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Luminance

Ella Young

Western Oregon University, pyoung15@mail.wou.edu

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Luminance

a novel

By
Ella Young

An Honors Thesis Submitted in Partial Fulfillment of the
Requirements for Graduation from the
Western Oregon University Honors Program

Dr Henry Hughes,
Thesis Advisor

Dr. Gavin Keulks,
Honors Program Director

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Only the first and second chapters have been included here. If you would like to read this work in its entirety, please visit [Amazon.com](https://www.amazon.com) to purchase the full novel.

Abstract

For my thesis I decided to go the creative route and write a novel. There is a definite lack of LGBTQ+ genre fiction for young adults being written, and so I wanted to add to this slowly growing literary niche. The plot of my book follows sixteen-year-old Ji, a botanist from the snowy planet of Pan Ku, millennia after Earth's destruction. It covers themes of racism, immigration, rebellion, and acceptance while still being an engaging read. My book is available in paperback, self-published under my own name. This required me to format my thesis into a standard novel layout, as well as to create cover art that would draw in potential readers. With this book I sought to immerse readers in a rich fictional world while allowing young LGBTQ+ adults to see themselves in a fantastic setting.

Plot Summary

Earth is dead.

In desperation, humanity has fled their birthplace, seeking out a new home among the stars. After millennia in space, they find hope in the form of an ice-covered planet called Pan Ku.

Sixteen year old Ji, a botanist, now works tirelessly to terraform the planet before the ark ship that carried humanity there gives out. However, during a routine mission, disaster strikes and leaves Ji stranded in a strange sector of space, far away from anyone she's ever known.

Before long Ji finds herself caught up in a conflict she has no part in, imprisoned on a planet she didn't know existed, surrounded by beings she never could have imagined. Now it's up to Ji not only to save her people, but to save herself.

(Chapter excerpt from the novel *Luminance*)

CHAPTER ONE

“I don’t know if I’ll ever get used to the sight of a horizon,” Wei Feng sighed over the comm, voice wistful. Yao Ji looked up from her own zip’s control panel, taking in the crystalline plane of Pan Ku. A flat, snow-covered tundra ran for fifty kilometers in every direction before colliding with an equally pale sky. For someone raised on an ark ship, where every window opened to the endless vacuum of space, the finite view was strange. Almost claustrophobic.

“Wait until you see a sunrise,” Yen Daiyu answered. Unlike Ji and Feng, who only visited Pan Ku once a week to check on their greenhouse, Daiyu was stationed there with her team and three dozen lab rats for months on end. Studying the effects of the alien atmosphere on mammals was a lot more labor-intensive than studying a few tomato plants, which could be cared for and observed remotely.

Ji smiled at Daiyu's voice. “I think I’ll pass. I’d miss hot food and warm showers too much,” she said. She returned her attention to the zip’s control board,

prepping the single-person craft for landing. The Pan Ku outpost was fast approaching on her sensors.

“Where’s your sense of adventure, Ji?” Feng dropped his own zip into line with hers. Ji turned her head, catching her mentor’s smiling eyes through the side of the windshield.

“It died when I spent the first seven years of my life on this frozen rock,” she said. “I’ll get back to you once we’ve raised the global temperature a few degrees.”

“You’ve grown so soft,” Feng teased. Ji could almost hear him rolling his eyes.

Conversation lulled as the ice-covered apron of the outpost came into view. With practiced ease, Feng and Ji glided their zips onto the frozen concrete and stalled their engines. After a few hundred trips to the surface, the slippery apron became less daunting to land on. It was not, however, any easier to walk on, as Feng promptly face-planted exiting his craft.

Ji couldn’t stifle her laughter. “And yet you want to stay here longer than necessary.”

Feng’s face flushed as he straightened up, arms out for balance. “Excuse me, I just haven’t found my snow legs yet.”

“I doubt you’ll ever find your snow legs,” Daiyu teased him over the comm. “Now get inside. I’ve got reports of gusting winds and ice flurries on the perimeter sensors.”

“A real Pan Ku welcome,” Ji said, shuffling across the apron with Feng sliding along behind her.

Despite Ji's earlier jab, the inside of the Pan Ku outpost was kept at a balmy twenty-two degrees Celsius, notably more comfortable than the negative sixteen degrees outside. And no sooner had Feng and Ji sealed the main door than the incoming storm descended on the cluster of buildings that comprised the outpost. Gale-force winds shook against the steel walls. Feng hunched involuntarily and looked up, as though expecting the low ceiling to cave under the weather.

The two scientists stomped the snow off their boots and shed their cold weather gear onto a coat rack in the room lovingly called the "Grand Foyer." It was anything but grand, an old ten by ten room with an eight-foot ceiling. Once paneled in sleek metal, whole plates were missing from the walls, exposing the wires underneath. There were four doors set into these walls. One opened outside, and the final three led to the outpost proper: to the east were the biology labs and the greenhouse, to the north lay the sleeping quarters, and to the west were the physics labs and outpost generators. All buildings were connected by thin corridors, eliminating the need to go outside unnecessarily. These corridors were a relatively recent addition. In times past, the scientists would suit up just to move from unit to unit.

The corridor that led to the greenhouse was long and studded with windows just large enough to let light in. It was narrow as well, and required Ji and Feng to walk single file. They talked idly as they went, tones light. At the end of this long hall was the hope they'd been after for nearly two-hundred years.

The problem with alien worlds was that they were, well, alien. Earth plants and organisms were not capable of growing in non-Earth conditions. As the only

botanists with clearance to visit Pan Ku's surface, it was Ji and Feng's job to find ways to cultivate crops in such inhospitable environs. And, if the fresh sprouts they'd seen on camera from the *Fangzhuo* were any sign, they'd done it.

Ji stopped at the entrance to the greenhouse, her good mood evaporating instantly. Before her, instead of the hopeful green seedlings they'd seen on the cameras yesterday morning, row upon row of shriveled tomato plants littered the tilled soil. Most of them had collapsed, their malnourished stems unable to support the weight of the infant plant.

Feng cursed loudly, stopping by her side. Both scientists stared in disbelief at what had been, less than twenty-four hours ago, a flourishing crop. "Not again!" He blurted out at last, brushing past her and stepping inside to inspect the dead tomatoes up close. "It's been one day. This happened in *one day*."

Ji felt numb. It wasn't the first time they'd walked in to find their crop dead, but in the previous trials there had at least been warning. A discolored leaf, a stunted sprout. This time, the crop had gone from prospering to dead in less than a day. It was a new record. Ji followed Feng through the rows, eyes peeled for something, anything, alive. "We're missing something, Feng. We have to be. Did you check soil nitrogen content? Did we adjust for elevated magnesium levels?"

"Yes, yes, we did all of that. The nutrient mixes were perfect, the water levels were perfect...we did nothing wrong."

But clearly, they had done something wrong. This crop had lasted barely a month before shriveling and succumbing to whatever unidentified toxin resided in Pan Ku's soil. No matter what adjustments they made to the nutrient mixes, the

sprinklers, or the light intensity, the tomatoes just wouldn't take. Just like the corn, and the potatoes, and the wheat, and the rice. There had to be something in the soil, something that they couldn't test for and therefore couldn't identify, that was killing the crops before they even had a chance to flower. If only they had the means to describe it.

Ji crossed her arms tightly, suddenly cold in the humid greenhouse. An idea was forming in her mind, one that she didn't particularly like, but which could improve the next crop's chances. "With our next crop, what if we...what if we stayed on the surface? You know, so we could have hands on when the tomatoes started going south—"

Feng glared at the dirt and angrily carded a hand through his hair. "I thought you didn't like the idea of staying down here. That it made you uneasy."

