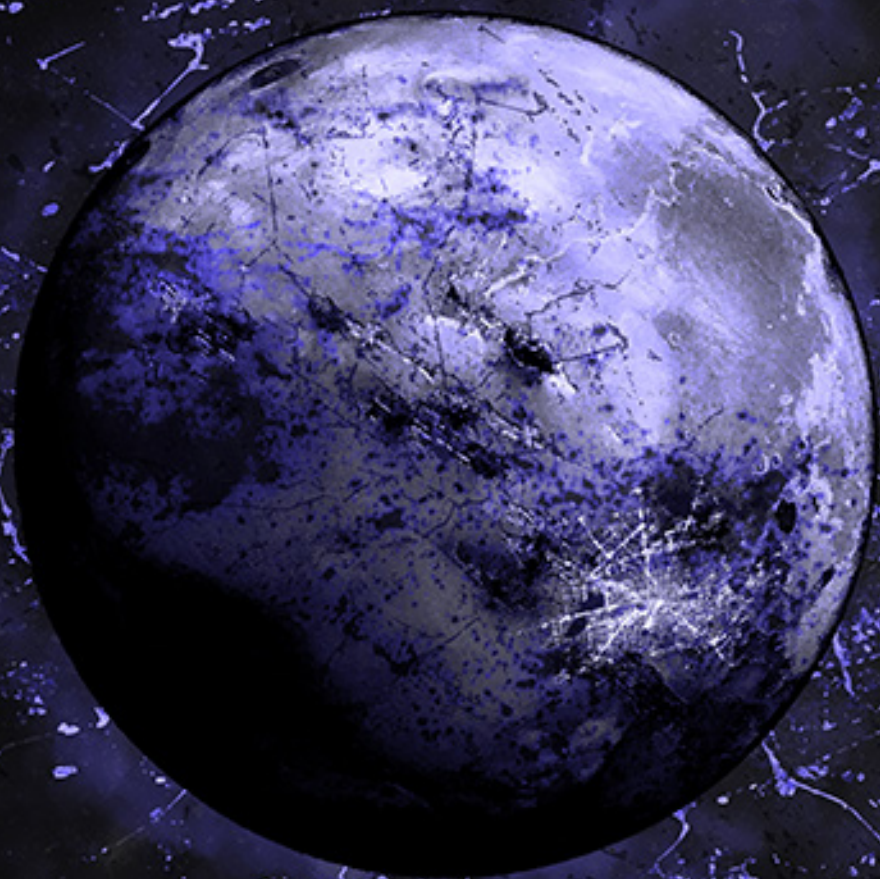


GRAVE OF THE WAITING



JOSHUA SCOTT
EDWARDS

GRAVE OF THE WAITING

A SCI-FI HORROR SERIAL

Joshua Scott Edwards



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*For Steve, Mario, CJ, and Mike,
brothers bound not by blood
but by something thicker still.*

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Prologue

2086 A.D.

Final Year of the Energy War

Seventeen Years Prior to the Arrival of Rogue Planet G9615

Ada squeezed her stuffed animal, wringing the ragged dodo's neck as the building rumbled. Her mother tightened her grip on Ada's other hand, and she looked up at her mother; white flecks of dust traced her unbound, dark hair, illuminated by the blinding white of the ceiling light. She shielded her eyes from the glare and saw her mother's expression. Her face was pallid, her breathing shaky, her lips quivered, and her eyes darted between the soldier guarding the barred door and Ada's father. Ada squeezed her mother's hand back to comfort her. Her mother didn't seem to notice.

An explosion shook the building and sent another cloud of dust streaming down onto the people in the crowded room. The building trembled so violently, a swarm of insect-like maintenance drones dispersed and flew into an access vent. Ada shivered. The lights flickered. Families huddled closer together, packed tightly from one cracked gray wall to the other.

In the shower of dust, Ada looked up at her mother. She noticed and smiled half-heartedly. Her eyebrows pulled down and her eyes softened, but still they glistened with tears.

"It's going to be okay, Ada, my love," she said. "There's no need to worry."

But Ada couldn't get the image of her mother's scared face out of her mind. She remembered it perfectly, just as she remembered everything she saw. Her parents called it a blessing, but lately it had become Ada's burden.

Beyond the closed door, screams. Whether they were screams of fear or of pain, Ada couldn't tell. Probably both. They had passed an emergency ward on the way to this makeshift shelter, and Ada had slowed to look into the room. Red and black stains marred the floor tiles, wet spots reflecting the lights in the hospital's ceiling. Doctors and nurses restrained patients who jerked in pain as the medibots went to work, sawing at limbs, stitching wounds, injecting medicine to put people to sleep. Some of the injured wore the uniforms of soldiers—blue and gray for the Allianz Mitteleuropa, red and black for the Unified Korean Peninsula, dark green for the United States. Most patients didn't wear uniforms, just regular clothes. Ada wondered why that was, if they weren't fighting in the war. The doctors kept all of the colors separated, with civilians filling the beds between. None of the soldiers liked each other; Ada could see it in their expressions. No matter what side someone fought for, anger and distrust always looked the same.

Her father placed himself between her and the room. "Don't look in there, sweetie," he said in a deep, stern voice. "Just keep your eyes forward."

She'd nodded and obeyed. She might have been only eight years old, but even she knew war was no time for disobedience. Her mother had taken her free hand and tugged her along, following behind her parents' friends, whom Ada called Uncle Ezran and Aunt Olsa, and the AM soldier leading them through the hospital. He'd brought them to a heavy door, knocked twice, and said

something in German. The door had creaked open, and another AM soldier had ushered them into the room, already stuffed with refugees. Here they had waited ever since, as the sounds of fighting grew more intense.

The horrors of war surrounded her, but Ada was amazed by the lights. Actual, working lights that stayed on for days! It had been the reason they'd come to the hospital—Aunt Olsa's baby would be born soon, and Uncle Ezran wanted to make sure she got the care she needed. However, they wouldn't go alone, not when that meant leaving Ada and her family behind in a war zone, stuck waiting in the dark. This blackout had lasted for almost a month, the sun failing to appear from behind the sky's blanket of clouds to power the solar arrays. Even before that, the German government restricted Ada's home from running the lights for more than an hour or two at a time. That was what everyone was fighting about, Ada's father had told her. Everyone used to have as much energy and light as they wanted, and they all blamed each other for the crisis.

Ada couldn't imagine a world like that, the sun shining overhead every day, cities that glowed at night like the stars themselves. She cherished the few memories she had of such beautiful sights. Those were the good days, but they were rare. For most of her childhood, Ada had lived in darkness.

Here, the entire hospital was illuminated, and they even had spare energy to power the bots. Below the drone vent, a medibot waited in the corner, its sensory carapace swiveling back and forth as though looking for people to help. Ada smiled at the bot, then squinted up at the lights until tears formed in her eyes.

Her father came over, scowling at her. Despite his look, he gently placed his hand on her head and crouched down as far as he could amid the press of oth-

er refugees. Just as he opened his mouth to say something, a stout man with a thick beard spat on the ground.

“Verdammt Amerikaner.” He glowered at Ada and her family. “Dieser Krieg ist auf deinem Kopf.”

Her father straightened and spoke to his friend out of the side of his mouth, never breaking his gaze away from the other man’s hate-filled eyes. “What did he say?”

Uncle Ezran grimaced and turned him away. He said with a thick German accent, “Put him out of mind, Nolan. We must focus on what we are to do after this assault passes. We cannot stay here.”

Ada’s father rubbed between his eyes. “I know, Ez, but where else can we go?”

“South,” Uncle Ezran said, matter-of-factly. “The Swiss border is not far, and the cloud cover is not so thick by the mountains. They have enough sunlight to power the highways, and—”

“That’s bullshit,” Ada’s father said, then glanced down at Ada with a sorry look. “There’s no highways functioning, and even if there were, they’d be shut down for all but military vehicles. Besides, they’d never let Americans pass.”

“You are not a soldier,” Uncle Ezran said.

“And?” Ada’s father gave him a hard look. The one that meant he was right, and he knew it. Ada’s father never believed he was wrong, but Ada remembered the instances that he was. Maybe this was one of them.

“And we’re bot techs,” Ada’s mother said. She gestured with her free hand, never letting go of Ada’s with her other. “We’re useful.”

The building began to buzz with increasing intensity, and several gasps sounded from around the room.

“Ordnance drones?” Aunt Olsa asked from the hospital bed she sat upon. “They wouldn’t drop bombs

on a hospital. They couldn't." She placed a hand upon her bulging belly. Ada pitied that unborn child, to be brought into a world like this. When she'd told Aunt Olsa that, she'd responded that there was never an ideal time to bring new life into the world, yet nothing could be more important.

Uncle Ezran grunted. "Not drones." He grimaced. "Troop carriers."

A deep reverberation sounded through the walls. Ada had seen a troop carrier drop down through the clouds once, all hard edges and trailing black smoke behind it. Ada had wondered at the science that allowed such a massive beast to gracefully travel through the air. One of them had just perched itself atop the hospital.

"The Americans want this place for themselves," Ada's father murmured.

"Or the UKP," Uncle Ezran suggested. "They are in the area also."

Her father simply responded with that look again, and her mother clutched her hand tighter. But Ada's family were American, weren't they? Wouldn't things be okay if they stayed with them in the hospital?

She glanced at the AM soldier by the door. He was holding two fingers to his ears and speaking softly. His eyes darted back and forth as he looked at something visible only through his augments. When his gaze returned to the room around him, he took a deep breath and regained his grip on his rifle. He was trying to look confident, but Ada saw the worry behind that veneer. She bit her lip. If everyone just stopped pretending they were all right, maybe they would see how scared everyone really was. Maybe then, the war could finally end. More than anything, Ada wanted the fighting to stop.

Another explosion rocked the building. The lights blinked off and on, then shut off for good. The pitch-

black room filled with panic. Someone knocked Ada aside as they rushed past her in the darkness. Still, her mother never let go of her hand. Ada was afraid, but her mother's presence provided some semblance of comfort. There was a metal clang, followed by a scuttling noise near the ceiling that sent a chill through Ada's body. Sparks flashed and fell from the ceiling, then a dim red light filled the room, as deep as the red stains on the emergency ward floor. It took a few moments for Ada's eyes to adjust to the crimson glow that bathed the room—moments during which Ada wished she had augments to help her see in the dark, but she was too young for those. The sounds of something scampering resumed above her. An insectoid maintenance bot crawled along the ceiling, its six legs moving with mechanical precision, until it disappeared into the open access shaft and closed the grate behind it. Ada was comfortable around most bots—her parents often brought their work home—but the small ones that looked like insects had always crept her out.

The lamp on the AM soldier's helmet turned on, casting light everywhere the soldier gazed. For a moment, he looked right at Ada. She turned away from the bright blue light and clutched her dodo even more tightly. Her mother pulled Ada closer as well and hugged her. Her hand pressed Ada's head into her warm side. It was so soft; Ada didn't want to move. She closed her eyes and tried to relax.

Her eyes snapped open when gunfire sounded through the door, so loud it hurt her ears. Panic swept the room. Refugees shouted. Ada and her family were pressed against the wall as the crowd moved back from the door. Still, the bursts overpowered the commotion. The lone soldier's headlamp was joined by another—a lamp at the end of his rifle's barrel. This light he kept

away from the crowd, pointing it at the floor as he backed away from the barred door.

Somehow, the gunfire grew even louder, and the louder it grew, the more intensely Ada was squeezed against other human bodies. She struggled to breathe. Aunt Olsa screamed as Uncle Ezran hunkered down, pushing people away from his wife. Ada let out a whimper and began crying. She was far from the only one crying, though she may have been the youngest. This was no place for little girls. Her mother's fingernails began digging into her palms, but she didn't care. At least it meant her mother was close.

Then, mercifully, the gunfire receded. As if in disbelief, the crowd went silent. The soldier's blue uniform expanded as he took a deep, slow breath. When he exhaled, his headlamp pointed at the floor, and he turned around with his fingers in his ear again.

Someone pounded on the other side of the door and shouted, her voice a muted yell in a language Ada couldn't understand. The soldier's rifle snapped up, then he hesitated. He lowered his aim and took a slow step forward.

"Nein!" someone shouted.

"Es ist eine Falle!"

Her father moved Ada and her mother away from the door, but there was nowhere to run if the woman on the other side wasn't friendly.

The soldier opened the door a crack, and the woman burst into the room, knocking him to the floor. Even under the wash of red light, visible streaks of blood ran down her face. She wasn't a soldier. She was a nurse, wearing the same colors as the AM soldier she'd knocked aside. She tore off her face mask and fell to her knees beside the soldier, then spoke to him. Ada didn't

understand her words, but she understood the tone of panic in her voice.

