

THE CONTAMINANTS



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JESSIL

DAY: 1,095; TIME: 0600

Another nightmare. But not really. That makes it sound like what happened in my dream didn't really happen. Because it did.

Sirens blaring. People screaming. My dad shouting out Ben's name, trying to find him while holding on to Lo and me. Dad's hand squeezing mine so hard I think he's going to crush it as we run for the ship. The chaos of climbing aboard. Explosions everywhere. The ship's engines rumbling to life. Dad getting torn away from us—forever...

I shake it out of my mind, which is getting easier after three years. The ship's hum fills my ears as I roll over and slide up the shade covering my porthole. Beyond the glass, the sun, Earth, and black of space greet me. It's going to be a good day. Raj tells me to say that every morning.

Squinting at the ceiling of my blindingly white sleep pod, I notice the photo of my dad taped there.

That brings a smile to my face, memories of Dad. Raj printed the image from a recording he took after I told him how I didn't bring anything of my own on the ship. We were in too much of a rush to escape Earth.

I touch the photo, which is a side shot of me and Dad. He always said how much I reminded him of my mom, especially our long, auburn hair, our pale faces, the patches of freckles on our cheeks. But I definitely have Dad's eyes. So green—and his so intense, like he could stare right through you. I think being in the army makes you that way because like Dad, most soldiers on the ship are serious all the time. Not that there's much to be happy about up here.

Up here. I should probably stop saying that as if being on this ship is temporary. It might be home for the rest of my life the way things are going. Earth still looks as empty of life as the moon, despite Dr. Guyat's promise that we'll return one day. If this ship is where I spend the rest of my days, I'll be lucky to double my age to thirty. Because this place won't support everyone forever. But that's negative thinking. I've got to stop that too.

Because exercising helps clear my head, I open my clothes bin to dress for a run. Putting on the sweatshirt, shorts, and pair of track shoes Raj found for me is a trick with how tight the fit is in these pods. My older brother Ben has it worse because he's a giant like my dad was and can never extend his legs all the way straight in his pod, even when he lies down on the bed. Once dressed, I flip up my

door and slide out like a mouse so that I don't wake Lo. He's my responsibility to get ready for the day since he's eight and still doesn't know how to take care of himself.

Our quarters are connected to the ship's lab by a hallway, and as I exit my pod, banks of screens and meters and gauges from the lab light the corridor between the two areas. Walking into the light, I pass near the glass-enclosed room in the middle of the lab where the most important controls are located. Only Dr. Guyat understands what they do. Maybe Raj does also.

There's a guard on duty making sure no one tries to enter that special room. He doesn't even notice me though because he's projecting a game through a SOLE like the one Raj has. I don't know what the name stands for, but I don't like the thing. It replaces one of your eyeballs so you can stay connected to every bit of information ever thought of, captured on camera, or recorded in some way. Its lens makes holograms appear—people call them “fabs”—so you can watch with the eye you have left. The fab can be a game—like with the guard—or a still like Raj took of me and Dad, or even something from real life in real time.

Besides the guard's projection and the other screens, the lab is dark, including my station, because it's still early. Even though the sun rises and sets every forty-five minutes, the ship keeps the rhythms of Earth time—military-style to make it simpler to know whether it's day or night—so

things seem normal. Except there's nothing normal about our situation.

Slipping past the guard, I open the door for the stairwell. It's dim inside, but painted on the wall in fluorescent blue to guide me is our ship's name, *United States Orbiting Shuttle Colin Powell*. Right beneath it is the OdysseTek logo that's also on every cup, piece of clothing, and machine on the ship.