Ji exhaled through her nose. "If it meant the success of a crop—"

"But would it help, Ji?" Feng snapped. "What could we possibly do down here that we couldn't on the *Fangzhou*? Sing to them?"

Ji looked skyward, digging the toe of her boot into the soil. She knew what she could do. "I don't know, Feng. Maybe? There's something we're doing wrong. Plants don't just die for no reason."

A muscle in Feng's jaw twitched. They stood in silence among the withered bodies of their work, the weight of their predicament resting soundly on their shoulders. Everyone down here on Pan Ku's surface was truly the *Fangzhou's* last hope; humanity had traveled through star systems for millennia, and the years had worn heavily on their ark ship. The *Fangzhou* could remain space worthy for maybe

another century, but eventually it would reach the end of its functional life. When that happened, humanity needed somewhere else to live. And if Feng and Ji couldn't get the Earth crops to take to Pan Ku's soil, there would be nowhere for them to go.

Finally, Feng sighed. It was a sad, defeated sound. "Fine. It can't hurt, at least. I'll go comm the *Fangzhou*, tell them we're staying. You can start cleaning up, I guess."

Ji watched Feng leave, waiting until his dark hair was out of sight, before kneeling in the dirt at the base of a row. At her feet was a tomato plant, one of the few that hadn't collapsed under its own weight. Gently, she prodded at one of the shriveled leaves. It broke off in her hand. The plant was assuredly dead, then, past the point of return. But she had to try just to be sure. With one glance over her shoulder, she gingerly wrapped her palms around the weak sprout and exhaled.

A silvery-blue mist radiated from her hands, clinging to the dried leaves and wreathing around the blackened plant. For a brief moment, color returned to the tips of its leaves. The stem seemed to thicken and stand up straighter. But just as suddenly as the green reappeared, it vanished, and the tomato plant crumbled to dust. Ji sat back on her heels, dusting the powdered tomato plant from her hands. The blue mist faded into nothing.

This power, her power, had limitations. She couldn't raise the dead. But, if she could get to the plants as they were dying, give them a boost to fight off whatever was in the soil, there might be a chance to save them. The little bit of green Ji had seen filled her with hope.

The comm band on her wrist buzzed. "The Ag overseers and *Fangzhou* Science Authority have given us the OK. However, the *Fangzhou* reports increased activity in

the sun's corona. We can stay but we should be ready for immediate evacuation following an ejection." Feng reported.

Ji smirked. In over two hundred years, Pan Ku's sun had never displayed the level of solar activity that had been seen in Earth's sun. The odds of the activity spawning a solar flare or coronal mass ejection were unlikely. "Noted, Feng. Now shall we get to work?"

"Ready when you are."

~ ~ ~ ~

Ever since Ji could remember, she'd been able to conjure the silver-blue mist. She had no idea where it came from, very little clue about what it could possibly do, and to her knowledge no one else on the *Fangzhou* shared her power. Ji's first memory of it was during her formative years on the Pan Ku outpost, sitting in one of the old botany labs and watching the earthworms writhe in the soil.

"Why are they called that?" Ji remembered asking her mother. Yao Lai sat down on the lab stool beside four-year-old Ji.

"Why are they called what?"

"Earthworms?"

"Because that's what they are; worms from Earth."

"Earth?"

Lai smiled. "You know what Earth is. You've seen pictures."

Young Ji thought hard about that, puzzled. "So these worms are from a picture?"

“Well, no. Those pictures are of a place that used to exist, called Earth. Earth was a planet almost like Pan Ku, but with more green. Lots more green. And these worms came from Earth.”

“Ah,” Ji said, as though she understood. She didn’t. Everyone talked about this Earth, about how great it was, but if it was so great why were they on Pan Ku? Pan Ku was not great. It was cold and far too bright, and if you stayed outside for too long you got “frostbite” (which was weird because nothing actually bit you), and then they had to cut off your fingers and toes. But inside it was stuffy and boring and there was nothing to do all day but look at earthworms. If Earth was so great, why didn’t they live there?

Ji thought about asking, but Lai had already stood up. She had more work to do (she always had more work to do), and so she left Ji to stare at the earthworms. Staring at the earthworms was boring, though. Ji wanted to play. Maybe the earthworms wanted to play, too! Digging in the dirt all day didn’t seem very fun.

Young Ji stood on the stool and leaned over the terrarium, glancing over her shoulder to see if Lai was watching. Lai was at a microscope, looking at slides of something boring, and not paying attention to Ji. With as much stealth as a four-year-old could muster, Ji stood on her tiptoes and reached over the terrarium’s glass wall, groping in the soil until she felt the slimy-cold skin of the earthworm on her fingertips. Grinning, she clamped her small hand around the worm and pulled.

“Kun!” Lai gasped suddenly. Young Ji was startled by her mother’s voice. She yanked her hand out of the terrarium, worm still firmly clasped in her fist, but the stool she stood on wasn’t designed with startled children in mind and started to

topple. Ji felt herself falling, too shocked to be afraid, and suddenly she wasn't falling at all.

Lai stood over her, panic in her eyes, and Ji became aware of her mother's arms around her. "Kun, what were you thinking?" Lai asked in a hoarse whisper. Ji blinked up at her mom, then glanced at her fist.

"I wanted to play with Earthworm," she explained, holding up the now-limp body of the creature for her mother to see. The panic drained from Lai's face.

"Oh, Kun," Lai said, and gently set Ji on the floor. Ji opened her fist, excited to play with the wriggling earthworm, only to see that it wasn't quite so animated as before. Its tail end twitched half-heartedly, and when she set it on the tile it barely moved at all.

"Come on, Earthworm. Move!" Ji prodded the worm's side, then looked up at her mom, confused about why it wasn't moving.

"I think he's dead, darling," Lai said, kneeling down to Ji's level. Ji didn't like the way her mother said "dead". It sounded bad.

"What's "dead"?"

"It means...well, it means he's gone to sleep and he won't wake up."

"Not ever?"

Lai shook her head. "No, Kun, I'm sorry. Not ever. You see, some animals are meant for playing, and others are meant for looking. Worms were hardy creatures back on Earth, but the air on Pan Ku makes them fragile. They can't handle playing with us."

Ji looked down at her worm friend, realization dawning. “I did that to Earthworm?”

Lai pulled her into a hug. “I’m sorry, Kun. But now you know. It’s a hard lesson to learn.”

“What do we do with him?”

“We could bury him, if you want. Give him a nice place to rest forever.”

“In there?” Ji pointed to the terrarium. It was so small, Earthworm deserved someplace big to sleep forever.

“Or,” Lai stood up and looked down at Ji, “We could bury him outside. The snow’s just stopped.”

The prospect of getting out of the lab was tantalizing. Ji brightened instantly. “Okay!”

“Go get your coat, love,” Lai said, shooing Ji out of the lab.

Ji carefully picked up her dead earthworm and toddled through the halls to her parents’ room. As she walked, the worm curled pitifully in her hand. The worm wasn’t yet dead, but he was dying.

Ji stopped. If the worm wasn’t asleep yet, it would be mean to put him to bed before he was ready. When Ji didn’t want to sleep, her dad sometimes told her stories. Ji decided that maybe she could tell her earthworm a story, too. She sat down in the hallway, her back against the cold outpost wall, and cupped the worm in her hand.

“I’m sorry, Earthworm. I didn’t mean to hurt you,” she said to him. The worm seemed to respond to her voice, nudging at her thumb. She felt tears well in her eyes. It wasn’t fair! This worm didn’t want to die. He didn’t want to sleep. And Ji

didn't want him to sleep, either. She was quite sure she hadn't wanted anything more in her entire life.

And then, before her eyes, came the mist. A puff of silver-blue that coated the worm and was gone, so fast that Ji wasn't sure she'd seen it correctly, but when it vanished the earthworm no longer lashed pitifully. He inched to the end of her finger, more alive than ever.