“What is she saying?” Ada’s mother asked Uncle Ezran.

He listened for a moment, then began translating. “Enemy forces in the building...UKP troops.” He glanced at her father, who looked away and said nothing. “Our troops have pushed them back to the breach, but...” Uncle Ezran gasped. His eyes went wide. “Doctors are dead. A medibot has been hacked. Killing the patients indiscriminately.” Other refugees reacted to this with shock as well. A void of people formed around the medibot in the corner of the room, suddenly menacing in its eerie stillness.

Her father moved toward it.

“No!” her mother yelled, but her father paid her no heed.

He crouched down beside the bot and removed a service panel on its back. A moment later, the bot powered down. Her father called their AM guardian over. At first, the soldier didn’t respond, looking at Ada’s father with skepticism as he rose to his feet. But Uncle Ezran shouted something that must have convinced him to help, because the soldier knelt beside her father and provided him with a light.

Ada looked up at her mother. What was going on? There were no answers to be found on her mother’s face. Only that same expression of fear, the one that hardly ever seemed to change these days. She squeezed her mother’s hand. “Mommy? What’s daddy doing?”

Ada’s mother shushed her. “Nothing, Ada. He’s going to stay here with us.” Her father and Uncle Ezran returned to them with the soldier close behind. Ada’s mother looked at her husband with tears forming in her eyes. “Aren’t you?”

Her father's lips curled into a grimace, then he plastered on a smile over the grave look. It did little to comfort Ada. Pretending never did any good. "It's a standard MED-9 model," he said. "We can disable it."

"Nolan..." her mother pleaded. "We can't leave Ada here."

"Ezran is going to watch her," he promised, "until we come back."

"And what if we *don't* come back?" Ada's mother blinked, and the tears traced little grooves in the dust that coated her cheeks.

"Look," her father said, and pointed at the nurse. She sat against the wall, her legs tucked up against her chest, hugging them and staring at the floor with unblinking eyes. "She isn't going to do it."

"Another technician then," Ada's mother said. "There are fifty people in here. Someone else must know how to stop it."

"People are dying." He placed a hand on her mother's cheek, wiped away a tear with his thumb. "We have to help."

"The soldier will escort you," Uncle Ezran said, but there was uncertainty in his voice. He shook his head, then put his hand on Ada's shoulder. "I will keep her safe. I promise."

"We can use the MED-9's blind spot," her father said, and his eyes softened. When he smiled, Ada frowned. More pretending. "I'll get close and wait for you to send an override through its hardlink. It will be just like another day on the job. Trust me."

Ada stared up at her parents, confused as her mother swallowed and gave a sharp nod. Why were they going to leave her here? Didn't they want her to come, too? Her mother bent down and put on a brave face, but Ada remembered the fear. This was just a mask.

“Ada, my love, I need you to stay with Uncle Ezran. Listen to everything he says, and we’ll be back for you soon.” Ada’s mother gave her hand one final squeeze, then for the first time since they’d arrived in the hospital, she let go. She gave her a hug, and Ada’s father kissed her on the forehead. Then, with the soldier in blue leading the way out of the room, they left her.

In this room full of strangers, surrounded by people, Ada had never felt so alone. She looked down at her palm where her mother’s fingernails had left bright red indents in her skin. Then she hugged her dodo close to her chest and began crying again.

Why didn’t they want her to go with them? Was she not a good enough daughter? She could have helped. Instead, they had abandoned her. Uncle Ezran tried put a hand on her shoulder again, but she shrugged away from him. The only touch she wanted to feel was that of her mother.

He sighed. “It will be all right, little one. Your mama and papa will be back soon.”

The door had been left ajar, and screams echoed from down the hall like the woeful cries of ghosts. Distant bursts of gunfire made her body tense and flinch. Behind it all, the susurrations of aircraft—fighter drones, bombers, troop carriers, and more. Ada had seen them all. She knew the face of this war, better than an eight-year-old had any right to. There was danger beyond that door.

But if her parents faced it, so could she.

Aunt Olsa screamed, clutching her belly, face wrung with pain. Uncle Ezran rushed to her side, taking his eyes off Ada. This was her chance.

She held on tight to her dodo and bolted for the door. Pulling it open with her free hand, she hurried through and never looked back.

PART ONE

Heaven From Hell

Traveler

2106 A.D.

Present Day

Three Years after the Arrival of Rogue Planet G9615

Ada stared out the window of her uncle's mountainside cottage over Lake Geneva, searching for the rising sun. An overlay in the corner of her vision indicated it was 7:30 in the morning. She had hoped to catch a glimpse of light, but the world was pitch-black. Satellite data predicted that shortly after dawn a break in the clouds would illuminate the city of Geneva several kilometers to the south. For a few hours, their solar panels would collect that precious sunlight, storing it to later ration it out for food production, emergency response, water filtration, and other vital services. Each burst of life was like the postmortem spasm of an animal's limbs, an illusion of rejuvenation to fool those who didn't know better. Ada knew better. She looked up at the featureless sky, too dark even to make out the texture of the impenetrable clouds. The predictions were wrong; there'd be no relief from energy austerity this day. Typical.

She should have known better than to hope.

With a sigh, Ada tapped the side of her head, behind her left ear. As her implanted augments powered on, she sat alone in the dark, surrounded by a black void. This transition always made her feel like she was float-

ing in space. But in space, there would be starlight and the deadly chill of vacuum. Here, there was nothing. Intellectually, she knew she sat comfortably in a chair in Ezran's house, but as she waited for the virtual environment to boot up, her augments blanked out her entire visual field. Her haptics blocked out all sensations of the room she sat in. No temperature, no touch. Only darkness. She focused on breathing as though trying to maintain a meditative trance. She preferred *nothing* over the memories that haunted her, but they could only be kept at bay for so long.

"Come on, come on," she said, growing impatient. These augments were so slow. Ada was long overdue to upgrade hers, but the past few years' iterations cost more than she could afford, and her crypt savings were already draining too fast for comfort. Plus, she didn't relish the idea of undergoing another brain surgery so soon after the last. Her brain was already messed up enough. Anyone's would be, after what she'd gone through. War. Loss. Upheaval. But for Ada, the trauma was excruciating in its clarity.

Right on cue, the memories of that fateful day overlaid themselves atop her empty visual field. She experienced it all with perfect detail, as if she were back in her eight-year-old body looking on the grisly scene with once-innocent eyes. Crimson lights flickering in the hospital ceiling. The feel of her dodo slipping from her hand. Blood dripping from surgical saws. The hacked medibot turning toward her with what she was sure was malevolence in its eyes. Her heart palpitated. The scream built in her throat. Then, a merciful ping let her know her virtual environment had finished loading.

Her augments pulled her out of the memory and into a mountainside view, replete with blue skies and a bright sun bathing her in false warmth. Ada took a mo-

ment to calm herself down, watching a flock of starlings as it coalesced over the distant forest. The view drained the tension in her stiff neck muscles. It was a nice distraction, something she'd picked to keep her mind off what was happening out in the real world.

Flocks this big were as dead as Ada's old stuffed dodo. Forests that turned these shades of amber, green, and yellow couldn't survive on what little sunlight pierced the cloud cover.

The tension in her neck threatened to return, so Ada gestured to open up her interface before she thought for too long about humanity's dying legacy. A third-person view of her avatar greeted her in the interface portal that appeared. She still wore the fluffy, loose-fitting pants and a tee shirt three sizes too big that she'd loaded when the passive comfort of escaping reality wasn't enough. Every once in a while, she allowed herself the energy expenditure to more proactively comfort herself in the Chain.

A girl had to take care of her mental health, after all. What little of it remained.

She didn't bother redressing; she wouldn't be using her augments for long. An indicator at the bottom left of her visual field told her the battery implanted in her skull would need a recharge soon, and she only had a few charges remaining in her energy budget. She'd have to use one while she slept tonight if she didn't exit virtual reality soon, but Ada needed to check her messages to see if a response had come in from Dr. Ramesh. She'd asked the doctor about her paper on efficient cellular robotic systems, hoping some elaboration could provide a clue about the missing piece of Ada's own research. However, when she opened a view portal to ChainMail, the messaging app, there was no luck. Ada sighed, still no closer to perfecting her algorithm.

Swiping down with her hand, Ada's haptics picked up the signal sent from her brain down through her arms. If everything was working perfectly, her real body didn't move at all. Only her virtual avatar did. The gesture closed the ChainMail app, but even such simple motions were unnecessary these days. The augments released last month by the St. James Unity could be controlled with nothing more than a thought.

The Unity continued to make impressive advances in artificial intelligence and neurointerfacing. Unlike most organizations, they had both the energy and the willpower. Despite not having any physical presence, the DAO coordinated millions of individuals, channeling their efforts to make a positive difference in the hell that Earth had become. Ada admired that even while most of humanity retreated into the Chain to hide from the insurmountable heap of problems, a small portion still held on to a shared dream of progress.

Ada wasn't one of those people—Earth was fucked, as far as she could tell—but she still had responsibilities to her family. She couldn't miss her child support payments to Lakaya, nor the energy bills that both she and Ezran incurred. She also needed a bit of crypt for herself, spending money to prevent her life from devolving into a depressing monotony that would make scavenging in the wastelands seem appealing. New augments might help her earn more, but they'd only pay for themselves over time. If she wanted more crypt immediately, she'd have to publish her latest research. It would pay well; after all, she was still living off the income from her last publication to be accepted into the Ledger of Insight.

That had been seven years ago.

Ada opened a new portal, instinctively drawn back into her work despite her intention to quickly power

down her arguments. She glanced at her latest diagnostic simulations.

With the results she'd been producing, the improvements she'd made to her initial algorithm would be an important breakthrough in the swarm intelligence field. It would change the way bots of all sizes coordinated and reduce their energy overhead by up to twenty percent. However, the algorithm had a fatal flaw. The swarm had blind spots, and Ada couldn't figure out how to plug those holes.

She could publish now and start earning her royalties, but the research would only be good. Ada wanted it to be perfect. Focusing on short-term gains at the expense of long-term stability was how the world had declined to this sorry state to begin with. Ada refused to accelerate that problem. She didn't have to. She was so close. If she could just solve one final issue...

The low power indicator flashed, and she dismissed her work. Ada couldn't let herself get sucked in again. She moved to the balcony and gripped the metal rail, then closed her eyes and tilted back her head. The metal was hot from baking in the virtual sun, but Ada's haptics filtered out anything above her pain threshold. She looked up, directly into the sun. No matter how good simulated reality became, the sun was one thing it never seemed to get right. It always struck her as cold and remote, as though replicating the relationship Earth's latest generation had with it in the real world. Small wonder almost everyone chose to escape that hellscape. Ada was glad living in the Chain was an option, but she wished humanity hadn't fucked up their only planet so badly that extinction was all but inescapable.

She thought of Aunt Olsa. Ezran's wife had died in that hospital the same day Ada's parents had. Her baby never made it into the world.

Ada grimaced. “Better off never being born than living in a world like this.”

She tapped the side of her head to turn off her augments, but before she could confirm she wanted to power them down, a new message indicator flashed. Hopeful, Ada opened her palm upward and tapped on the holographic display floating above her hand. When ChainMail reopened, there was a single unread message waiting in her inbox. But it wasn’t from Dr. Ramesh.

It was from Constance St. James.

“What the...” Ada stared blankly at the empty subject line.

Was this spam, someone impersonating Constance St. James? Ada had seen plenty of scams started using the stolen identities of high profile individuals, and the founder of the St. James Unity certainly had such a profile. But when Ada checked the Chain’s certificate, the message did indeed match the expected public encryption key. It was real. But how did someone like St. James even know she existed? Ada was just an obscure mathematics researcher living with her uncle in a secluded mountainside community. What could the most famous engineer in the Chain possibly want with her?

There was only one way to find out.

She looked at the message and clenched her fist to open it, but a portal to the message’s contents didn’t appear. Instead, she was instantly teleported to a new virtual location designed to look like a low-tech interrogation room. Four one-way mirrors surrounded a lone table in the middle of the room, though everything they reflected was blurry. One didn’t need such antiquated forms of secrecy to monitor someone in a private virtual space, but they imparted what Ada assumed was the intended effect. She felt like she was being watched from every angle.

“What’s going on?” Ada demanded, looking in turn at each of the opaque windows. She was the only one allowed to manipulate her avatar, and she certainly didn’t give consent to be taken from her home environment. Ada gestured to open her interface but her transportation controls were disabled. She was trapped here.

Panic set in. Ada stomped toward the wall to bang on one of the false mirrors but stopped short when she saw herself. The panel only rendered her avatar in detail when she got close. Far from the fuzzy pajamas she’d started in, she now wore a black and white jumpsuit with the Unity logo printed on the breast. They’d dressed her like a prisoner. What were they going to do to her?

