrower and narrower the higher I went. What if I missed my step and fell off? Who would know I'd had an accident and rescue me? If I was smarter, I would have gone back down. But something powerful was drawing me towards the eyepiece above me, so I kept going.

When I finally reached the top, I was trembling. Gripping the ladder tightly with my wiggles, I leaned forward, looked through the eyepiece, and instantly recognized what I was looking at. A faint core . . . graceful spiral arms . . . a galaxy seen almost from the side . . .

It was NGC 3972!

I was staring at my home, and it looked exactly the same as it did when I left it 66 million years ago.

I felt faint. My grip on the ladder loosened and suddenly I was falling. A moment later, I hit the ground and everything went blank.

NGC 3972

Chapter 9

When I regained consciousness, the night was over and the sun was rising in the east. I was lying on the ground with my face buried in dead leaves. I heard the gobbling of a wild turkey inside my head. Obviously, I had suffered a concussion. When I looked up and came face to face with the real thing staring straight at me, I jumped back with surprise. It flapped away, and a confrontation was averted.

I stood up and tried to get my bearings, but saw nothing I recognized. The telescope and its ladder were gone. I started walking, but the deeper into the trees I went, the more lost I became.

Panic was growing within me when, suddenly, I heard some faint music.

It was a choir, but the individual human voices disappeared into a dense, slowly shifting cloud of sound. As it grew louder, it became punctuated by wailing, screaming, pleading, and immense collective cries. Intrigued, I headed towards the source of this otherworldly music and soon stepped into a clearing. There, right in front of me, standing tall, black, and perfect in all its dimensions, was the same rectangular slab of some metallic substance I had seen in intergalactic space halfway through my journey. But . . . how could it be the same one? I had been traveling at the speed of light and the strange object I saw was going much, much slower. According to the laws of physics, it couldn't possibly be the same one.

A strange object at dawn

I cautiously approached the . . . *thing* with an outstretched wiggle. With each step I took, the music emanating from within it grew louder. When I finally made contact with its smooth

surface, however, the voices abruptly stopped as if I had triggered something within. In the silence that followed, I received two mind messages from the furthest reaches of the universe. They were simple, understandable, and deeply reassuring.

The first: Goldendale Sky Village was now my home.

The second: the Goldendale Sky Villagers were now my family.