Ji had rushed back to her mother, careful not to injure her earthworm again, and Lai, more than a little surprised, quickly put him back in the terrarium.

"We were lucky this time. Your earthworm is hardier than I thought."

"It wasn't him, it was me!" Ji said, tugging at her mother's sleeve. "I healed him."

Lai smiled. "Oh, did you now?"

"Uh-huh," Ji nodded emphatically. "My hands got all blue and then they went white again, and suddenly Earthworm was alive."

Lai raised an eyebrow.

"Look, Mom, I can prove it!" Ji held up her hands and squinted at them, willing the blue mist to appear. Nothing happened. "Well, it worked a minute ago."

"Okay, darling." Lai said, writing off Ji's story as a child's imagination. But Ji never forgot how she'd saved her friend.

~ ~ ~ ~ ~

The first night at Pan Ku outpost was, to be quite frank, one of the worst nights in Ji's recent memory. The outpost was only prepped for an overnight complement of two dozen people, and since Daiyu had twenty-two people on her

staff, that meant that either Feng or Ji would have to go without a bed until a supply zip arrived the following morning. Feng was all ready to give up the bed, until he went out to grab supplies and fell hard on the ice yet again. There was no way that Ji could, in good conscience, keep him from the mattress after that.

So she gathered up what blankets she could, bid the rest of the science team good night, and hunkered down in the only space large enough to stretch out in: the botany lab.

Botany Lab #3 had changed considerably since Ji had last played there with her mother; the large terrarium was gone, as the newly-constructed greenhouse had rendered it unnecessary. The assortment of beakers and test tubes that Ji's mom once left in an organized mess ("I have a system!" was her mantra) were all tucked neatly away in their cabinets. The walls had been reinsulated and painted a sterile white, masking the cold steel-gray Ji had grown up with. But in the dark, it may as well have been the same.

Ji huddled against the cabinets, trying to tell herself it was different. She was here voluntarily. She could return to the *Fangzhou* at any time. The outpost wasn't a prison. But for all her attempts at positive thinking, she couldn't shake the bone-deep anxiety that had taken hold.

It was a strange thing, that anxiety. Feng had never understood how her time down here could have left such a lasting impact.

"You were only a kid," he reasoned, as if children were any less susceptible to trauma than adults. As if she could easily forget her first seven years.

But Ji remembered all too well. She could still imagine that way her voice echoed down the hollow corridors, desperately crying out for her Mama and her Baba. She could still feel the sharp knife of terror that wedged itself between her ribs when she looked out the outpost windows to see an empty landing apron. She remembered the way her throat constricted and her breathing hitched when she realized she was alone again.

Her parents never left for long, maybe a day or two at a time, and they always brought her treats from the *Fangzhou* when they did return (as if that made up for the time they were away)—a stuffed creature called a “dog” that was supposed to keep her company. A palmscreen loaded with movies that helped her pass the time. Bright lychee candies wrapped in pink plastic. All of these Ji would have traded to never be left alone again.

“We’ll be back soon, *bǎoběi*,” her father, Ru, would croon as they prepared to leave.

“This is the only way,” Lai would tell her when Ji started to cry. “If they ever found out about you, we’d lose you. You must be brave.” And Lai kissed her head, and ruffled her hair, and then they were both gone.

Ji only found out who “they” were when she turned seven.

Her parents left, as usual, and promised to return, as usual. Ji took her palmscreen to her corner of the lab and set the timer. They always returned before the hour clicked to forty-eight. This time, however, forty-eight hours came and went and still the lab was still and quiet. And then it passed sixty. Eighty-four. Ninety-six.

The nutripacks that her parents left behind with her were all but gone at that point. Ji ate the lychee candy and watched every movie on her palmscreen for the third time, trying to tell herself that her mom and dad were coming back. It would be fine, it would all be fine. But things only got worse. After one hundred-and-three hours, the power went out. Lights dimmed and flickered to black, screens shut off, the omnipresent hum of the heater died away. Ji froze, utterly terrified. The generators had never given out before. Had they done this? Did they find out about her? Were they coming for her?

By hour one hundred-forty-five, the battery on her palmscreen had died. The lychee candies were gone. The last vestiges of heat had leached through the outpost's walls and a deathly cold took its place. Ji huddled in her corner of the lab, hungry, frozen, scared out of her mind. It had been almost a week since her parents had left, and by now she was convinced that they were never coming back. At seven years old, Ji thought she was going to die.

No sooner had she accepted this than the memory of her old friend Earthworm came rushing back, how Lai had been convinced he was dead. And how Ji had brought him back to life with the mist. Perhaps, she reasoned, the mist could keep her alive just a little while longer.

Her hands shook from the cold when she held them out in front of her. She hadn't tried to conjure the mist since she was four, but remembered all it took was a will. A strong, desperate will.

“Please,” she whispered quietly to her hands. “I want to live.”

And there it was, suddenly appearing as a blue-white glow, in the palms of her hands. It was warm, blessedly warm. Ji pulled her hands close and brought the heat to her chest, curling around it to absorb as much as possible. The warmth sunk deep into her body, warming what had been nearly frostbitten for hours. She was still hungry, still scared, but she was warm, and Ji felt with certainty that she'd make it out of this alive.

She was right. Not four hours later the sound of boots clunking on metal floors echoed down the hall, and the lights flickered back to life. Relief flooded Ji's mind, and she let the mist dissipate. She charged out of the lab, running full-tilt towards what she believed to be her parents. Instead, she came face-to-face with five strangers in unfamiliar uniforms, staring down at her as though she'd done something wrong. The writing on their sleeves read "*Fangzhou* Enforcement Personnel." This must be "they", Ji thought.

When they ordered her to put on her coat and follow them, Ji had little choice—not unless she wanted to be left alone on Pan Ku once more. She asked about her parents and they shushed her. Now more fearful than before, Ji quickly tugged on her coat. Her fingers shook and tangled in the garment as she struggled to pull it on. One of the officers, realizing her distress, helped her pull her arm through. Now properly clothed, Ji followed the officers outside to a waiting zip. Ji stopped, unsure.

"Keep moving," one of the officers ordered.

Ji stared at the zip uneasily. "I've never flown before." The fear of dying on Pan Ku was replaced by the fear of the unknown.

“It will take you to your parents,” the officer explained. Noting the apprehension on Ji’s face, he knelt down beside her. “I know all of this is new and scary, but I promise you you’re safe now. Do you understand?”

Ji nodded. She must be brave. She followed the officers onto the zip, and squared her shoulders. In her mind, she’d see her parents soon, they’d return to Pan Ku, and she’d never be left alone ever again.

None of these things came true.

CHAPTER TWO

There was going to be no sleep tonight, Ji finally accepted. She had made every effort to sleep, but it seemed that each time she closed her eyes the old familiar panic started to creep up on her. She’d kept her feelings under control for years, and she wasn’t about to lose it now in one night.

So, at three o’ four in the morning, she pushed herself off the floor and threw a blanket about her shoulders like a cape. Then she went for a walk, lest she go crazy sitting alone in the lab.

The rest of the outpost was not as haunting as Botany Lab #3. New paint, new buildings, new corridors, and new residents had rendered the rest of the complex nearly unrecognizable from what it was nine years ago. The outpost was still an aging structure held together with duct tape and a prayer, but you couldn’t see the decay underneath anymore. Perhaps most helpful in combating Ji’s feelings of panic and claustrophobia were the windows that had been installed; large, panoramic sheets of transparent aluminum that showed the expansive nothingness of Pan Ku’s surface.

Often times, all that could be seen were snow flurries and darkness, but tonight was one of the rare nights when the snow let up and the clouds broke.