A woman’s silky voice sounded in the room, distorted and crackling as though it had come through an old speaker. “No need for alarm, Ms. Bryce. This is all standard protocol.”

“Abducting people is standard protocol?” She scoffed.

“For matters this sensitive...” The host paused, as if checking a long list of standard operating procedures. “Yes, I’m afraid so.”

Ada’s gut sank. What was she being roped into? Was any of this even legal? Edicts in the Chain were supposed to be unbreakable, but if any organization could do it, it would be the Unity.

Her low power indicator flashed again, warning her that her augments were in critical need of a recharge.

Ada barked a humorless laugh. “Well, sensitive or not, my augments are going to shut off soon, so you’d better get to the point fast.”

“Not to worry,” the Unity host said. A moment later, Ada’s breath hitched as the battery icon switched from red to white. They were receiving a fresh charge.

“That’s not possible...” Ada stammered.

“Plenty is possible when you’re willing to bend the rules.”

“*Bend the rules?* Kidnap me, you mean?” Ada shouted. “What are you doing with my body?”

That was the only explanation. She was no longer in her chair in Ezran’s house. The St. James Unity had taken her while she was unaware, senses blocked out by her haptics.

Worry washed over Ada like ice water. “You better not have hurt Ezran,” she warned.

The host sighed. A woman with rose gold hair pulled back in a tight bun phased through the wall and stood face to face with Ada. Her skin had a metallic sheen to it that made Ada wonder whether there was a human controlling the avatar or an AI. With the Unity, one could never be sure. She could only be certain the host wasn’t Constance St. James herself. Ada had never seen the reclusive founder of the Unity, but the host’s voice wasn’t a match to public recordings.

“We haven’t moved your body,” the host said. “We’re recharging your augments remotely using your nanos.”

“My nanos?”

“Yes. You have countless nanobots in your body—”

“I know what nanos are.” Ada rolled her eyes. How else was she supposed to authenticate her identity on the Chain? “But I’m not near my bed’s wireless charger.”

“Yes, we know. Long-distance wireless power is inefficient, but the St. James Unity has the budget to cover it.”

Ada’s fears slowly receded, but she still crossed her arms. The Unity was as wealthy as they came, but even they didn’t have limitless resources to throw around.

She must have been brought here for something important.

The golden-haired avatar cleared her throat, an entirely meaningless gesture for an AI. Maybe she was dealing with a human after all. Or maybe the AIs had been programmed to be rude. “Now, can we get to the matter at hand please, Ms. Bryce?”

“It’s your energy,” Ada said. She selected her favorite chair in her inventory, summoned it near the table, and took a seat. “By all means.”

“First,” the host said, “a disclaimer.” A sheet of paper appeared on the table with a flashy particle effect, and a pen was suddenly within Ada’s grasp.

She looked sidelong at the host. “Pen and paper? A bit antiquated, don’t you think?”

With a silver-lipped grin, the host replied, “Perhaps, but it provides a sense of gravitas that automatic digital signing simply cannot replicate.”

“So, what am waiving my rights to?” That Ada would be giving up some freedom was an assumption, but a pretty safe one. No one kidnapped you, trapped you in an interrogation room, and made you sign to receive an all-expenses paid trip to a resort on the lunar colony.

“A standard St. James Unity NDA. You simply can’t repeat a word of what you’re about to hear to anyone. Not until it’s made public on the Chain.”

Simple enough. Ada signed in all the boxes, initialed each page, and had her augments clean up her signatures so they didn’t look like they were scribbled by a six-year-old. “So, the Unity is hiding some activities from the public. The conspiracy theorists would go nuts if they found out they were right.”

“Which is precisely why *you’re* in this room, and not *them*. We need people we can trust.”

Ada glanced to her right, where the *No Recording* icon blinked not-so-subtly in her field of view. Trust or not, they were still taking precautions. As soon as Ada put down the pen, both it and the non-disclosure agreement vanished.

“Ready?”

Ada cocked her head. “For what?”

The fluorescent lights dimmed. Then, the universe materialized before Ada’s eyes. She gasped at the hologram, taking in the patterns of stars—no...galaxies—arrayed in clumps along the spacetime fabric. At this scale, the organizational effects of gravity reminded her of scans she’d seen of neuronal structures. It was as if the entire universe were one fourteen-billion-year-long computation, running through the mind of a vast supercomputer. Goosebumps formed on her arms. What would that make of the people living within that computation? Would they really be alive, or would consciousness be just another subroutine executing in the universal computer? Ada caught herself before getting too absorbed into the mire of simulation theory.

For a moment, the display stood still. Then, the galaxies began flashing past her, as though she were traveling through the universe at superluminal speeds. Impossible in reality, but anything was possible in a simulation. She zoomed through the infinite blackness of space, past entire galaxies the size of fireflies, between binary stars and exploding supernovae, until reaching her destination: the Milky Way.

Home.

From beyond the spiral arms, there was no way to tell which sun was theirs. As if reading her thoughts—and for all she knew, it could be—the hologram outlined Sol with a red border and centered it on the table in front of her. The entire display shrank until it fit above

the tabletop but continued scaling down toward Earth. Ada felt as though she were falling into the display. When the motion finally snapped to a stop, the specks of light still seemed to lurch away from her—an artifact from the visual cortex. Her augments could provide her with any experience, but they couldn't fix human neurology. That was a shame. Even if humanity got a second chance, they'd only screw it up and need a third.

Ada rubbed her eyes. "What am I supposed to be looking for here?" So far, she hadn't seen anything you couldn't find in basic a educational Link about the solar system.

"Wait for it," the host said.

"I'm sick of waiting," she said, and stood up. Ada seized control of the simulation.

She thought it had been a still image and only their perspective was changing, but she was mistaken. When Ada magnified the image to get a better view of Earth, its perpetual cloud cover roiled in the atmosphere, and defunct satellites and shimmering debris orbited the planet like flies buzzing around a corpse. This was a real-time visualization of a dying planet. Ada curled her lip and zoomed back out, the sight of humanity's failure reminding her why she preferred being absorbed in mathematics. But from this new perspective, there was one celestial body that moved at a different rate from the rest—a dark sphere traveling at incomprehensible speeds through the Oort cloud surrounding the solar system.

"What is that?" Ada muttered.

"Ah, you've noticed it," the host said. "Allow me to shed new light on the scenario." She updated the visuals to include infrared.

Ada really hoped there was a real person on the other side of that avatar. The world was unbearable enough

without AI making bad puns. Still, the addition of IR had helped. Now, she could tell the dark object was rotating, as it had a dull red hotspot on one side. Each time that side pointed toward Earth, the red flashed to a brilliant white, two times in quick succession, then faded back to red.

“What the...” Ada puzzled over the sight, drawn in by the mystery. She was no astronomer, but she knew this was out of the ordinary. “Is this in real-time?”

“No. Each rotation takes place over approximately twenty-two hours. I adjusted the playback speed so you can more easily understand what’s happening.”

“When did this start?”

“Over six-and-a-half years ago.”

“Six-and-a-half...” Ada took a deep breath. “And the Unity has known about this—”

“Since it began. Yes.”

Of course. She should have known better than to blindly trust a giant organization. It was only made of people, after all—bound to betray you at some point.

“How did you get this data, anyway?”

The host made eye contact with Ada and held it for an uncomfortably long time. “The rest of humankind may be squabbling over what remains down among the dirt, but Constance St. James knows the value of looking up toward the stars. Our satellites detected the anomaly as soon as the light reached Earth. Fortunately, that was all that reached Earth. We believe each of the flashes represents the firing of a massive projectile.”

Ada’s breath caught. “A weapon?”

“More like...rocket science. Watch.”

The visualization sped up until the flashes of light seemed continuous. Then, all at once, they ceased. While the object still moved at ludicrous speeds, the

scale of the display helped Ada see it was moving much more slowly after it went dark.

“Newton’s first law in action,” the host said. “The planet fired enough mass in one direction to slow itself down.”

“Fired it right at us...” If one of these projectiles had hit Earth, would there even be enough warning to react? The host was right; most people were focused on the dangers local to Earth, immense as they were. But clearly, those weren’t their only problems. “Wait, did you say *planet*?”

“I did.”

Ada leaned in toward the object. She’d assumed it was sized up for clarity, but if this was all to scale...

“There’s more.” The host fast-forwarded the recording. “Two-and-a-half years later, it began firing again.”

In those years, the planet had moved closer and closer to Earth. The dread in Ada’s stomach crept up with each centimeter it traveled across the table—likely representing millions of kilometers it traversed in the physical universe. Where had it come from, and why was it heading straight for Earth? There was nothing worthwhile on this collapsing world.

When the pulsing started anew, Ada asked, “Any theories on why it resumed after so long?”

“Several. Some of our astrophysicists believe impact with a large body in the Oort cloud triggered some destructive geological event. Others believe whatever system was powering the device required more energy after the first wave of bursts. It did, after all, only continue firing after entering our sun’s heliosphere. If it could use that solar energy in some way—”

“That makes sense,” Ada said, cutting off the host. Nothing more needed saying. It always came down to how much energy was available.

“It doesn’t make sense to Constance St. James,” the host said. “In these patterns she sees a singular intent.”

Ada watched the planet as it blinked its way toward Earth. By the time it stopped again, it was moving slower still. “It’s coming to a stop,” she said.

“Indeed. Which is why we must respond. That is why you are here.”

A flurry of questions raced through Ada’s mind, but she looked back at the solar system. The inner planets circled the sun at a dizzying pace, while the outer planets drifted around in lazy, sweeping arcs. All the while, the newcomer zipped inward, moving faster even than Mercury. Even at this new speed, the rogue planet outpaced every other celestial body in the area. “There’s no way it can slow down in time.”

The host smiled and gestured. Rather than fast-forwarding the display once more, she skipped forward. It took Ada a moment to locate the object of interest, now so close to the solar system it was practically within it. It passed through the Kuiper belt, phasing through the simulated asteroids and reminding Ada that this was only an approximation of what happened. Reality was too complex to capture in full detail. It continued its march toward Earth, closer now than what past generations once considered the furthest planet, Pluto. Then, the host slowed the simulation down to real-time.

And the planet exploded.

Ada gaped as the black sphere’s infrared signature flashed pure white, releasing too much energy for the satellites’ sensors to capture. The simulation flickered, as if it too was incapable of comprehending the level of destruction occurring above the table. Chunks of debris the size of Earth’s moon fragmented and continued toward the inner planets, like a shotgun shell fired from the barrel of an angry god. Ada’s mouth slackened as

she watched the display. She knew humanity's extinction was coming, but she didn't expect it to be this soon.

"How long do we have?" Ada blurted out. "What do you need me to do?" Ada's instinct for survival surprised even her.

The host chuckled, trying to hide her amusement with a hand that gleamed in the light of the explosion. "Please relax, Ms. Bryce. This happened over three years ago. We would all be long dead if this recreation were entirely accurate. Look again." The host pointed.

Ada blinked, then furrowed her brows. The rogue planet was intact. It was orbiting the sun, not far from the dotted line representing Jupiter's own path—in Earth's backyard, on a planetary scale.

"What just happened?" Ada asked, staring without blinking at Earth's newest neighbor. She got the distinct feeling it was a neighbor humanity would sooner evict.

The host shrugged. "No one knows. An enormous burst of energy was detected, and the planet experienced a deceleration of over twenty G."

"You're telling me an entire planet just parked itself in orbit near Jupiter with that kind of deceleration? How much energy would that take?" The battery icon on Ada's augments blinked to indicate a full charge, as if just to mock her.

"Approximately one-hundred twenty-eight yottajoules."

Ada stared at the host, awaiting clarification. When none was forthcoming, she sighed. "Yottajoules? Did you just make that up?"

"On the contrary, Ms. Bryce. That is the official unit for one septillion joules according to the Ledger of Insight. Or, if you prefer, one-hundred twenty-eight yottajoules is equivalent to thirty-quadrillion tons of TNT."

“Right.” Ada pinched the bridge of her nose and turned away. Following the guidance of Occam’s razor, Ada concluded there could be only one explanation. “This is a joke. An elaborate practical joke.”

“That’s an understandable reaction, Ms. Bryce. You’re not the only one who felt that way, but I assure you this is serious.”

“There are others?” She whirled on the host. “Who else?”

“I cannot say.”

“Why not?” Ada demanded. “They’ve signed the NDA, right? Get them in here so I know I’m not going crazy.”

“The whole world has collectively gone crazy, Ms. Bryce. Constance St. James is trying to snap some of you out of it.”

If anything could pull humanity’s head out of its collective ass, it was a common enemy. An external threat to break the Chain out of its stagnation. But of all the people who could have been chosen to meet that threat...