From the stairs, it's only a few flights up to the ship's main level—the Promenade Deck. But it's like entering another world, where you realize how enormous this cruiser is. Dad said five football stadiums could fit inside the *Powell* and fifty thousand people could—and were supposed to—live on it. The Promenade is where they were going to play, I guess. It's like a cross between an amusement park for adults and an outdoor mall with how high the ceiling is and how open everything seems. The length is close to a half-kilometer from front to back. There are restaurants of every ethnicity, dance clubs, a casino, two theaters, and bars and more bars, all in a row like you're bouncing from one thrill to the next. One level above, there's a spa and salon, a playground to leave kids at, a massive pool, a video arcade, a library, even a zoo. Below the Promenade are suites and more sleeping pods where the others live, spread out among the generators, kitchens, fire and police offices, and a jail, which is more crowded than it should be according to Dr. Guyat. There's also a chapel, but I think it's a supply room now because most people gave up hope a long time ago.

Ringling the entire Promenade is a seamless wall of glass, twenty feet high, so you feel like you could drift off into space with another step. The view takes my breath away every time. But my wonder stops there, or at least changes, because the Promenade is abandoned. Not just abandoned—ruined. Walls are cracked with holes punched in them, tables are overturned, stools are scattered everywhere. One dance floor is covered in broken glass. Poker chips are littered around like confetti. Captain Monumba manages the rest of the ship as tight as Armstrong Air Base was run back in South Dakota. But she's let the Promenade fall apart. She has enough to worry about aside from whether people can still entertain themselves.

A kind of trail through the mess leads to a shopping area, which has about thirty side-by-side stores curving in an oval shape. This is where I like to run. At the top of the ship is a dome that covers a playing field with a track surrounding it. But the grass planted there died a month into our orbit, so the place smells funky—a bad funky. The shopping area doesn't smell a lot better. It's a little bleachy, but at least the area is clear because everything's been picked clean. There's not a stitch of clothing on a rack or a single shoelace on a shelf or any other trinket that remains. I have no idea where the people left on board have stored all the stuff that used to fill these shops, but I know I didn't get any of it, unless what Raj has given me is salvaged from here.

Each night before I go to bed, I ask Raj if he wants to run with me in the morning, and he always says

the same thing: "Maybe." The funny part about that is he believes he truly might even though I know he won't. But often I have a running partner anyway—Captain Monumba herself.

She's beaten me here today, and in the glow of the security lights, I can see sweat already streaming from her close-cropped hair to the collar of the gray sweatshirt that all the soldiers wear when they're off duty.

"Good morning, Miss Jessil," Captain Monumba says as I get in stride with her pace, which isn't too hard considering she's a half-foot shorter than I am.

"Morning, Prez." Calling her that is a lame joke of mine that she tolerates. With our ship likely the lone survivor of the attack, Captain Monumba is probably the Commander in Chief. "You're up early."

"Couldn't sleep," she says. "You know what today is, right?"

I shrug as we round past the empty jewelry store.

"One year from now we begin our descent." She turns to me, her eyes wide and excited. "Just one year and we're back on Earth—can you believe it?"

"I can't," I reply. I should have remembered it's a year because Dr. Guyat is always stressing about the countdown. But it still seems like such a long time that I don't give it much thought.

"Everything we've gone through, it will all be worth it if this works," Captain Monumba says.

I nod. The "this" is Dr. Guyat's project, the one that's supposed to create a "New Dakota" for us to land on and start over, I guess. So far the chances

of his project working don't seem likely although Dr. Guyat would never admit that. But I'm trying to run away from dark thoughts, so I gaze out the glass pane beyond the storefronts.

Besides the stars and planets painting a mural for us to run past, there's a half-finished propulsion ring floating nearby. It's part of a series of rings Dr. Guyat says were being built to help with colonizing Mars. I'm not sure how they were supposed to work or why no one finished the rings. But there one is, rotating around like a huge horseshoe in search of a stake.

After five kilometers of running, I'm getting thirsty. Fixing that isn't a problem because one of the few things operational on the *Powell* is the filtration system, so there's plenty of water to drink. But I'm also getting hungry, which *is* a problem. Since the ship had to launch way ahead of schedule, lots of supplies weren't loaded in time. Captain Monumba also said missiles destroyed several refrigeration units during takeoff, so much of the food we did have spoiled quickly. Ever since, we've mostly been on rations, sharing army MREs, meals-in-a-bag that are supposed to last a decade, but the flavor hasn't lasted close to that long.