Light from Pan Ku's two moons streamed through wispy cloud banks, bathing the icy terrain in a watery silver glow. The snow glittered softly beneath the star-studded sky. Off in the distance, sharp peaks from Pan Ku's formidable mountain ranges jutted from the horizon like white stone fingers.

Ji leaned against the windowsill, pulling her blanket tighter around her shoulders and playing with the necklace around her neck. It had been her mother's—a strip of twine and a small vial of dried leaves. They belonged to the *Panku jizera*, a small bioluminescent lichen found in the crevasses of Pan Ku's icy canyons. It was known best, perhaps, for its foul odor. One always knew when there was *Panku jizera* nearby. The plant had been her mother's favorite—she was fascinated with the beautiful yet foul dichotomy—and it was also Ji's chosen namesake. They were one of the few organisms that could survive where nothing else could.

The view outside was chillingly beautiful. The snow under starlight looked so soft, but Ji could almost feel the biting cold on her skin despite the foot and a half of insulation that protected her from the elements. Like the botany lab, the view hadn't changed in years. It was the same ice, the same moons, the same stars, the same seamless, white plain—

Wait.

No.

There was something *out there*.

It was impossible. Utterly, completely, thoroughly impossible for there to be anything out there. This was Pan Ku, nearly lifeless icy planet extraordinaire. In the surveys done over two hundred years ago, there had been no evidence of any intelligent life, past or present. Pan Ku was inhabited by the smallest of microorganisms and nothing else. Certainly nothing big enough to build what Ji was looking at.

And yet it was there, bathed in starlight. There was no wind or snow or storm to obscure her sight. Nothing to which she could attribute the slim obelisk.

It could have been a strange-looking, but still naturally-occurring, formation of ice and rock. That's what it had to be. That's all it *could* be. But a feeling Ji couldn't quite place told her no, this wasn't a rock. It was wholly unscientific, and wholly unshakeable; the impossible had happened. There was something man-made on Pan Ku's horizon.

It was four in the morning, negative twenty-four degrees outside. *Fangzhou* regulations told her she couldn't be outside until sunrise. But by then, the snow would return and the obelisk would be lost to the storm. Ji had to know. She rushed to the Grand Foyer where she grabbed her cold weather gear. She reached for her boots at the base of the coat rack, but lost her balance in her rush and tumbled into the stand. It clattered to the floor with a loud thunk. Her pace didn't slow.

She had already thrown on her jacket and snow pants when a door behind her creaked open.

“What in hell's name are you doing?”

Ji turned, fingers still fumbling with the zipper on her coat. Feng stood in the doorway in only a t-shirt and boxers, wearing an expression like he couldn't quite process what was going on. Ji paused. She let her hands drop to her sides and blew a strand of hair out of her face.

"I'm, uh...I'm going out."

"Why?"

The feeling was still there, uncomfortable, like an itch that you couldn't quite reach. Ji glanced at the door. She could break the rules for some completely illogical reason, or she could take five seconds to show Feng what she saw.

"I have to show you something," Ji brushed past Feng, back into the heart of the outpost. Feng, dumbfounded, followed after her. "Look there."

Ji stopped by the large bank of west-facing windows and pointed to the mountains in the distance. The sky was still clear, and the obelisk still stood tall and mysterious and completely visible.

Feng squinted at it. "You're rushing out into the cold because of a rock?"

"It's not just a rock, Feng. Look at it. Does that look natural to you?"

Feng stepped back. "I don't know? It's dark, Ji, and it's like...six clicks out. You can't see much."

Ji huffed. "Can't see much? Feng, it's a giant tower of rock sitting alone in the middle of the tundra. How is that natural?"

"Who, of the maybe fifty people who can even fly down to Pan Ku right now, would go out of their way to secretly build a giant pole of rock?"

It sounded absurd when laid out like that. Ji should have relented to Feng's logic. But it didn't feel right.

"Maybe it wasn't us."

Now Feng was annoyed. "Aliens, Ji? Really?"

"I don't know, Feng! I don't know! But I want to know, and the snow will come back before an expedition to investigate is allowed. If I ever want to know what that is, this is the time."

Her friend stared at her, then back at the obelisk. He scrubbed his face tiredly with one hand. "Ji, you're a botanist—"

"Then I'll say it looked like a weird plant. I'm going out there, report me if you want."

"This is crazy."

"I know."

Feng seemed to realize that there was no talking Ji out of leaving. He sighed and scratched the back of his neck.

"Okay, well. Then I'm going to sit in a zip in case I have to rescue your stupid self."

Ji grinned and grabbed his arm. "Let's go."

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Ji hated the snow. Utterly loathed it. There were people on the *Fangzhou* who would kill to be where she was, Ji knew. She was one of very, very few people who would ever set foot on the surface of a planet, who would ever feel true gravity, who

would ever experience weather that wasn't tinged with the smell of hot circuits and filtered oxygen.

But right at that moment Ji would have been happy to trade places with any civilian on the ark ship. It was one thing to contemplate the surface of a planet while safely aboard a heated vessel, and entirely another to hike through massive snowdrifts up to her waist while the cold cut through her thermal gear like it wasn't even there. Many times she thought about turning around, because by the stars this snowy hell just wasn't worth it. But then she'd crest a hill, and the snow level would drop ever so slightly, and off in the distance she'd catch a glimpse of the obelisk glinting in the starlight. Just that brief look was enough to urge her onwards. She rubbed the smooth glass of her mother's pendant as she walked, imagining what Lai would have to say about this reckless adventure.

"Ji? How's it going?" Feng's voice crackled over Ji's comm after a while. If she turned around, she could just make out the undefined smudge that was the landing apron of the Pan Ku outpost.

"Well," Ji huffed, "The obelisk has gone from a small strange rock to a slightly larger strange rock."

"Fascinating," Feng drawled. "I'm so glad we're up at five in the morning for this."

Ji rolled her eyes. "This isn't the worst, or even the stupidest, thing that has been done in the name of science."

They chatted as Ji hiked, swapping increasingly absurd theories as to the object's origins. Every once in a while Ji would make an observation as the object

became clearer—it was solid, it was black, it was covered in something that might have been writing. Finally, nearly two hours after she had set out, she came to a halt at the base of the object.

“Oh, wow.”

“What?” Feng asked. “Are you there? What do you see?”

Ji was at a loss for words. “It’s...it’s not a plant, that’s for sure.”

“We knew that. So what is it?”

“It’s a...something.”

Ji stepped closer, reaching out a gloved hand towards the object. Up close, it resembled more of a thin, blunt-nosed cylinder. It rose at least ten meters into the air, with a circular base that had to measure no more than three meters across. The flat top of the monolith was about half the diameter of the base. Set deep into the stone was a door—or something shaped like a door, at least. There was no handle. Ji pushed hard on it, but it didn’t budge.

The cone wasn’t carved out of a rock that she recognized, either. It looked smooth and black, like obsidian, but when Ji ran her hand over it she could feel its roughness through her gloves. It looked like nothing found on Pan Ku.

“Pretty sure this isn’t natural, Feng.” The architecture itself was clearly artificial, too symmetrical to be natural, and the stone could not have originated here. But what really spoke to the strangeness of the monolith were the glyphs of varying sizes that covered it. The smallest of the glyphs was barely a centimeter wide, while the largest was the size of her torso. She could pick out shapes among the glyphs; there were wings and teeth and eyes that came in sets of four, and flowing lines that

resembled six-legged creatures if you squinted hard enough. Most of them, however, were completely indecipherable.

“You’re kidding, right? It can’t...it can’t actually be man-made.”

Ji reached for the palmscreen in her jacket pocket; she had to get pictures. No one would believe her otherwise. “There’s writing on it.”

“Impossible.”

“Well yeah, of course it is. But then again, a man-made structure was impossible, so...”