“Why drag me into this? What the hell am I supposed to do?”

“Only Constance St. James can answer that. You’ll be hearing from her shortly.”

The host held up her hand and the holographic display shrunk down to a point, then disappeared. The lights raised. A piece of paper materialized in the host’s palm, then hovered toward Ada, who reached out and grabbed it. Her haptics were sensitive enough for her to feel the featherlight weight of the paper, but the image printed thereon was grainy and out of focus—a blotchy, cratered orb with a patchwork of geometric patterns tracing the surface. For all their advances in technology that allowed them to virtually escape from Earth, any-

thing regarding space and actually leaving the Earth had been sorely neglected. Humankind was trapped here, waiting to die. And holding this image in her hands gave Ada a visceral sense that the rogue planet whose journey she'd witnessed had accelerated that process.

Ada took a deep breath and closed her eyes. When she opened them, she was back in her home environment, wearing her pajamas again, though she still had the image of the mysterious planet. She blinked, her heart still hammering in her chest, and her mind racing. Two new messages appeared in her inbox. She opened the first one, from the Unity. It listed her as a new member of the DAO and granted her the ability to charge her energy expenditures against the Unity's ledgers.

Virtual freedom from energy austerity? Ada blinked in shock. She felt as though she'd lived her whole life with shackles around her ankles, and the Unity was dangling the key before her. What was the catch?

She opened the second message. It was from Constance St. James, and it only contained a single word, handwritten and unmodified to provide a personal touch.

“Interested?”

Ada laughed. “You scratch my back, and I scratch yours?”

She looked down once more at the picture, then opened up the interface and sent her response.

Harmful Behaviors

Ada powered on her augments and authenticated herself in the Chain. A month had passed since she had replied to Constance St. James. A full month, during which the Unity could have notified her there had been a mistake and that her services—whatever those might have been—were no longer needed. During which they could have cut off her supply of unlimited energy, revoking her newfound freedom and thrusting her back into impoverishment. She had been expecting the day to come ever since her response had been confirmed in the Chain's ledgers.

But it hadn't.

After so long without energy austerity burdening her, could Ada ever go back?

She hoped she would never have to, but that didn't mean the day wasn't still approaching—decision times grew exponentially as the size of the organization making them increased. That's why the Chain was so stagnant: it was a self-composing network of nearly every human being on Earth, the biggest organization imaginable. Faced with an existential threat, indecision would be a death sentence. In this case, however, it may have been working to her advantage. So, Ada used her benefits as often as she could while she still had the chance.

Her first priority was making progress on her research. If time did run out and her Unity membership was revoked, Ada would forever regret not using this

opportunity to improve her family's financial situation. She was fully funding Ezran's energy budget as well as Lakaya's, so that her son's significant medical expenses were covered. Both of them had been pestering her endlessly about where she was getting the crypt—Ezran in person and Lakaya through a dozen unopened ChainMail messages. But Ada was still bound by the non-disclosure agreement, and she didn't want to lie, so she solved the problem by doing what humans did best: avoiding it.

She opened a portal to the Ledger of Insight. Normally, she would have sat in her favorite chair in her home environment and looked at text transcripts of the recordings stored in the Ledger. That was the best option for preserving a limited energy budget. Instead, Ada stepped through the portal into a fully rendered environment, energy savings be damned.

After a brief loading blackout, Ada appeared within a cathedral of marble, gold, and platinum she was certain broke the laws of both physics and—were it constructed in the real world—economics. She stood in the center of a football-field-sized atrium surrounded by six tiers of floors, each housing massive bookshelves containing all the knowledge accepted into the Ledger of Insight. Instead of colonnades to support the domed, stained-glass roof, sixteen waterfalls flowed from a misty white cloud that hovered near the ceiling and caught the kaleidoscopic light streaming in from the heavens. The moving water created a cool breeze and filled the building with a white noise that obscured conversations and allowed scholars to read in peace.

The place had almost felt pleasant. That is, until all the avatars of other people visiting the Ledger loaded in. Soon, the Ledger was filled with people reading at tables, holding conversations both lively and hushed,

teleporting to and from different bookshelves, and generally just crowding Ada's personal bubble. She always hated when people suddenly materialized around her. They may have been the stuff of bits, not atoms, but they still made her feel like she was back in the hospital room stuffed with refugees.

Still, the discomfort would have been worse if more people actually cared about knowledge. While most salvaged the vicissitudes of existence with their augments, visiting the Ledger of Insight wasn't exactly a common pastime. The accepted publications were scientific—or, to Ada's dismay, pseudoscientific—articles. Attempts at solving problems in the real world. No matter where you looked, you were sure to find something to remind you how broken civilization was.

However, as vast as this database was, it stored no *real* way to fix what was broken on Earth. No way to clean up the debris from the satellites destroyed at the beginning of the Energy War, nor any solution for the salts and aerosols that had changed the composition of Earth's atmosphere. No proposals for breaking free from energy austerity. No cure for human nature. Nothing that could save humanity. Merely ancient wisdom sprinkled amongst toy problems solved by people diving deeper into some rabbit hole they dug themselves. Nothing but distractions that made the slow decline easier to bear.

Ada shook her head, then stomped toward the AI clerk who would guide her to what she was searching for. She'd seen the intriguing title of an article at the end of yesterday's session but had already been in the Ledger for thirteen hours straight. She recalled the title now and told the clerk, "'Adjusting the standard Ryleigh swarm intelligence algorithm for global solution likelihood optimization' by K.S. Rambure et al." She eyed her

battery indicator, which was still at nearly a full charge, then shrugged. “Interactive mode, please.”

“Confirmed,” the AI responded. “Please step through the portal.”

The promised portal appeared next to Ada, rendering within it a real-time view of some space outside the Ledger’s atrium. Automated systems such as the clerk weren’t permitted to teleport anyone without consent. Ada had to initiate the process herself. She did so and found herself in the rendered room.

The publication’s interactive space was customizable by the author of the work. Rambure had chosen to present his article in a room that looked like a planetarium without any seats. A high, dark ceiling contained a view of the Milky Way with distant stars subtly moving, as though affected by the rotation of the Earth.

The author began speaking and startled Ada. “What you see overhead are not stars but particles. Individual objects coordinated by the modified algorithm proposed by me and my co-authors.”

Ada turned to face him as he spoke—his avatar was wearing a smart button-up shirt with a dumb pair of shoes that didn’t match at all—then she glanced up one more. All the stars began circling the center of the room, as though someone had taken a coffee stirrer to the galaxy. The stream of particles clumped closer and closer together until they appeared to be one single line of light, then trailed down from the ceiling and surrounded Ada.

“Imagine that each of these particles is a drone governed by a swarm intelligence algorithm,” Rambure said. She didn’t have to imagine it, though. The particles in the simulation transformed into microdrones that buzzed loudly around Ada and made it hard to hear the author.

“Before deploying the swarm, a task is chosen, and the algorithm simulates the swarm completing it. Each drone has certain adjustable parameters in this virtual simulation, which can be optimized together as the algorithm simulates the swarm completing the task thousands of times per second with minor variations of the parameters.”

Ada was growing impatient, but she let the presentation continue. Maybe he'd get to the interesting part soon.

“During each iteration of the simulation, a solver uses the drones as inputs to an equation that computes some value—typically the total energy usage of the system. It then compares this iteration's result to the last run. If the value was better than the last iteration, the new value is saved, and the process is repeated. If not, the parameters are reset to the prior values and adjusted in some different way.”

Ada couldn't take this dumbing down any longer. “Why are you simplifying so much? Do you really think anyone reading your articles in the Ledger these days needs a primer on the basics?”

Rambure's avatar didn't respond. It was just a recording of the author, after all. It remained motionless while the Ledger AI controlling it waited for Ada to finish her query.

She groaned. “Just skip to the conclusion.”

The simulation jerked around her. The dark galaxy overhead was replaced by a scene of gold and sky-blue with Biblical overtones. Evidently, the author had some elaborate presentation planned for his work. She rolled her eyes. Delusions of grandeur, that's all it was.

The author continued, though with far more fervor in his voice than Ada deemed necessary. “As we've shown, by decreasing the Ryleigh coefficient of de-

termination from 0.46 to 0.39, a global optimum can be achieved with only a minor impact on the energy usage—”

“Stop!” Ada shouted.

The author froze mid-sentence, his avatar holding one finger up in the air and maintaining an embarrassingly stupid look in his face. Good. A capture of this moment should have been the image on his professional bio, that way no one would confuse this guy with someone with any good ideas.

“How did you get this sad garbage published in the Ledger of Insight?”

At least the angelic scene overhead made sense now. Rambure and his clueless compatriots thought they had achieved the impossible. By adjusting one coefficient... It almost made Ada laugh, but she was too angry that this mockery of scientific thought had been accepted into the Ledger. It threw into question every other article she'd read, not to mention the validity of the database as a whole.

The author snapped into a neutral pose but had no response to her rhetorical question. Instead, he asked, “Would you like to leave a review?”

It would be a waste of time, but Ada had to vent. “Yes,” she said, and almost felt bad when the author smiled his thanks.

Almost.

The AI waited while she gathered her thoughts. It didn't take long.

“This article is an utter waste of time. That you would deign to publish it says all that needs to be said about your so-called contributions to the research community. If you attended university, immediately get a refund because apparently, they never taught you that a global optimum is impossible to achieve with an evo-

lutionary algorithm. But my guess is that you never received any education, self-taught or otherwise. An entirely new fork of the Ledger of Insight simply to remove this one article wouldn't be too harsh, despite the vast undertaking it would be. If the opportunity were used to remove all of your published work, the costs would be justified. One star."

The sentiment analysis algorithm of the ledger's AI had the decency to make the author's avatar frown. "Thank you for your feedback. I'm sorry you didn't find my research to your liking. If you'd like to view my other works, a portal to my bibliography—"

"Exit," Ada interrupted, though for a moment she was tempted to go leave scathing reviews of the rest of his research. Instead, she was back in the atrium, standing before the clerk.

"Can we please expunge that article from the database?" she asked.

"My apologies, Ms. Bryce," the AI said. "Removal of transactions from the Ledger of Insight is impossible."

She knew that, of course. But it didn't hurt to ask. Maybe a bug in the AI's programming would accommodate her request and delete the whole database. It might even have been justified...

The problem was nothing ever got lost in the Chain. That was often touted as one of its benefits. Times like this, however, illustrated how it was also one of its greatest drawbacks. Ada knew all too well the ramifications of perfect memory. No information was lost. Unfortunately, that included the times when you did something really stupid you'd rather forget. Or worse, when a massive conflict breaks out in your childhood and ladens you with all sorts of tragic memories. She supposed most other childhood victims could just repress those, not worrying about them until they mys-

teriously manifested in some way later in life. But no, Ada was stuck with hers. Whatever harmful behaviors her trauma led to, Ada couldn't fathom. That was the real tragedy. No one ever knew how broken they were until it was too late.

When had they crossed that point of no return with Earth? Was it the Energy War? The first Industrial Revolution? Maybe it was so far in the past, no one would ever pinpoint it. Probably, it was when humans became the dominant species on the planet. Just like the algorithm described in Rambure's work, the initial conditions could doom the entire process to an evolutionary dead-end.

It was no wonder everyone spent most of their time consumed by their augments. The real world was too depressing, and since humans were the root of the problem, there was no possible solution. In the Chain, at least there was still some joy to be found. Ada turned on her privacy bubble, and the Ledger went gray around her. All of the avatars faded out of existence, leaving her alone and giving her room to breathe. She gestured to open the directory and began flipping through recommended Links—different locations in the Chain she could visit. The recommendation engine, being part of her implanted augments, analyzed her mood and her desires to provide a selection of experiences it thought she might be interested in.

She wasn't making it's job easy.

Ada didn't know what she wanted, not exactly. She knew she had to perfect her research, so should she stay in the Ledger to continue working? The Links in the directory reflected that—most were additional scholarly works, some of which even sounded promising. She made a mental note of those, then filtered the Ledger out of the recommendations. Right now, she

just wanted to be elsewhere, away from any reminder of the offline world.

It was an oft-cited maxim that any experience that *could* exist *did* exist in the Chain. Want to inhabit the mind of the extinct Siberian tiger for its entire life cycle? Here are three dozen options. How about a journey to a more hopeful future where you can pilot a star-hopping spaceship with your intrepid crew? Just pick a universe. The Links presented to her ran the full gamut, from awe-inducing religious experiences to some seriously depraved recordings whose preview portals made Ada's gorge rise. It was up to you to set the bounds of your comfort zone—and when to travel outside of it.