I say "mostly" been on rations because for a short time, we had actual food that didn't look like it had been dehydrated and rehydrated. That was when we noticed that of the few zoo animals on the ship, most were vanishing from their cages. I still don't know if the animals disappeared after dying from

us eating their food—or from us eating *them*.

“I’m just ready for this to be over,” Captain Monumba says, and even though I haven’t been listening closely, I know she’s not talking about our run. “It’s been a nightmare.”

I’m not the only one who has them. On previous runs, the captain has told me how hard it was for her to launch the ship early, knowing she was leaving her husband and daughter behind. She’s a stronger person than me. I don’t think I could’ve followed those orders.

It’s our last lap, and we race for our agreed-upon finish line—the SOLE store that doesn’t have a single one left. Captain Monumba bursts past me at the last second like usual. Heaving for breath, I set my hands on top of my head to let more air in.

“I better check on Lo,” I say to her. “Thanks for the run.”

Captain Monumba gives me a salute, then jogs off toward the stairwell leading to the bridge. I find the towel that I leave hanging off a rack in the bath-and-bedding shop and wipe away the sweat dripping into my eyes. When I glance out at the propulsion ring again, it looks closer than ever. Probably just an illusion.

As I head back to the lab, a few more people are roaming around the Promenade. I try to avoid them, which isn’t hard considering on the ship, there are about a thousand of us left. None of my friends made it aboard, and as for family, only my two brothers remain. Most of the people walk with a

dead look in their eyes that melts any optimism I have. I bet a year until our descent seems like a long time to them too.

When I reach the lab, it also has a few more people roaming around. Dr. Guyat is inside the glass room frowning at a screen and pointing something out to Raj. They both start to nod, Dr. Guyat's nearly bald head moving in time with his son's thick head of hair. Even though they seem like they're sitting behind a terminal, they're actually that short. I think even Lo could pass them by in a couple years.

Speaking of Lo, he's probably wondering where I am. I pass by the glass room with a wave to Raj, who can only acknowledge me with a lift of his eyes so he doesn't seem like he's ignoring his dad. Back in our quarters, Ben's already left for the medical ward, and Lo's pod is open—and empty. Now I'm wondering where he is.

I go back to the lab and ask the new guard on duty if he's seen a chubby-cheeked, dark-haired, dark-skinned runt. The guard has no idea, so I continue the search for my little brother.

Lo isn't my real brother. He was adopted into our family by Dad. When we had to leave the base in Alabama after the state seceded from America, Lo's mom was deported to Mexico or somewhere. Somehow she convinced Dad to take Lo, and he's been my burden ever since. Worst of all, he's the reason we had to stow away on the *Powell*, instead of getting aboard with what was called a "summons"—a certificate saying you're "pure" by whatever stan-

dards there were to get on the ship. Dad said that because our whole family wasn't approved, none of us would take a slot on the *Powell*. When the attack occurred though, Dad tried to save everyone at the last second. A second too late because he got left behind. Lo cried and cried for Dad. I never loved the kid as much as I did then.

He's getting on my nerves right now though. "Lo, where are you?"

Like that, he pops out of my pod with his arms raised and hands curled into claws. He growls like a rabid dog. "You can't get away, Silly," Lo snarls. I hate that he picked up Dad's nickname for me.

"*Callate*," I say, telling him to shut up in Spanish before Dr. Guyat hears. Sometimes Lo's native language slips on to my tongue because that's all he understood when Dad first adopted him. I peek over my shoulder, but luckily Dr. Guyat isn't standing in our hallway with a frown on his face. I turn back to Lo. "Get your clothes on. Your shot is this morning."

"I don't want a shot," Lo says.

"Too bad. Now get dressed."

I don't want the shot either, but Dr. Guyat has given us one each month since we were discovered on the ship. He says we need the boost to our immune system so we can survive in space this long. Whatever's in the shot must be working because neither Lo or me or Ben caught the strange flu that killed so many people last year. The epidemic cut the number on the ship in half. That's another reason I try to avoid others on the ship—too easy to catch

something. And with Ben saying how few medical supplies we have, the chances of shaking whatever made you sick are low.