“Is it Chinese?”

“No,” Ji snapped a picture of the door, where the largest glyph was located. It was almost more of a mural than a glyph; a large, triangular bipyramid with a circle chiseled at each major point. The lines connecting the pyramid were intricately carved, dozens upon dozens of tiny triangles cut side-by-side to form each line. Around the outside were smaller glyphs; she saw a lot of star shapes. “They’re like, hieroglyphics or something.”

Feng was quiet on the other end.

“Feng? You there?”

“Yeah, sorry, I’m just...that’s a lot to take in.”

Ji stepped back to get a clear picture of the whole monolith. She was grateful that the moons were bright tonight; the obelisk was sharp and clear in her lens. “I’m going to send you some snaps.”

She tapped her palmscreen and sent the pictures to Feng. Not three seconds later she heard his low whistle come through her com.

“*Gǎo shénme guǐ?*” he hissed quietly.

Despite the feeling that had lured her out here, Ji still had a very hard time believing in aliens. Humanity had sailed through the stars for over a millennia after Earth’s death, and never once had they encountered other lifeforms. Pan Ku was the first planet they’d come across that had a nitrogen-oxygen atmosphere capable of supporting human life. It was possible that perhaps the *Fangzhuo’s* initial geological surveys had misinterpreted the ruins as ice structures on Pan Ku’s ever-changing surface.

“Can you get inside it?”

“I’ve been trying, but the door is sealed.”

“Have you considered knocking?”

Ji made a face. “Ha ha, Feng.” But his words gave her an idea. Ji slid her palmscreen back into her pocket and removed the glove of her right hand. Pan Ku’s cold air bit into her skin like a thousand tiny teeth, but she ignored it. The door loomed before her.

She pressed her palm to the door’s surface, in the center of the large pyramidal glyph. Ji had a brief moment of “this is completely ridiculous,” before accepting that the whole situation was ridiculous and calling the mist with no more hesitation.

It radiated from her palm outward, clinging to the alien substrate and taking on a gel-like consistency. Without her guidance, it flowed into the shallow grooves of the glyph. The blue mist-turned-gel raced through the fluting of the glyph like water, and before long the whole door was alight with an eerie cerulean glow. Ji released a

breath she didn't realize she'd been holding; the sight was absolutely stunning. Hypnotizing, even. She could have stared at the glow for hours.

"Ji? Did something happen?" Feng's voice startled her back to herself.

"Nope," Ji jerked her hand away from the door. The blue dissipated almost instantly, fading from the glyph like water vapor. A sharp wind had picked up and it carried the last of the blue away. Ji shivered, though not from the cold, and shoved her hand back into her glove. Despite prolonged exposure to Pan Ku's sub-zero temperatures, her fingers felt abnormally warm. "Nothing happened. I'm fine."

Part of her wanted to tell Feng about the door, but that would require telling Feng about the mist, and Ji wasn't wholly convinced that that would end well for her. As far as she knew no one else had her power, and if she'd learned anything from the media brought from Earth, differences like this were never readily accepted by your peers.

"Okay, well, you should probably start heading back then. The wind is starting to pick up over here and I see clouds forming in the south."

"*Shōu dào*," Ji said. She stepped away from the monolith. Behind it, on the horizon, the sun had just begun to rise. The first rays of light hit the stone structure, harsh reds and oranges dancing on its glassy surface like fire. Something about the way the monolith appeared to burn made Ji uneasy. "I'm on my way."

A sense of urgency that she couldn't place spurred her on. There had been no fresh snowfall since she'd left, meaning her tracks were still pristine. It promised an easier return trip. She easily hopped from footprint to footprint as the sun rose higher in Pan Ku's sky.

As the minutes passed, the wind around her started to tug harshly at her clothes. The uneasy feeling she'd got from the monolith hadn't gone away. If anything, it had gotten worse. But the outpost was only an hour or so away now; her hopping had allowed her to make good time. She wouldn't have to be out in the weather much longer.

"Ji, how far out are you?" Feng asked after a time. Ji noted the tightness in his voice.

"If I had to guess, about an hour. Why?"

"*Fangzhou* satellites have detected a coronal mass ejection from Pan Ku's sun."

So that warning twenty hours ago had predicted something. This was a cause for urgency, but not panic. A CME would still take at least twelve hours to reach Pan Ku. "I'm almost there, we'll load up everything as soon as I'm back."

"It's an hour out, Ji."

Ji's heart skipped a bit. "That's impossible. The *Fangzhou* would have let us know about the solar event."

"They did—"

The sound of scuffling and yelling in the background cut Feng off. He was replaced by a worried, out-of-breath Daiyu.

"Ji, the *Fangzhou* has been trying to raise us for fourteen hours. One of our radio relays was damaged; we didn't notice anything was wrong with the system because it had been reporting calm weather all night."

"But the weather was calm."

“Which is why we didn’t notice anything. The relay was reporting its baseline; it just so happened to coincide with the actual weather. We didn’t realize this until the storms started forming and the instruments didn’t show anything. The CME has had hours to reach us.”

Ji cursed loudly. “Feng, can you fly that zip out to me?”

“The fuel lines froze over night. We’re defrosting them now, but by the time I’m fueled you’ll already be back.”

“Ji,” Daiyu said, “you should have enough time if you hustle. We’re loading the zips; when you get here, head straight for yours. We’ll pre-flight it and everything. Just hurry back here.”

Ji didn’t have to be told twice. Over a millennia ago, Earth’s atmosphere had been all but stripped away by a CME. Over ninety percent of humanity had perished within months. It was amazing what the fear of ending up like your ancestors could do for your endurance. Ji plowed through the snow with renewed vigor, kicking her way through snowbanks like they were nothing. Ahead of her, she watched the zips of the outpost crew take off one by one and disappear into the rapidly darkening sky.

By the time she reached the landing apron, only two zips remained: hers and Feng’s. Her lungs ached as though she’d inhaled glass and her legs screamed for a break, but she didn’t have time to slow down. She slid gracelessly across the ice-covered tarmac and pried open the door to her zip with shaking fingers.

“How much time do we have?” she gasped into her comm as she clambered aboard.

“Thirteen minutes to maximum impact,” Feng said.

Ji's zip was already up and running, and she could see the first effects of the ionizing radiation sending the navigation satellites orbiting Pan Ku wild. "My GPS is already on the fritz."

"Mine, too. We'll have to stick together through the clouds. Once we're in the upper atmosphere we should be able to pilot to the *Fangzhou* visually."

They launched their zips in tandem and they headed into the storm. Feng took the lead, Ji following just behind and below him. The proximity alarm warned her she was following at an unsafe distance. She silenced it.

"What about the Wall?" Ji asked as the clouds engulfed their ships. "How will we know where it is?"

The Wall was an invisible boundary that lay a few hundred thousand kilometers out from Pan Ku. It extended up and out a seemingly infinite distance in all directions and perfectly reflected the space in front of it, from the stars to the *Fangzhou*. No one was quite sure what it was or where it had come from—every probe that had ever been sent into it never reappeared—but it had been there at least long as the *Fangzhou* had orbited Pan Ku. Without instruments to scan for the boundary, it would be all too easy to accidentally cross over.

Feng's response was less than reassuring. "We're going to have faith and hope that the CME doesn't affect our ability to detect it."

Ji laughed nervously. "Faith. Great."

At eleven minutes to impact, they still hadn't cleared Pan Ku's atmosphere. Ji's leg bounced anxiously, and she wondered how fast she could push a zip in a zero-visibility ascent.