When she noticed she'd been evaluating options for ten minutes, Ada realized she didn't have the stomach to remain in the Chain any longer tonight. However, she had even less of an appetite to leave. Only desolation awaited her outside, a world devoid of color. Luckily, she didn't need the Chain to provide her with any distractions. She could do that all on her own.

With a swipe of her hand, Ada opened a portal back to her home environment and stepped through. She disconnected from the mesh network and ran a quick scan to verify she wasn't linked to anyone, then unlocked an unadorned wooden door that led to her augments' memory vault.

As she entered the vault, all of the overlays vanished—no more battery indicator, no more bio status, no more connectivity icons. Even when in the real world, these displays normally accompanied her vision. But this space was designed to be more private, and the reminder that you had a device implanted among your neurons—potentially monitoring everything you did—was unnerving when you were accessing your deepest secrets. True, realistically they were still there, but the

memory vault code was all open source, and there had yet to be a single recorded case of memory theft.

Over the past five years, there had been two Chain-wide votes to modify the regulations surrounding memory vaults in the Ledger of Edicts. Both had badly failed. As though everyone knew all hell would break loose if something so precious could be tampered with. Ada normally ignored alerts that she was requested for a vote, dismissing them without giving them a second look, let alone stepping through their portals into the Forum. But news of both of those votes had been broadcast all over the Chain, so those were two of the few she had actually participated in. Humanity had already ruined physical reality; the least they could do was preserve virtual reality.

Thankfully, most people agreed. Ada's vault reminded her that despite the downsides, her perfect memory wasn't *only* a curse. She had carefully curated it to contain only positive scenes from her past. Each was displayed as if it were a two-meters-tall painting in a museum, all meticulously organized by category and date. She strolled through the gallery.

On her left were the most fun times she'd had in the Chain, including when she'd first gotten her augments and binged the history Links, embodying countless historical figures for recreations of their entire lives. To her right were images from her short-lived marriage, more bittersweet than anything else in here. But it was important for her to hold on to those. She had so little contact with her ex-wife and her son, Jean, these days that she needed some keepsake to remind her of the good years. However, she wasn't quite ready to relive those memories yet; she was still harboring some bitterness over the divorce and the decisions that led to it. So, she continued moving forward through the gallery,

toward the frames that contained visions further back in her past. Ada needed some comfort right now, and this was where it could be found.

Most people didn't have the luxury of childhood memories in their vault. Augments were needed to capture the memories, and they were illegal for anyone under the age of sixteen. There were certain Links that promised to restore old memories for new recording, but the results always had a dreamlike quality to them. Ada's ex-wife had shown her some of those once, when she and Ada had temporarily linked their vaults together. It was intimate, allowing someone you loved to inhabit your body and witness a close-kept and cherished experience. But when Ada had stepped into Lakaya's shoes, she was disappointed by the lack of clarity with which her early memories were rendered. Time had fragmented them into incoherence. When Ada and Lakaya had returned to the gallery, her ex-wife was radiant. She pressed Ada for her reaction, and though Ada was disturbed by what she'd seen, she'd put on a fake smile and told Lakaya what she'd wanted to hear. It hadn't fooled her though; Lakaya had always been able to see right through her.

Ada's own childhood memories were rendered in perfect resolution, as if she'd had the augments all along. It had taken some effort on her part—many hours spent in meditation Links trying to summon the memory she was targeting. After capturing them, some still had the bells and droning chimes in the background, as if her childhood had had a calming soundtrack. In reality, the soundtrack to her childhood was the dissonance of guns and bombs. There was a reason this vault was so sacred to Ada. If she relived the good memories enough, might the bad ones start to fade away?

So far, that hadn't proved to be the case. The bad memories were more salient than she'd once hoped. That didn't stop her from trying—any chance to relieve her of her suffering, she would take.

After deliberating for a few seconds, Ada decided what moment she wanted to re-experience. She stepped through the painting into a comforting, distant past.

* * *

“Ready?” Uncle Ezran asked.

Ada firmed her grip on the handle of the wooden chest and nodded.

“All right, little one. Now, be careful.”

“I won't drop it, Uncle Ezran,” she promised. He'd been worrying over this chest for the whole move, especially as they rode up the bumpy mountainside. Ada hadn't gotten a chance to look inside, but whatever was in there was important to Uncle Ezran.

He looked at her through his thick spectacles, then smiled at her. “I know. Remember what I said?”

“Lift with your knees, not your back.”

“And if you are going to drop it, say so.” He squatted down and Ada followed suit. “One, two, three, lift!”

Ada surged to her feet with Uncle Ezran. They carried the chest slowly, one step at a time, Ada's thighs, back, and arms aching all the way. Though it wasn't a far walk from the back of the old moving vehicle to the threshold of their new home, it was a heavy load for an old man and a little girl. But if they couldn't do it themselves, it wouldn't have gotten done. Ada remembered what her uncle had said all those years ago.

“All we have now is us. You, and me, and a world in which we must make our own happiness.”

Making your own happiness—something about that had always stuck with Ada. Where else would it come from in this broken world?

A warmth bloomed in Ada's chest at the thought that Ezran entrusted her to help build their new home together. It sure beat sitting around and watching the world get worse all around you. Uncle Ezran understood better than anyone. Ada needed as many distractions as she could get, lest she be swept back into the past by her bad memories.

However, just as they passed through the front door, Ada realized she couldn't carry the chest for a second longer. "I can't—" was all she managed before it slipped from her fingers and dropped to the floorboards with a reverberating thump.

Uncle Ezran lowered his side of the precious cargo to the ground, then rushed around to Ada.

"I'm sorry," she whimpered when she saw the tears in her uncle's eyes and the briefest flicker of anger.

"It is all right." He sighed, and patted her arms, looking down at her feet. "You still have all your toes, yes?" He forced a smile, but Ada knew he didn't really mean it. She looked away, trying to push the guilt down as it built up within her.

"Hello?" came a voice from the front door, and Ada spun around in surprise. A plump, older woman was standing in the doorway holding a plate of cookies. Their intoxicating, buttery smell confirmed they were freshly baked. Ada's mouth began to water. "Everyone feeling well? We heard a loud bang from outside."

A boy with russet hair who looked to be about Ada's age poked his head out from behind the woman, flashed a bright smile, and waved. "I brought a gift too!" he shouted, then shoved his way past the older woman. He tossed something toward Ada. She reached out to catch

it, but the thing started buzzing and hovered clumsily around in mid-air, beyond her grasp. The boy held a gloved palm up and looked to be controlling the little drone with the motions of his fingers. His tongue protruded from pursed lips as he concentrated on not letting it crash into the walls—unsuccessfully. It clattered to the floor, and Ada giggled.

“Guillermo, please,” the woman scolded. “We haven’t even introduced ourselves to our new neighbors and already you are causing havoc.” Was this the boy’s mother? The two looked nothing alike. The woman’s hair was long, black, and wavy, and her face was much rounder than Guillermo’s.

Uncle Ezran rapped on the walls with his knuckles, back to his jolly self. “Not to worry. This house has plenty of wear and tear. It will be a good project for Ada and me, fixing it up.” Ada loved how quick he was to forgive; even when the world had taken everything from him, he still had it in him to act with grace. “Please, come in. Keeping you out in the cold for so long, I believe I must apologize to you, Mrs...?”

“Just ‘miss’,” she said. “Ms. Francis Erlein, and this is my adopted son, Guillermo.” A flirtatious smile flicked across her face.

“Adopted?” Uncle Ezran sighed wistfully and glanced at Ada. She didn’t know what Ezran was thinking, but Ada imagined this boy must have lost his parents in the war too. “And how old are you, Guillermo? No older than twelve, I imagine.”

“I’m thirteen!” Guillermo said proudly.

“Thirteen, of course. Pardon me. Only a year older than Ada.” Uncle Ezran gave the Erleins a shallow bow. “I am called Ezran Fischer, and this is my adopted daughter. Say hello, Ada. Do not shy away.”

Ada raised her hand to wave, then the whole world flickered and blinked out.

* * *

After a moment of being dazed, Ada realized she was waving at the wall. She rubbed her eyes to clear her mind. What had just happened? She'd never before been ejected from a memory partway through. That was supposed to be dangerous, and she understood why. Part of her still felt like she was in the body of her twelve-year-old self. But she was in her home environment. A flush of heat ran through her body, and she hugged herself. Who had pulled her out of her vault?

A priority alert was flashing in the bottom-right of her vision. She reviewed it and drew in a breath. Lakaya had sent her a message in ChainMail tagged as a family medical emergency.

Panic snapped Ada fully back to the present as she scrambled to open the message and activate the attached portal. An emergency involving Jean would drag her out of any scenario—in the Chain, in her vault, the dangers did not matter. Her son was the first priority. She didn't need an eidetic memory to remember that.

Ada stepped through the portal into her ex-wife's home environment. She spun around, searching for Lakaya, but she wasn't in this room. Damn her for not directing the portal to bring Ada directly to her. Was she going to make Ada search? In an emergency? She gritted her teeth, then hurried from the entryway into a room that resembled an old studio apartment.

Much was the same as she remembered from when she was last here two years ago, on the day they had dissolved their marriage. It had been just the two of them, and few words had been spoken—typical for their last few months as partners. Ada had spent most of the time

taking in the scene; she'd always loved Lakaya's home environment. It contained many good memories, and she didn't expect to be back any time soon.

A balcony through a set of glass double doors still overlooked a sprawling vineyard, deep green receding into the hilly distance where the sky hinted at the coming sunrise. In a corner of the room was a sort of shrine that Lakaya kept to remember her own past. The tri-color flag of the old French nation was draped over the table. Atop it were several slender statues of women carved from ebon wood, wearing bright fabrics with printed floral patterns, wrapped headscarves, beaded jewelry, or in some cases, no clothing at all. There was a floating model of the moon, representing Lakaya's ancestor who'd been on the team that first sent humankind to the lunar surface, and whose memoirs had inspired Lakaya to become a physicist.

None of that had been changed since their divorce. But one thing was missing from the display—the picture of Jean taken just days after Lakaya gave birth to him. Looking around, it didn't take Ada long to locate the missing photo. It was across the room in her ex-wife's hands.

“What happened?” Ada demanded. “Is Jean well?”

“Do you truly care?” Lakaya strode toward her.

Ada braced, but then her ex-wife edged past her to place her son's photo back in its proper place. She even smelled just how Ada remembered—a light, flowery aroma with a hint of almonds. When Lakaya turned back, the picture frame was offset by a few centimeters from where it should be. Ada kept her mouth shut; pointing out little discrepancies between her memory and reality had gotten her in enough trouble, and that was when their relationship was on good terms.

“Of course I do,” Ada said.

Her ex-wife stared at her intensely. Behind those deep brown eyes, Ada knew she must be holding back many things she wanted to say. How Ada had grown so cynical after Jean's birth. How she'd only visited them twice in the two years since their divorce, and that financial support isn't the same as being a mother. All the usual arguments when Lakaya let Ada know, "we need to talk." But Lakaya let them go.

Tearing up, she said, "He's...in the hospital."

A fist of terror grabbed Ada's spine and immobilized her. In her mind she was transported back to that day in the last year of the war, to the moments prior to the last time she'd seen her parents. She wished they hadn't left her, but even more she wished she hadn't followed them.

Her face must have given away what was happening, and Lakaya must have known that'd be her reaction. Despite their shared resentment, Lakaya comforted Ada with a soft hand on her cheek and a shushing sound to draw her calmly back to the present. It reminded Ada of why she'd fallen in love with this woman. Whenever Ada fell into a fit of panic, Lakaya understood. Even when Ada felt she was embarrassing her in front of friends or family, Lakaya never held it against her. She knew what Ada had been through, and that her trauma didn't make her any less valuable.

Lakaya drew her hand back once Ada collected herself.

"I'm sorry," Ada whispered. "This isn't about me. What's wrong with Jean?"

With closed eyes, Lakaya shook her head. "He had a lung infection. We thought he fought it off, but it returned worse than before." She hesitated, choking back a sob. "He needs a lung transplant. We've found a donor. It's scheduled for a week from now."

Ada's throat tightened. When Jean had been diagnosed as an infant with cystic fibrosis, the doctors had told them this was a possibility. But they thought it would be a decade or more away. Jean was only four years old. "So soon?"

"The surgeon said it was the aerosols the old governments seeded the clouds with. It's like an allergic reaction or something. I don't know. It doesn't matter."

Something like this happening was why Ada had pushed for genetic screening when they decided to have a child, to ensure the baby was strong and prepared for an uncaring, difficult world. But Lakaya had carried the child, and she wanted to do it naturally. The resentment Ada felt toward Lakaya for inducing such avoidable suffering never really left her. But lately she'd started blaming *herself* more, for not fighting harder for her son.

Ada stuffed that guilt down. Self-loathing wouldn't do anything to help Jean now. "How much is it going to cost? I'll send however much money you need."

"I don't want your *crypt*," Lakaya snapped. Then, she cooled down. "He wants his *mother* by his side. Your son is scared."

In a hospital? Ada's skin began to crawl. Without hesitation, she stuttered out, "I—I can't."

"You don't have to be there with any bots," Lakaya promised. "The doctors assured me they wouldn't bring any around while you're there. You'd only be there for a few hours, before and after the operation. The rest of the time, you can stay in my guest room."

"It's not that," Ada said, her mind searching for excuses. She couldn't go back to a hospital. Ever. "It's just so far to travel. It would use too much energy. The travel request would never be approved."

“That’s bullshit. Too much energy?” Lakaya scoffed. “I don’t know where you’re getting the crypt, but that’s clearly not an issue. I’ve seen your access records. You’ve been in the Chain for hours a day, doing God knows what.”

“You’ve been checking my hours?” Ada asked, taken aback.

“Don’t try to play the victim here. I’ve been trying to catch you for weeks now, but you’ve clearly been avoiding me.”

“I haven’t—”

“Stop.”

“But I’m—”

“Just *stop*, Ada.” Lakaya was glaring at her. “I know what this is really about.”

Ada furrowed her brow. “What?”

Lakaya opened her hand with her palm facing the ceiling and a viewport appeared. Now Ada was truly confused. A voting record from the Ledger of Edicts?

“What is this?” Ada dragged the viewport closer so she could read it. It was a Chain-wide vote, initiated by the St. James Unity. As Ada read the details, the blood drained from her face. How had she missed this? True, she automatically delegated her votes on most topics to others who she considered experts in each subject area, but this vote involved a decision that she knew she was more of an expert on than most.

It was over a proposal by the Unity to send five volunteers on a manned mission to a newly arrived rogue planet.

A huge presentation was attached to the vote, containing everything from the launch vehicle the volunteers would board to the estimated duration of the mission. The biggest section was an explanation as to how the rogue planet had come to park itself in the so-

lar system, and why it was so important to send a crew to investigate. Ada skimmed most of it—she'd already been convinced by the more personal presentation she received—then came to the bottom, where those who'd volunteered for the mission were listed.

Over a dozen were proposed, but only those who'd received enough votes to put them in the top five after the vote were chosen. Of those selected, three were men Ada had never heard of. One, Ada was surprised to see, was Constance St. James herself. But the most surprising name of all was the last: Ada Bryce.

And she had more votes than any other candidate.

"Why did you volunteer for this?" Lakaya demanded. "Knowing there's a chance you'll never return. That your son will never see his mother again."

Ada was at a loss for words. She just kept staring at the words on the voting record in front of her, a resume for a job she didn't know she'd applied for.

Ada Bryce. Mathematician with numerous contributions to the Ledger of Insight in the domains of geometric algorithms, swarm intelligence, and emergence. Ada will play a fundamental role in communicating with intelligent life if it is found on the planet, using the universal language of mathematics. She was contacted by the St. James Unity for recruitment late in the process, but her eagerness to contribute to the mission was unmatched. Ms. Bryce entered her candidacy just moments after being contacted by Constance St. James.

Her eagerness to contribute... Ada supposed that was a fair characterization. She had given a simple response to a simple question. Interested? Hell yes.

However, after her adrenaline subsided, she had begun to wonder if that wasn't an overly hasty reply. The Unity never made clear exactly *what* she was being asked to do. Ada had speculated as to possible roles

she could fulfill, but never in her life would she have guessed this. She couldn't do this.

Could she?

"You're so eager to leave us behind?" Lakaya huffed. "Say something!"

"I..." she muttered, then breathed out.

Ada wanted to say more, but the full weight of her actions had yet to settle on her shoulders. The vote had been approved, and she had been selected as a volunteer. The most highly voted volunteer, in fact. She flicked her finger to search the proposal for the date the rocket would be leaving, but she couldn't find it. Whether weeks from now, months, or years, Ada could soon be embarking on a spacecraft and leaving Earth behind. Escapism of the highest form, to sail among the stars on a grand mission to some alien planet. To see a civilization that hadn't been doomed from its inception, as humanity's had been.

But doing it meant leaving her family behind.

Lakaya was right; there was a high probability this would be a one-way trip. And she knew she wasn't qualified to communicate with any form of intelligent life "using the universal language of mathematics," as the proposal stated. But if she refused...what then? The Unity would cut off her energy supply, right when Jean needed it most. She wanted her son to have the highest quality care available, which would incur astronomical expenses. Ada could go back to her research, but that wasn't a sure thing, and no matter how well it turned out, it would never compare to the funding she could leverage from the Unity.

She had to do it. For Jean.

Ada set her jaw and faced her ex-wife. "You're right," she lied. "It is about that. I signed an NDA at the Unity and I couldn't say anything until the vote was re-

leased.” Ada shrugged. “I didn’t realize it had happened already.”

Lakaya crossed her arms. “You volunteered, but you didn’t know the vote occurred?”

As always, Lakaya could tell Ada wasn’t being entirely truthful, but Ada honestly had missed the vote. She searched the transaction identifier in ChainMail and saw she had dismissed the notification seconds after it had arrived. Still, she kept her mouth shut. Saying anything else would only further raise Lakaya’s suspicions.

“You can still back out,” Lakaya said.

“No.” Ada stood her ground. “I have to do this.”

“Ada, it isn’t just *your* life this decision affects. I know you don’t care about me, but you have Jean to consider. Does he mean so little to you that you’re willing to entirely abandon him?”

An electric spike drove its way down Ada’s spine, conjuring images of her mother leaving the room behind her father. The touch of her mother’s hand tingled in her palm, and she found herself shouting, “What do you know about abandonment?”

She and Lakaya locked eyes. Pent up tears trickled down her ex-wife’s cheek. “All too much,” she whispered. “The optimistic woman I fell in love with abandoned me years ago. What happened to her, Ada?”

Warm tears rolled down Ada’s face as well. Her throat constricting once more, she managed to squeak out, “I’ll visit him virtually. The hospital will have holo-bots, child haptics. It’ll be like I’m really there.”

“He wants you *here*, Ada. Physically. Remember that? The comforting touch of another human?”

“What difference does it make?” Ada sulked. “Haptics are just as good as the real thing.”

Lakaya slapped her. Ada felt the blow, but it was attenuated by her pain filters. “They are *not* as good as the real thing.”

Ada opened her mouth to argue, but Lakaya turned away and covered her face with a hand. “Just go, Ada. For our son’s sake, I hope you make it back home.”

With a sweep of her arm, Ada’s ex-wife terminated their connection.

Eyes

As she had for the past three days since her meeting with Lakaya, Ada traveled uphill with Ezran into the town. She was bundled up against the chill blowing in from the direction of Lake Geneva. Soon, she would need to start wearing her heavy winter coat, but as it was only August, she wore a windbreaker with a wool sweater underneath that wicked away the sweat she was working up. Her shoulder ached from the weight of a wicker basket, filled with potatoes Ezran had grown for the community in his biopods. It was a heavy load, but Ezran's knees were starting to go, so Ada always insisted she carry it.

Beside her, Ezran transported a relatively lighter load: wood carvings he'd made in his spare time for the neighbors.

"Just you wait, little one," he'd said as they prepared to leave. "This time I will make us some money, also. These are some of my finest works yet."

Ada had smiled and said she believed him. But he was too kind; he'd end up giving them all away for free, as always. He deserved a better life than they had. A pang of guilt had accompanied the thought. She hadn't yet told him about the mission, knowing how devastated he would be to hear she'd be leaving him behind.

As they crested the hill leading to the town square, a powerful gust of wind bit right through Ada's unzipped jacket and sent her stumbling forward. Five misshap-

en, scrawny potatoes tumbled into the icy dirt. One bounced back toward the slope, as though yearning for the soil in which it was grown. Cursing, Ada dropped her basket and lunged for it. But she was too slow. The spud accelerated downward, making the journey back alone.

Then, a drone zipped overhead and shot down the hill. It dove in front of the rogue potato and stopped it dead, then picked it up with a tiny claw and carried it back up to Ada.

She turned to see Guillermo's grin as his drone dumped what he'd retrieved back in her basket.

"Nicely done, my boy!" Ezran exclaimed.

But Guillermo was no longer the boy she'd seen just a few days ago in her memory vault. He was a man fully grown now, one of the town's lumberjacks, with a thick beard to prove it. Whereas Ada grew her hair long to cover the scar from her augment surgery, Guillermo kept his head shaved around a metal patch—an external antenna to provide better connectivity to the other nodes in the Chain. He had a far-off look when she met his eyes, like he was giving more attention to piloting his drone than to the people around him.

"Ada comes out of the woodworks for a third day in a row," Guillermo said. "Special occasion, or have we finally rubbed off on you?"

A little surge of panic weltered inside Ada. She *had* been spending a lot of time with Ezran, trying to create some precious memories to look back on while away. She glanced at her uncle, hoping Guillermo's question didn't ignite any curiosity in him.

"You could say that," Ada replied noncommittally, then bent to retrieve the rest of the potatoes. "Thanks."

She made to pick up the refilled basket, but Guillermo had a hand on it before she could.

He hefted it and said, "I'll take these to the stockpile. My mom is waiting at her market stall. I think she's got something she wants to give you, Ada."

"Me?" Ada raised one eyebrow. "What is it?"

"Don't know," Guillermo said, then chuckled nervously. Clearly, he did know, but he and his drone started for the communal farmhouse before Ada could press him.

"Well, if she is giving to you a gift," Ezran said. "I certainly cannot ask her to pay for the carving I made for her."

Ada smiled. "Let me help you carry those."

The market was as bustling as a town of thirty-odd residents could be. Perhaps because the weather was as pleasant as a dying Earth could produce. The wind was brisk, but that only served to whisk away the scent of livestock. The cloud cover was complete, but not thick enough to completely black out the sun this afternoon. Many days passed in total darkness. This day was refreshingly gray. And so, the adults traded goods and gossip, attending their stalls while their children attended to games of their own.

Ada and Ezran found Ms. Erlein selling a knit cap to an elderly woman Ada had never met. Ms. Erlein looked much the same as Ada's childhood memories of her, albeit a bit thinner and with a lot more gray in her hair. That was no surprise; everyone was always getting older and food was always becoming scarcer. The other woman, however, Ada had never seen in her life.

"Who is that?" Ada whispered to Ezran, waiting their turn while the two women talked.

"Mrs. Noyer?" Ezran chuckled, then plucked one of his wood carvings from Ada's arms. "You need to spend less time in your virtual worlds, little one." When Mrs. Noyer thanked Ms. Erlein and put on the cap, Ezran

called out to her. "Lunete! I have something for you." He held up a carving of a fox and strolled to her, beaming.

"Ada!" Ms. Erlein called. "Just who I wanted to see today. How are you feeling, dear?"

"I'm fine," Ada said, choosing not to mention the undercurrent of dread flowing through her. She'd have to tell Ezran about her mission soon, and it would break his heart. "Just spending time with my uncle...while I can." That had come out before she could catch herself.

"Oh, don't you worry about him." Ms. Erlein eyed Ezran dreamily, not hiding her admiration one bit. Somehow, Ezran never seemed to notice it. "He may be getting older, but he's got the heart of a bear. He's got his best days ahead of him, I expect."

Ada forced herself to breathe, stomach churning. "Guillermo said...you had a gift for me?"

"That's right!" She ducked down and started rummaging noisily, then said, "Put those carvings down, would you? Ezran can sell them from my stall today."

Maybe that was a good idea. If Ezran spent more time with Ms. Erlein, Ada's leaving wouldn't be so bad. At least she would know she wasn't leaving him to be alone all the time.

She was carefully arranging Ezran's carvings when Ms. Erlein evidently found what she was looking for. She popped up, hiding something behind her back. "Now, don't get mad at Guillermo for telling me."

Ada stiffened. "Telling you what?"

Ms. Erlein sighed, then revealed a nearly perfect recreation of the stuffed dodo Ada had lost when she was a child. When they were younger, Ada and Guillermo had exchanged photos of their families from before the war. Guillermo must have been keeping it all this time.

"I hope you like it." Ms. Erlein wrung her hands. "I couldn't get the cotton, so it's synthetic wool, but I tried

to match the photo Guillermo showed me stitch for stitch. I know it's not the original, but..." She held it out.

Ada hesitated, fearing it would stir up her traumatic memories. Instead, it brought images of her parents' smiling faces to mind and brought tears to her eyes that began flowing in earnest. She reached out and took it in both hands, then clutched the dodo against her chest. It felt...different, but it was close enough.

"Thank you." Ada sobbed.

"Oh, dear, come here."