At nine minutes, the last vestiges of cloud cover finally slipped away. Off in the distance, floating just beyond Pan Ku's second moon, was the *Fangzhou*. They were almost home-free. Now flying in high-visibility, Feng hit the throttle on his zip and was off like a shot. Ji followed suit. She felt the g-forces press her into her chair as she accelerated—

—and then throw her sideways against her restraints as something collided with her zip from the side. Everything was suddenly chaos as her zip careened out of control through space. The stars blurred into dizzying white lines outside the windshield. Ji automatically went into correction mode, but when she finally managed to stall the spinning ship she already knew she'd been thrown too far from the *Fangzhou*.

Feng was shouting in her ear. "Ji! Ji, are you there?"

"I'm alive," she groaned at last. Her chest throbbed where the restraints had dug into her skin, but that seemed to be the worst of the damage. "What happened?"

"It was a satellite. The CME must have interfered with its propulsion systems and it flew straight towards you. Thankfully it only clipped you or you'd be gone."

Ji glanced sideways out of her windshield; she could make out the sparking remains of her right wing. She was lucky.

"Just sit tight," Feng assured her over the comm. "We can't send out a rescue team until the CME dies down. Even if it takes out life support, you've got enough oxygen to last until they get there."

"Okay," Ji said aloud. "Okay. Okay." She repeated it quieter, over and over again in an attempt to calm her nerves. It did little.

Warnings flashed from every console, red lights and a very loud klaxon all screaming the same message—DANGER DANGER DANGER. She couldn't see the boundary of the Wall, but her zip sensed it. On her nav screen, it appeared as a giant red barrier. The collision with the satellite had pushed her way off course. Outside the zip, the mirrored stars twinkled innocently.

And that's when she first became aware of the feeling, growing like a sprout in the pit of her stomach. She recognized this feeling from the outpost, when she stood at the observation window and first glimpsed the alien obelisk in the distance where it seemed nothing could survive. "Out there", in this case, was an invisible force field that stretched infinitely through space and swallowed everything that crossed it without a trace. There was no proof that anything was on the other side.

But the feeling grew. She was standing at the door to the Pan Ku outpost again, wondering if venturing into the dangerously low temperatures was worth a potential discovery. Through her windshield, she saw the planet's doppelganger drift into view. The mirror image of Pan Ku was just as lifeless as the planet itself. A chilling thought struck her then—no matter what she did, or Daiyu did, or Feng did, or any other *Fangzhou* scientist did, Pan Ku would never become habitable. Humanity had been on borrowed time for a millennia; the *Fangzhou* wouldn't last another thousand years in space, and humanity wouldn't last on Pan Ku. The Wall beckoned and conviction steeled her nerves. Slowly, deliberately, Ji wrapped her hands around the damaged zip's controls.

"Feng," she said into her comm, "Do you know what it was like for me to leave Pan Ku as a kid?"

“I can’t even imagine it.”

“I remember being so scared when the *Fangzhou* officers rescued me from the outpost,” Ji said, tightening her hands on the controls. “I didn’t know where that zip would take me, but I knew that it would be better than where I was. I felt that feeling again when I saw the monolith on Pan Ku. And I feel it right now.”

“Wait, whoa,” Feng said quickly, his voice taking on an anxious note. “Ji, whatever you’re thinking about doing, stop thinking it right now. It won’t be more than ten minutes before we can come get you.”

“Pan Ku is dead, Feng. You know that, and so do I. Whoever built that monolith is long gone, nothing will grow in that soil no matter what we do. And the *Fangzhou* isn’t built to last much longer. Working to terraform Pan Ku is a losing battle. We won’t survive here, Feng. None of us will.”

“Well, we sure won’t survive beyond the Wall.” Feng answered. “Just hold on for ten more minutes.”

But Ji had made up her mind. She was a Pan Ku scientist, after all. She had taken an oath to do everything she could to save the lives of the *Fangzhou* inhabitants. Four million people who had no idea they were doomed, but trusted her to save them anyway. Ji had nothing to lose, and everything to gain.

“I’ll come back, Feng.”

“Ji, you’re a damned botanist for goodness’ sakes!”

Without further hesitation, Ji hit her thrusters and pushed her zip over the threshold of the Wall.

Reflection

In the Beginning

A long time ago, in a city relatively close to here, I was born. I didn't enter the world writing, but as soon as I could hold a pencil I was creating worlds and spinning tales. My passion came from my love of reading. I was the kid who would go to the library every week and come out with ten or twelve books, and read them all within the span of two days. My favorites were the Jedi Apprentice books by Jude Watson. I had been introduced to the Star Wars movies at a young age, and as an avid fan I lived for these off-screen stories. The tales of Qui-Gon Jinn and Obi-Wan Kenobi held my interest like nothing else. I didn't want to just read about them—I wanted to join them. I wanted to be a part of the story.

I'm not sure where my writing notebook came from; perhaps it was from a garage sale, perhaps my mother bought it for me after long hours of pleading with her. Regardless of its origins, this notebook became my life. It was a Lisa Frank three-ring binder, with pictures of purple and white bunnies frolicking amid a field of brightly colored tulips on the cover. Stuffed inside it were scraps of paper with story ideas, stolen pieces of printer paper with character sketches, and looseleaf notebook paper overflowing with prose. I started out simple, drawing myself as a Jedi apprentice, writing of the adventures I had with Siri Tachi and Ferus Olin and all the rest of the wonderful off-screen Star Wars heroes. One notable adventure found me and my master, Adi Gallia, stranded on a planet of mutant horses, pursued by a powerful Sith Lord.

I shared my passion with no one. This notebook was my secret, and to this day I don't think my mother knows that these writings and drawings ever existed. I hid it under my bed, wrapped in a Star Wars blanket (because what else would I hide my Star Wars fan fiction in?). Soon, however, I began to want to share my writing with someone. Not my secret notebook, but new writings. I turned to my friend group, now second graders, and asked if they'd like to start a writing project with me. Two of them—Ellie and Shaylin—agreed. These two friends and I had long played as a group of super-powered horses called the Heroic Horses. Together we crafted a magazine, complete with stories of our bravery, profiles of our villains, and, of course, comics. We bound the haphazard mess of papers together and called it a finished product.

Only a couple of years later, Ellie was introduced to Star Wars. Our playing turned from horses to Star Wars fantasies similar to those I had written about countless times before in my Secret Notebook. Together, we decided to write a seventh episode for the film series. It was a musical epic that we dubbed *Crash On Tatooine*. Once more we compiled the bits of paper we'd scribbled on and stapled them together, then performed our screenplay for our parents. It was a hit.

At the time I was also a frequenter of the virtual pet website Neopets. Within this website were message boards that centered around different topics—trading, current events, and something called “roleplaying”. I'd heard only minimally about roleplaying before (mostly from my mother, who talked scornfully about *Dungeons and Dragons*). But despite my mother's disdain, I was intrigued. I entered the roleplaying boards.

What met me was a bombardment of terms such as OOC (out of character) and BIC (back in character), Mary Sue and god moding. It was daunting, at first, but after browsing a few boards I began to realize what roleplaying was. Neopets users were writing characters that interacted with other user's characters within the confines of a predetermined universe. It was like writing, but with other people! I was elated.

I joined a number of roleplays soon after. Star Wars was my favorite, of course, but I dabbled in Warrior cats and Star Trek. It wasn't long before even this lost its appeal, however; I wanted to talk with these people, to get to know them outside of the roleplay, but my mother said I shouldn't meet up with people I'd met on the internet. My solution, then, was to go to my friend group yet again and ask if they knew of roleplaying. Only my good friend Anna did. She and I, now middle schoolers, got together to plot what would become our first major writing project. It was Star Wars (of course), but we decided to throw in a twist: our roleplay was now a crossover of that universe and the universe of a TV show called Stargate.

She was Aurora, I was Alana, and we were twin sisters fleeing to Earth from the evil Sith Lord Soruto. Our roleplay spanned over 60,000 words, seven years, two rewrites and three "books", one of which was printed on official paper and bound properly. When we went away to college we got busy and lost touch, too caught up in our studies to continue the roleplay. It fell to the wayside and was never picked back up.