Before she knew it, Ms. Erlein had rounded the stall and embraced Ada. She felt like a little girl again, in the arms of her mother. Ada closed her eyes and hugged her back.

"Is everything all right?" Ezran asked.

"Better than all right," Ada said, wiping her eyes. Then, she hugged her uncle, too.

Ezran hesitated, apparently surprised, but then squeezed Ada close. She loved him like a father, and knew he loved her like the daughter he'd never had. And for just a moment, she let all her worries and fears fade into silence.

* * *

After spending the day giving away wooden carvings with Ezran and Ms. Erlein, Ada returned to her room and entered the Chain. She opened the presentation sent by the St. James Unity in the public vote and went over it several times. Each time she looked at it, she gleaned new details.

It had been a Chain-wide vote, meaning every citizen in the Chain had been notified of the motion, unless they'd delegated their vote to someone else. Most motions in the Ledger of Edicts included only those directly impacted by the results. That way, small problems

could be solved by small groups of people with a stake in the outcome, and the number of voters could scale up as the problem increased in severity. The arrival of a rogue planet with potentially dangerous intelligent life was a huge problem indeed, so the size of the voter pool didn't surprise Ada.

That didn't stop her from continually being shocked at the number of people who had voted to send *her* on the mission. Thirteen billion votes had been cast, each ranking that person's top five preferences. Ada had received the top spot with nearly seven billion votes in her favor. She found a crowd simulator in the Chain and tried to visualize how many people had suddenly become aware of her existence.

When the input was set to one hundred, it felt like a big crowd. When set to one thousand, it began to overwhelm her. She set it to one hundred thousand and the room transformed into a massive stadium, filled to the brim and roaring with sound. The number was already incomprehensible, and this was less than point one percent of the voters. Ada skipped right to seven billion, and the program hitched for a few seconds before giving up and zooming out to show the entire Earth, as if that would be helpful. Instead, it made her feel that the entire planet was just trying to send her away to be swallowed by the open maw of space.

She tamped down that little voice of anxiety; the simpler explanation was what the Unity had said, that she'd been chosen for her competence and, of all things, her eagerness. That realization threatened to inflate her ego if she didn't keep it in check. It also meant all those people were counting on her to succeed, placing their trust in a total stranger. Nothing good would come from thinking about that, so Ada went back scouring the mission details for anything that might help her.

The report included so many fine-tuned points—the specifications of the rocket and crew capsule, the distance to be traveled by the ship, the weight of food and oxygen required to sustain the crew for the entire mission—yet there was one detail glaringly missing from the report.

When would the mission begin?

Ada had run the calculations so many times she knew them by heart. Advancement of rocket technology had essentially halted since the energy crisis began, so with the rogue planet being between four and six astronomical units from Earth depending on the date, the journey out would take more than a year to complete. She checked the charts, and the next closest approach would be in November of next year—just over fourteen months away—so Ada assumed they were aiming for the next launch window. That would give them another two years before the planetary orbits synced up again, plenty of time to complete an extensive training regime.

And extensive it would be. Ada couldn't begin to guess how many regulations they would be subject to. Everything from energy restrictions to quarantine protocols to learning the ins and outs of the spaceship in case of emergency. The list went on and on. That gave her some comfort. This might be a high-risk mission, but at least they wouldn't have to rush it. They'd have the time to do it right.

Still, why did she have to do all this guesswork? How had the Chain voted to accept this proposal without the inclusion of such a crucial detail? That was the kind of sloppy oversight that got humanity into the situation they were now in. Maybe everyone assumed it was just more of the need-to-know secrecy of the kind that kept this rogue planet hidden from the public for three years?

Ada shook her head in frustration, then closed the proposal. Whatever the case, she was selected for the mission, so eventually the time would come when she needed to know. It was only a matter of waiting.

In the meantime, she could appreciate the need for such secrecy. After all, the reaction to this mission's acceptance hadn't been entirely positive. Not everyone had voted in its favor, and several of the most vocal naysayers were spreading all kinds of misinformation in the Chain. As someone who really knew what was happening—more or less—the debates were often amusing.

Ada grinned and disabled her identifiers, then opened a portal to a Link called, 'What is the SJU hiding?', that had 162 participants. She double-checked that her avatar would be anonymous, then stepped through.

The environment loaded in first, bringing to mind a gladiator arena designed by nerdy conspiracy theorists rather than stately Romans. All the walls, floors, and seats ringing the arena were flaking black paint, and surrounded a central ring with a podium illuminated by fluorescent tubes dangling overhead. Animated, neon-colored posters were plastered haphazardly all over the walls, here a group of little green men, there a cryptic anagram or a group of photos connected by a network of string, which Ada could only assume was placed ironically.

Then the people loaded in, and with them, the shouting.

“—a cover to perform illegal research,” the man at the podium said, his voice amplified over the jeering crowd. “Research into controlling everyone's minds through their augments.”

As the crowd's booing grew louder, a scoreboard hanging over the podium changed from a green thumbs

up to a red thumbs down. The man's avatar exploded into bits and the boos turned to raucous cheers. Ada flinched. That was one way to settle a debate.

Another avatar teleported behind the podium, a humanoid wolf in a blazer who began speaking immediately. "There's no denying the mission is real. I think we can all agree to that. But what I want to know is—"

The wolf promptly exploded. Ada laughed. The Unity could hide many things, but they included the transaction history for all the rocket parts in their proposal. If these people couldn't even agree on the mission's existence, this was going to be a fun night.

Another man took the podium, and somehow even his virtual avatar looked like it needed a bath. "I'm not saying the mission exists," he hedged, "but if it *does*, then the most likely reason is because the aliens from the rogue planet are already on Earth, and they need a way of getting back home."

The sentiment meter remained green while he rambled about government black sites and crashed alien space crafts. It was similar to Ada's favorite persistent narrative, which is that the rogue planet was a fabled planet that had been here for hundreds of years. She tried not to fall too deep into the rabbit hole, but sometimes her curiosity got the better of her. Of course, another narrative ran counter to it, insisting the rogue planet didn't exist at all. Their discourse got so nasty that Ada could only laugh at the ridiculousness of it, how two parties could be so entrenched in their own bubbles that they'd fight viciously to destroy the opponent even though both sides were equally ignorant of reality.

Ada missed what was said, but the poorly rendered bloody debris brought her attention back to the forum. Now an eight-foot-tall skeleton in medieval armor was

telling everyone the rogue planet is a version of Earth from the future, come to save us from the effects of our climatic destruction.

The crowd went silent, Ada included. That was a new one.

She looked to her left and made eye contact with a smiling man who seemed to be considering the outlandish theory. Then, he did a double take and his eyes went wide.

“You’re Ada Bryce!” he shouted.

Shit. All this secrecy from the Unity, couldn’t they have kept their names private, too?

Ada cleared her throat. “No I’m not.”

“You are! I’ve watched your recording at the Ledger of Insight dozens of times. You knew they were planning this mission, didn’t you?”

She backed away from the man, silently cursing herself for not adding a voice modulation or any form of disguise to her anonymity settings. The outburst had drawn more attention and suddenly all eyes were on Ada. She continued backing up, then started when she was teleported front and center to the podium. She must have backed right into a portal someone had opened.

Ada gestured to open her interface for a portal home, then stopped when she realized the crowd had remained quiet, waiting for her to say something.

She had no idea what to say.

After the news had gotten out, Ada had no longer been blessed with a nearly empty ChainMail inbox. At all hours, connection requests from news reporters came in, or questions from curious scientists, or vote delegations for the Ledger of Edicts, even some messages from overly zealous fans. If the Unity hadn’t been sustaining Ada’s battery with an energy stipend, she

could have made a fortune selling rights to her interviews alone. She'd remained quiet instead.

Now, however, something urged her to speak. Perhaps the absolute inanity of all the theories these lunatics had spewed out. Or perhaps it was that an alarmingly high percentage of the message influx was from people Ada didn't know, but who apparently had a deep hatred for her. They were a small subset compared to the positive messages, but she spent far too much time reading them, and they had gotten under her skin. All the strange avatars and grim theatricality in this arena reminded her of the people behind that harassment, and she found herself wanting to defend the Unity from them.

"Look, what do you want me to say? You think the Unity is hiding something?"

"We want answers!" someone shouted.

"Answers?" Ada laughed. "Read the proposal, then. It's a better use of your time than theorizing about time traveling aliens." She expected the crowd to kick her out for that, but evidently they were giving her more leeway than the usual rabble. There was a sentiment meter on the podium with a more precise reading than thumbs up or down. It dropped from 96% to 92%. "The Chain has plenty of problems, but transparency isn't one of them. How could the Unity hide anything when every interaction is public and stored forever?"

The crowd seemed to have grown since she started talking, and indeed she saw several new avatars load in around the arena.

"You don't know what you're talking about," a nasally voice said from a dark section.

"I don't—" Ada scoffed, her anger rising. "You people would be here using bigfoot avatars, discussing conspiracy theories debunked a century ago if not for our

mission. I've seen the sim. The rogue planet came here, it's real. I'm going on this mission while you all stay here in your sad little debate club."

She was met with a mix of outrage and laughter, and the sentiment meter dropped again to 67%.

"Go die there!"

"Oh, yeah," Ada sneered. "Real creative."

She'd read much worse in her inbox over the past few days. People hoping the rocket would lose power and doom her to a slow death in the cold vacuum of space. People threatening her because they were far more qualified, and she had only been selected out of some misplaced sense of pity. The worst had been a message with far too much insight into her past, telling her that her parents had gotten themselves killed on purpose because she was such a wretched daughter. Those were grim thoughts that she'd harbored herself and that had tormented her into many a sleepless night.

An ache had formed in her chest as she spiraled down into the certainty that she wasn't worthy of her parents' love. Why else would they have abandoned her?

That ache began to return as Ada stood at the center of the forum. She seized it and crystallized it into hatred for the worst of humanity that surrounded her.

"What's the Unity hiding?" she snapped. "Nothing! They don't have to hide the fact that we're all going to die here. That's not a secret. And I'm glad that when we're scoured from the face of the universe, you monsters are going to be taken down with the rest of us." Ada gave the crowd two middle fingers just as the sentiment meter dropped below 50%. She became a disembodied ghost as her avatar burst into a million bits.

Ada sighed, kicked from the forum back into her home environment.

“Idiots...” she mumbled.

Before Ada even had a chance to recover, a ping from her augments alerted her to someone in the real world trying to get her attention. She tapped behind her ear to enable outside audio.

“—out of there, Ada! Quickly!” It was Ezran, and he wasn’t just shouting at Ada. He was shaking her by the shoulder as well, according to her haptics, though they filtered out the sensations. She checked the time. 4:19 GMT. How late had she stayed up? And what was *Ezran* doing up this early?

Ada took a breath to steel herself, then set her augments and haptics to heads-up mode. The light of her home environment faded out as the darkness of the real world flooded in.

Past the overlays of her augments, Ezran’s face hovered above her, lit by a candle he held aloft in his left hand. He’d stopped shaking her. He must have noticed her eyes coming in to focus, a telltale sign that someone had left the virtual world behind.

“What is it?” she asked, standing from the chair she’d been sitting in for...the past fourteen hours. Had it really been that long? The groan of her knees and the soreness in her neck told her she wasn’t mistaken.

“You are not going to believe this, little one,” Ezran said. “Not unless I show you. Come, come.”

“Sure,” she said. “Just let me grab a bite to eat first.” God, she was hungry. Her augments’ hunger filter was great, but it made coming back to the real world even more difficult. Each time was a painful reminder that the body couldn’t be ignored. She started for the kitchen.

But Ezran grabbed her by the wrist. “No, no, come first. You are going to want to see this.”

She jerked her hand away, but grumpily followed him through the house. The old floorboards creaked underfoot as they trod toward the front door, and she noted the chipped spot in the wood they'd never repaired. Passing Olsa's memorial, Ezran briefly hesitated to bow his head as always, then continued on.

Ada couldn't help but smile. Even with something apparently amazing ahead, it was important for him to keep up his rituals. Ada's augments overlaid on the memorial a floating viewport containing an image of Olsa just how she remembered her when she was a child. Her bright blue eyes and amber hair glowed in the darkness of the hallway, but cast no light in the real world, only in Ada's mind.

As they turned the corner to the house's foyer, a *real* light emanated from the windows beside the door. That gave Ada pause. It should have been pitch black outside at this time of night, unless the moon was showing. But Ezran wouldn't wake up just for the moon, and this was far too bright to be moonlight. His ivory smile seemed to radiate its own light as he opened the door for her and revealed what was outside.