I didn't lose my love of writing, however. I missed the hours my friend and I spent plotting and turned to solo writing once more to scratch that itch. I had my own universe, inspired by the Neopets I still kept, but I found myself discouraged by

the amount of world building required to write original pieces. I was drawn back to what is known as fan fiction—writing stories based on someone else’s work. This time, I had a new muse: the Marvel movies.

The Marvel fandom was tightly knit and filled with amazing people. Events were organized to celebrate fan works such as art and writing. I stuck mostly to the art, finding it much easier to draw characters than accurately write them. In the summer of 2015, however, I decided to challenge myself. The Marvel fandom was holding a writing contest and I wanted to be a part of it. So with my laptop in hand and a story in my mind, I set to work. It was grueling, I’ll be honest; I had never written so much in such a short period of time. I had deadlines to meet, a pressure I’d never dealt with when writing before. But after three months of non-stop writing, I produced a fanfiction that was 45,000 words in total—more than I had ever written on my own. I was immensely proud of this work, and finishing it only inspired me to write more. I crafted a few more, much shorter, pieces and published them on a website called Archive Of Our Own, a site dedicated to posting fan works.

When I first learned I could write creatively for my thesis, I knew immediately that’s what I had to do. I already had characters and a universe on the back burner—the stories I had written for my Neopets all those years ago. They just needed to be fleshed out a bit more, and I knew I could make it work. Furthermore, I knew my writing could make an impact.

As a queer person and a member of the LGBTQ community, I had never really seen myself in writing or on TV growing up. There were so few stories being told about people like me that they never made it onto my radar. In my later years, I

was drawn in to comic books (thank you, Marvel fandom!) and learned of a comic series called *The Young Avengers*. It featured such LGBTQ heroes as Loki, America Chavez, Hulking, Marvel Boy, and Wiccan. Here was the first time I actually saw LGBTQ characters depicted positively in media. This positive representation ultimately allowed me to come to peace with the fact that I was not straight and to accept myself for I was. For my thesis I wanted to contribute to the sparse collection of LGBTQ genre fiction like *The Young Avengers* did. So I rewrote my universe and set to work.

I picked science-fiction as my genre, because growing up on Star Wars and Star Trek and Stargate and all those other “star” shows really influenced me. There was a downside to this, however; unlike fantasy, where elements can be made up on a whim, I had to do some research to make my story as plausible as possible. It was time to hit the books.

Of Solar Flares and Shifting Poles

I set my story over 1000 years in the future. Humanity had long ago left Earth in search of a new home. This is where the bulk of my research came in—I needed to come up with a reason why humanity would have left Earth in the first place.

There were a number of routes I could have taken with this; aliens destroying humanity, humanity destroying themselves. All were tried and true methods, the easy way of getting humanity off of Earth, but I felt like they’d been done to death in other science-fiction and post-apocalyptic novels. Furthermore, I didn’t want humanity to be the cause of its own downfall. Star Trek instilled in me a sense of

hope about the future. I wanted to depict a world where humanity had pulled together for good.

This left only one way to separate humanity from our beloved green dot, and that was the environment destroying humanity. I started to research just what it would take for the cosmos to turn Earth into an uninhabitable wasteland. My research led to me to NASA websites describing something called a CME—a coronal mass ejection. These are “...giant cloud[s] of solar plasma drenched with magnetic field lines that are blown away from the Sun during strong, long-duration solar flares and filament eruptions.” (SpaceWeatherLive.com) According to NASA, such events are actually capable of ripping the atmosphere from planets (“Impacts of Strong Solar Flares”). Mars is one such example; with no magnetic field with which to hold onto its atmosphere, it is quickly stripped away. The same can be said of our moon’s exosphere; the moon has not been able to build up a proper atmosphere because it, lacking a magnetic field, cannot hold onto it in the face of the Sun’s volatile ejections (“Solar Storms Could “Sandblast” the Moon”).

Now I had my reason—Earth could just be hit by a CME and humanity would be in dire straits. Right? Well, no. Not the right kind of dire straits. You see, Earth is not at risk of losing its atmosphere like Mars and the Moon because we have a strong magnetic field keeping our atmosphere in place (“Sun Stealing Earth’s Atmosphere”). The only damage a massive CME could cause would be to knock out all electronics on Earth. This would certainly plunge humanity into chaos, but it would more likely send us back to the Dark Ages. There’s no way humanity, without

electronics, would be able to flee to the stars. They also wouldn't *need* to, as the Earth's atmosphere would still be intact.

Now came another problem to solve. How could I possibly get humanity into space? The answer came to me when I was talking to my brother, a pilot. I asked him if a CME would affect the compass on an airplane; he told me that no, the only thing that could change that would be a flipping of Earth's magnetic poles. A lightbulb went off in my head—I had my answer. If Earth's magnetic field were to somehow weaken, say, when the poles shift (a process that Earth is due for any day now), would it be possible for solar storms to strip away Earth's atmosphere?

We already know that, even despite our magnetosphere, the Sun is still stripping away at our atmosphere. According to National Geographic, at the current rate of erosion Earth will long have been engulfed by the Sun before our atmosphere is completely gone. However, a weakening of the poles could speed up the process (“The Magnetic Field Is Shifting. The Poles May Flip. This Could Get Bad”). I had my doomsday scenario.

My research couldn't stop there. My main character, Ji, happens to be a botanist studying the affects of an alien atmosphere on Earth plants. She is also endowed with the power of healing, able to call a mystical blue mist to her hands to heal wounds and sickness. Esoteric abilities are no stranger to science fiction—the Force immediately comes to mind. But, also like the Force, I didn't want this power to simply “exist”, unquestioned. I wanted an explanation behind its workings, even if this explanation never explicitly made it into my thesis. So, like the midichlorians of Star Wars, I started to think.

At the time I was writing this, I was also enrolled in an Immunology course. Here I learned about passive artificial immunity, specifically immunoglobulin therapy (*Immunology*). This is where antibodies for a specific disease are injected into a person ill with that disease. Now, a person incapable of producing their own antibodies for whatever reason can use the injected antibodies to fight off the illness. That is what my power, called Luminance, is at its core: a transfer of antibodies from an individual who has survived the disease to one currently infected with it.

I researched many other small things from there—Chinese curse words, the nutrients plants need to survive, how burns cauterize, how worms break through computer firewalls. The hours I spent researching these topics amounted to only minuscule mentions in the finished product, but they add to the richness and believability of the universe I created.

The Nitty Gritty

The story that I completed for my thesis only vaguely resembles the initial draft I wrote for my Neopets all those years ago. The names have changed, the professions have changed, even genders have changed. Once upon a time Ji was an alien supersoldier, and Ayla a sharpshooter for the Royal Remnant. With all that needed revamping, I still had the very promising skeleton of a colorful universe within which to work. I began by first fleshing out the world in which my characters lived.

Initially, my scope for this project was large. It spanned three parts, with an outline that was ninety pages long. I foolishly believed I could fill in such a large

outline in the limited amount of time I had. I had two years, I reasoned. That's plenty of time. What I didn't take into account was my lack of experience; to date, my longest work was my Marvel fanfiction and writing that had nearly brought me to my knees. I didn't have the background to leap right into a massive work like this, and I was soon drowning under the pressure of completing ninety pages of outline (which, at the rate I was currently writing, would have clocked in at close to 300,000 words).

I burnt out fast, and I burnt out hard. After two months of solid writing and building the foundations of my novel, I lost all interest in writing. At the same time my dog Jemma fell seriously ill and I, too distracted with life and with executive dysfunction to do much, went months without touching my manuscript. Guilt plagued me. I had been warned that writing a novel was not the easy way out, and not everyone could do it. I'd scrounged up my old writings to prove I was capable of taking on such an endeavor. Was I about to prove the naysayers right?