Something so luminous shined through the doorway that Ada's breath caught. She stepped through the threshold and was greeted by two painfully bright orbs that made her eyes tear up. They dimmed as she looked on, and the starry sky faded into view above the mysterious sources of light. But that was an illusion, another overlay from her augments. Ada wanted to see this unfiltered. She fully powered down her augments, and her haptics by extension. The now-unfiltered cold mountain air bit at her, and she wrapped her arms around herself. The false beauty of the night sky was replaced with the pitch black of clouds. And the two orbs regained their full brilliance.

“What are they?” Ada whispered, shivering.

“They?” Ezran asked. “There is only one. It is an auto!”

Recognition dawned on Ada. A scene from the Energy War came unbidden, filling her awareness. Suddenly, she was eight years old again, standing in the middle of the road and staring at an oncoming truck full of soldiers. Uncle Ezran was there behind her, with his hands on her shoulders. The vehicle came to a stop and men in blue poured out of it. They yelled at her and Uncle Ezran, pointing their guns at them. The scream building in her throat, Ada took an involuntary step backward, away from the dangerous men.

She bumped into Ezran.

“An auto, Ada,” he said reverently. “Can you believe it?”

The memory of their flight into Switzerland had passed, but the fear remained. The cold was becoming too much to bear, so Ada flicked on her augments to whisk it away.

“What’s it doing here?” Ada asked.

“I was hoping you could tell me,” Ezran said. “You are the one with all the secrets.”

A flicker of guilt passed over Ada. Whatever danger she’d gotten herself into, Ada hadn’t expected it to show up on Ezran’s doorstep.

She glanced at her uncle, then took a cautious step toward the vehicle. It felt like approaching a wild animal. Its glowing eyes watched her, silent as she inched ever closer, wasting all that energy needed to power its lights. She realized, then. Only the Unity would be so brazen in their energy consumption. They had sent it for her.

When she rounded the auto and was freed of the obstructing glare of its headlights, the vehicle’s full shape

finally revealed itself. It looked nothing like the trucks she had seen during the war. The auto only came up to her shoulder height, and it was sleek, built to be aerodynamic. There were no windows, save for a black windshield in the front. It didn't seem to have any doors either. The entire thing looked to be one solid piece of brushed steel with four rubber wheels attached.

Ezran joined her. "I have never seen one like this," he said.

"How did it get here, anyway?" Ada asked. The road leading up to their house on the mountainside was poorly maintained, pitted by holes and often treacherously icy. Anytime she and Ezran needed something, they walked uphill into town. They never had reason to descend the mountain. Ada didn't even know the path, yet somehow the auto had found it, navigating the difficult, snowy terrain.

Ezrin pointed at two tracks behind the auto. "No mystery there," he said. "It just...came right up."

"Is that something most autos could do?" Ada asked.

Her uncle frowned at her. "No," he said. "No, I think this one is special."

An alert appeared in Ada's heads-up display notifying her of a new message in her inbox. She hesitated. This wasn't a coincidence.

"I think we're about to find out what this is doing here," she said.

Ezran raised an eyebrow at her. "Hmm?"

"New message," she said, and opened a ChainMail viewport in her display. "It's from Constance St. James."

Ezran's mouth fell open. "*The* Constance St. James? What does she want with you?"

Even though he recognized the name, Ezran clearly still had no idea what was going on. No idea that Ada would be leaving him. Everything was happening too

fast. She'd promised herself she would explain everything to him before she left. She thought she would have more time, but at the moment it would have to wait. This needed to be dealt with first.

The instant she opened Constance's message, the auto released a rush of air and slid open a hidden door in the side of the vehicle.

Get in, the message read.

Ada jumped back from the sudden movement. Was she being *watched* through some camera the vehicle was equipped with? She felt like she was being abducted again, in real life this time. Was this how the Unity operated? The mission was important, sure, but some sort of forewarning would have been nice. And if she set foot in that auto, it might be a long time before she got to see Ezran again. Her poor uncle had already lost too many people who never got to say their goodbyes. So, she touched a finger behind her ear and composed a response to the message.

"I'm not ready to leave yet," Ada said under her breath. Her augments transcribed the words into text and sent off her reply.

The door to the auto shut, joining seamlessly with the rest of the vehicle. For a moment, she expected it to roll away down the mountainside, an opportunity squandered. Then, another message alert popped up.

You have ten minutes.

Ada clenched her fists. Ten minutes, or else what? She'd received more votes than anyone else, even Constance St. James herself. Were they going to launch without her? She wanted to push back, to make the Unity work according to her schedule. But she also truly wanted to be part of this mission, and getting on Constance St. James' bad side would only have made the next few years miserable. So, she had ten minutes.

“Come inside,” she urged, grabbing Ezran’s arm and dragging him back toward the door.

He let himself be pulled inside but kept glancing over his shoulder back toward the blinding sources of light. “Ada, dear, you really must explain what is happening.”

Ada shut the door. “Uncle Ezran, listen.”

“Uncle...” A reminiscent smile spread across his face. “You have not called me that in a long time, little one.”

Ezran’s smile placed in Ada’s mind a childhood memory of her uncle. One where his face didn’t have so many wrinkles. Where his hair had specks of gray amidst the black, and not the other way around. From back when his eyes weren’t filled with such sorrow. The Ezran of her memory was a younger man whose optimism had never been plundered from him by the cruelty of this grim reality. He had regained some semblance of happiness when Ada came home after her divorce, his positive outlook slowly recovering. She was afraid that when she left, he’d lose it once more. When she returned several years from now, would he be the same kind, compassionate man, or would bitterness take over in his solitude?

“Listen, please.” Ada’s eyes filled with tears, draining the warmth from her uncle’s expression. “I have to go now. The auto is here to take me on a mission I’ve been selected to join.”

“A mission?”

“I’m sorry. I should have told you sooner, but I didn’t know things would happen so fast. I’m traveling aboard a rocket to a planet that showed up three years ago near Jupiter. I was chosen as an expert to communicate with intelligent life, if it’s found.”

This must all sound like science fiction to Ezran. His days consisted of tending the crops in his biopods, making wood carvings, and reading old books. It was as

if those with augments and those without lived in two entirely different realities. In Ezran's, the solar system was just as it had been for the past four billion years. In Ada's, Earth might have been on the brink of contact with another form of intelligent life, and her mission might decide what kind of future the planet would have.

But in truth, there was only one reality. And if this mission went poorly, Ezran and their unaugmented neighbors would face the dire consequences the same as the rest.

"You are traveling to another planet?" Ezran's face twisted in confusion.

"Not just me," she assured him. "Five of us are going. I won't be alone." Then she took her uncle's hands in her own. "And you shouldn't be alone either while I'm gone. Spend more time with your friends up the hill. I've seen the way Ms. Erlein looks at you, you know. You should talk to her more." Ada's heart was breaking as she watched Ezran's confusion turn to sadness. When he glanced toward his wife's memorial, her heart broke just a little more. "I'll make sure your energy budget is taken care of," Ada promised. "You won't need to worry about money. I may be gone for several years, but I will be back. And I'll be sure to send messages all the time while I'm away. Guillermo will make sure you get them."

Ada had so much more she wanted to say to her uncle, but her voice cracked and she couldn't get any more out. She broke down into sobbing, and Ezran wrapped his arms around her in an embrace.

"There, there, little one," he consoled her. "I will be fine. Do not worry about me. It is *you* who is going on an important mission." He patted Ada on the back, then held her at arm's length by the shoulders and gave a warm-hearted laugh that sapped away all the worry

Ada had been feeling. “But you cannot start the journey off with an empty stomach. Quickly, go pack your things. I will bring you food for the trip.”

Ezran rushed into the kitchen, and the sounds of cabinets frantically being opened and closed drifted down the hall. Ada laughed, despite herself, then rushed into her bedroom. She quickly packed a bag with all the essentials: a few changes of clothes, a spare wireless charger for her augments, and even some printed books to occupy her if she needed to conserve power. She didn’t expect to run low on her energy budget anytime soon, but she was leaving for a long time, and anything could happen.

When she finished packing, Ezran was waiting for her by the front door with a tied bundle full of food. “Here we are. Fresh vegetables, energy bars, and your share of the chocolates we made earlier this month.”

Ada took it and felt tears forming again. She had her perfect memory and her vault full of experiences, but she was going to miss this man. He had done so much for her and never asked for anything in return. He just wanted her to be happy, and she him. It was a lot to ask from two people the world had broken.

“Thank you,” Ada said. “I’ll tell you all about the mission when I get back.”

“Back from space!” Ezran exclaimed. “I never thought I would see the day when humankind took to the stars again. I am so proud of you, little one.”

She gave him a big hug and wanted never to let go. But the time had come for her to leave. Ezrin opened the door for her, and she stepped outside into the light of the waiting auto. As she approached it, she checked the time stamp on the last message she’d received from Constance St. James. Fourteen minutes had passed. Ada grinned.

The vehicle's door slid open again and she tossed her bag into its dark interior. With one last wave to her uncle, she ducked her head and entered the vehicle. The door sealed shut.

After an uncomfortable moment in pitch black, the seat began to shift beneath her. She jumped, then yelped as two tendrils slithered over her shoulders and down toward her waist. Under the bundle of food on her lap the creatures slid, writhing until two simultaneous clicks sounded on either side of her. Ada whimpered, unsure what was happening. She jerked forward, but straps across her chest held her firmly in place. She struggled against them, grunting as she tried to free herself, but to no avail.

"Relax," a voice said.

In the darkness, Ada wasn't alone. Two neon green lights glowed from the seat opposite hers. Six more pinpricks of green joined them, lighting up around Ada's feet. Then came the characteristic whirring of a microdrone swarm, and the luminous dots lifted from the ground to surround the original set of eyes. As they hovered there, Ada felt as though she was meeting the gaze of some insectoid creature. Her breathing quickened, but as her eyes adjusted to the darkness, Ada discerned the shape of a human figure in the dim glow of the drones.

"It's just a seatbelt." It was a woman's voice, though it had a monotonous, synthetic tinge to it, as though it were being produced by a speech synthesizer. Yet, it sounded familiar. "Trust me, if the auto wasn't equipped with seatbelts, you'd be holding on for your life. This ride is going to be more than a little bit bumpy."

The auto moved, accelerating faster than Ada expected and pressing her back into the form-fitting seat.

When they began down the hill, Ada couldn't stop herself from holding onto the *seatbelts* for dear life.

"Who are you?" she blurted out.

Despite the vehicle's jerky movements from the rough terrain, the woman hadn't moved at all since the drone swarm came online. She hadn't even blinked. Her neon green eyes bored into Ada, who couldn't help but avert her gaze. "You're smarter than that, Ada."

The interior lights of the vehicle faded on, and Ada drew in a sharp breath. The woman across from her was more metal than flesh. She had no need for a seatbelt herself; an exoskeleton wrapping around her torso was locked into a bracket at the front of the auto. Dark braces ran down the insides and outsides of both the woman's legs, with powered joints at the knees and hips. The device terminated at her neck, leaving her face unencumbered. She had the same pale skin and dark hair as Ada, but she was older and had sharper features. And of course, the eyes. They changed to a pale red as Ada examined the person across from her.

"Infrared shows your heart rate has increased by fifteen percent. Do I frighten you?"

Ada became aware of her elevated pulse. "No. You just...surprised me, is all."

"Good, because you'll face much worse than me on our mission. I hope you're ready."

Our mission? Recognition clicked into place. Ada had heard this woman's voice on many broadcasts in the Chain. "You're Constance St. James." Few had ever seen a visual of the Unity's founder, and Ada was beginning to understand why.

Constance grinned. "It's a pleasure to meet you, Ada Bryce."

A loud bang sounded from below, and Ada's stomach lurched as the auto left the ground and they entered

free fall. An instant later, the vehicle landed. The impact was teeth-rattling, but after that, they no longer jerked around. Ada relaxed her white-knuckled grip on the restraints. The windshield darkened the landscape, but they seemed to have reached flat ground. Had they gotten down the mountain that quickly?

“I hope you’re comfortable with high speeds,” Constance said. “We have a lot of ground to travel tonight if we’re to reach the launch facility by noon.”

“We’re training at the launch facility?” Ada had assumed there would be a separate training complex with specialized equipment to simulate the effects of space travel.

“Training?” Constance snorted. It was a surprisingly human sound from someone who reminded Ada so much of a bot. “The launch is occurring tomorrow at midnight. The only kind of training we’re getting is on-the-job.”

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About the Author



Joshua Scott Edwards was born in Burlington, NJ and lives in Lansdale, PA with his fiancée, Rachel. He received an M.S. in Electrical and Computer Engineering from Rowan University in Glassboro, NJ. Only afterward did he discover his true passion is for storytelling—sadly, a topic not covered in the engineering curriculum. By day, Joshua writes combat simulation software. By night, he writes fantasy and science fiction stories, dreaming of a future in which he can do that by day as well.

You can find more of his writing at www.joshse.com.