Halfway through the summer of my senior year, I was forced to reevaluate the scope of my project. I had initially said I would also illustrate my work, an idea I now realize was a pipe dream. I underestimated just how much work would go into writing my novel and left myself almost no time to draw up sketches, let alone refine them. So I compromised. Instead of writing all three parts, I decided to only write one and focus all my energy into making it the best it could possibly be. This meant that I would have to set half of my characters aside, leading to a less diverse cast of queer characters. To compensate I made the love story between Ji and Ayla a focal point of my story.

Furthermore, if I was to self-publish my work, I needed a cover to sell my novel. Instead of creating and finishing a sketch for each chapter, I mocked up two covers and picked the best one to represent my work. It was not what I had envisioned months ago when I was writing my proposal, but when all was said and done I was still proud of the what I had accomplished.

Fiction Becomes Reality

With a completed manuscript and the beginnings of a cover I set about publishing my work. I had never before so much as touched publishing software and the task was daunting. There was so much to format, so many variables to figure out—what did I want the dimensions of my book to be? What type of paper did I want to print it on? How should the cover be laid out? What type of font did I want to print in? It was all so overwhelming at first. I was forced to break the work down into one task at a time.

The first order of business was to send out my manuscript for proofing. I had the privilege of having Dr. Henry Hughes as my advisor, and he carefully read through my work. I also turned to Anna, my old beta reader, who had proofread my Marvel fanfiction for me and who had once been my roleplaying partner. She was more than willing to offer me feedback and correct any errors that she might find during a read through.

Over the course of a few weeks I was in constant contact with both of them, receiving timely feedback and implementing changes. A lot of what had to be said was fixing typos, but a lot had to deal with plot holes I'd missed and exposition I'd

forgotten. There were certain parts that I had to rewrite entirely, to have them make sense in the context of my novel.

One such revision was the central myth that described the religion of my universe. Initially, it was simplistic and indistinct, at once too simple and too hard to follow. Anna pointed this out to me during one of her read throughs. I was forced to delete the myth entirely, all ten pages of it, and start from scratch crafting a new myth that wasn't so nebulous.

I was always glad to receive the feedback of my editors; to me, there is nothing more gratifying than having your work ripped to shreds in a constructive way. The only way to go is up, and an honest critique of my work allowed me to grow significantly as a writer.

As they were tearing my manuscript apart, I set about constructing a cover for my novel. I started with simple paper sketches of what I wanted the cover to look like. I then lined them and scanned them into Photoshop, a program I was familiar with only through self teaching. I was able to manipulate color and lighting with ease. The first cover depicted a central plot point of the novel—the discovery of the signumaria on Pan Ku. I was in love with this design. The lighting captured the night time perfectly, and the snow reflected that light just so. I eagerly showed off this cover to Dr. Hughes, hoping for a positive reaction. While he praised my artistry, he also noted the suggestive shape of the signumaria that I had not considered. Red-faced, I scrapped the design quickly and went back to the drawing board.

The second design was much more relevant to the rest of the novel. In my novel, Ji and Ayla often sneak away from their prison camp to stargaze on the

secluded asteroid. I decided to depict this on the cover instead, drawing two figures huddled together beneath a starry swath of space. This cover was received much better by my advisor and by my beta reader. I asked for multiple opinions on this cover to ensure there was nothing suggestive about the art itself, going from social media site to social media site seeking opinions. I took the feedback I received to heart and ultimately crafted a cover I am even more pleased with than the first.

Next I had to write a plot summary, something I am notoriously bad at. Previously, I had described my Marvel fanfiction as “an adventure where things happen.” As the summary is the second thing a reader looks to when buying a book, I needed to make this part enticing enough to make them want to pick up my work without giving too much away. I settled on describing the main elements laid out in the beginning of the novel—Earth is dead, humanity is terraforming Pan Ku, and Ji doesn’t believe it will do any good. This gave just enough detail that it would set the stage for the story, but not so much that it spoiled major plot points.

The final hurdle was formatting the Word document in which I had written my novel into something publishable. The site where I planned to publish my book, Kindle Direct Publishing via Amazon.com, thankfully provided templates that allowed me to cut and paste my writing directly into a pre-formatted document. This was not as simple as it sounded, however. The formats from the Word document to the template were not compatible and required some fine tuning before it looked as it should. After hours of tinkering with font size, spacing, and justification, I finally had a polished manuscript that I could publish.

The most difficult part for me out of this whole process was the publishing itself. I uploaded my manuscript, adjusted my cover art, indicated key words that potential readers could use to find my book, all the while acutely aware that when I hit the “publish” button there would be no going back. Any criticism I received would be on a project I had given my seal of approval and could not be fixed.

You see, I did not do this for money. I couldn’t care less about the royalties I receive. I did not write this story to make a career out of it. I did this for younger me, who didn’t realize it was okay to be queer until college because she’d never seen herself portrayed in a positive light. And also to graduate, but that’s beside the point. Everything I have worked on and slaved over, I am immensely proud of. And I’m proud of myself for getting this far. But what if someone reads my book and hates it? What if they leave a negative review? What if they tell their friends about how awful my work is? What then? I now found myself paralyzed with fear, afraid of the critique I had demanded during the writing process.

Despite my doubts, I clicked the button.

After publishing, I have tried my best to promote my book using social media. I posted on Instagram and Tumblr and Facebook, where friends and family who wouldn’t dare crush my spirits will see it. And perhaps, if they like it, they will tell their own friends and family. I want to contribute to a niche market, and I have done that just by hitting that “publish” button. It is now up to others to stumble across my work and maybe give it a read. I’ve put myself out there, and that’s more than I’ve ever done before.

What the Future Holds

I started to write the second part of my story almost the moment I finished my first draft of part one. I plan on finishing each part in turn and self-publishing them as I go. At present, I plan on two more parts to flesh out and finish my first series, The Cradle series. The workings of a second sequel series are already forming in my mind. Now that I've had a taste of what I can do, I want to do more of it. Perhaps, along the way, recognition will come (every author can only dream of having their work turned into a screenplay, yes?) But at the end of the day I am writing for those who have not been, but deserve to be, written about.

As I continue on with my next project and future projects, I know I'll keep in mind all that I learned while writing *Luminance*. I know how to format a novel, I know how to publish. I've done the hardest part. It's unlikely that I will have the support system of professors and mentors I did while working on my thesis, but that's okay. Anna has already agreed to beta read my next work, and my parents are eager to see where I will go from here. And as I write, I will grow, and my skills will become honed, and eventually recognition may come. But until then I am content to know that I have accomplished something great.

After graduating from Western Oregon University, I don't plan on pursuing a creative career. Rather, I will be going to Oregon Institute of Technology to become a Medical Lab Scientist. Science is my first love, and while the creative arts will always have a place in my heart, they could not hope to replace my desire to learn more about our natural world. However, I want to bring this creative side into my workspace as I grow older, thinking outside of the box and coming up with

innovative solutions to difficult problems. I will not abandon this side of me, but rather I will foster it and let it guide me in other parts of my life. And I will never give up writing; it has defined too much of my life, become too much of who I am, for me to abandon it just like that.

I am happy with how this whole experience has panned out. I've truly learned a lot about myself—about what I can handle, what I can push myself to do, and what I can accomplish if I set my mind to it. Like Ji, I realized that sometimes the scariest of hurdles can lead to something great. If I receive a bad review or a harsh critique I will not let it get me down. Instead I will learn from what they say and will apply it to future works, careful not to make the same mistakes twice. I will continue to grow as a writer and as a person. The only way to go from here is up.

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