As Lo sulks off to his pod to put on clothes, I go to mine and also get ready. I push the button on the air shower, which vacuums off my sweat and perfumes me after so I don't smell like the dead grass around the fitness track. Next, I put on my black unitard, then the lab clothes—a khaki jumpsuit that hangs off me like a deflated balloon and some boots that clomp with each step because they're three sizes too big for me. Raj did his best to find me these, so I try not to complain too much. He did stencil my name on the back—J. CALLOWYCK—so I look more official in the lab even though about all I do is make sure my computer isn't going haywire.

I duck out of my pod and check on Lo. "You ready yet, *hermanito*?"

He pushes himself out of his pod and nods. "Can Ben give me my shot?"

"Sure, I think so." Ben has wanted to be a doctor ever since I can remember. Dad would be happy to know Ben is getting a chance to learn how because Dad never wanted any of us to join the army. He said we could do better than be a grunt like him. But I don't think Ben ever wanted to become a doctor because of Dad. The main reason is no one ever figured out why our mom died. I barely remember her because I was so young when she got sick.

But even though Ben's only three years older than me, he remembers a hundred stories about our mom:

how she made the best sweet rolls, how she taught him to shoot a gun, how she could make Dad laugh with the dumbest jokes in the world. That's something I wish I could have kept in my head, an image of Dad laughing. I'd never need anything to remind me to stay upbeat then.

"Let's go, buddy," I say to Lo. "It's going to be a good day."



SORAJ

DAY: 1,095; TIME: 0700

It is already morning again. The nights go by so rapidly. Perhaps if I had dreams, they would feel longer. But I cannot recall the last time that happened. One could say my SOLE gives me everything I need—the name *does* stand for Supra Optical Life Enhancer. Who needs dreams when I already have access to things beyond my imagination?

Jessil does not care for my SOLE. She calls it a “glass eye” and says it reminds her of why things went wrong on Earth—the “have-alls,” who could get anything they wanted, mistreating the “have-nones”. Anyway, I can always have another real eye implanted, or at least I could have before the attack. I am not sure if the operation is possible any longer. Besides, I was not as bad as some were when it came to enhancements. Many people became more automaton than human. Some even amputated serviceable limbs for stronger arms or faster legs.

I do not want that, and my father would never let me even though he purchased the SOLE for me after he and my mother divorced. Father has worried about my sociability all seventeen years of my life, distressed that I will become less human. He tried to force me into sports. The closest I ever came to making a team was joining the chess club. Father is not a great example for me. He never leaves the laboratory.

Out of habit, I check my SOLE for any news, but it is useless. Since the attack, the amount of content webbed into it is nonexistent, which is understandable given the circumstances. I see the same headlines from when we first launched—COMPLETE AND UTTER DEVASTATION, THE END OF EARTH, THE HOLOCAUST TO END ALL HOLOCAUSTS—and fabs I still stare at in disbelief. The massive mushroom clouds erupting over New York, Moscow, Rio de Janeiro, and Nairobi. The fallout filmed by victims before they were vaporized by thermal and radiation blasts. Then only static from my SOLE, the fabs turning to snow as if nuclear winter had started as soon as the last missile hit. What I remember most from that day is hoping Mother died quickly and peacefully. Father said we should not speak of Mother again so as to bury the pain along with her.

I collapse the fabs so they disappear, and go to my closet to dress myself, putting on my laboratory coat last. The gym shirt and shorts I was issued still rest in the corner even though Jessil invites me to

run each morning. But I could not stand it. I can barely breathe after walking a kilometer. A faster pace would most likely kill me.

Besides, I cannot have any distractions now that New Dakota's regeneration process is entering its final year. Father is justifiably anxious because the region is the last chance for human habitation since our ship was the only one to maintain contact with its affiliated area. In fact, our ship was the only one to achieve orbit. I need to do everything I can to help Father succeed. It is going to be a good day.

My room is attached to the laboratory, so when I open the door, I am already at work. The laboratory's space is rather small because it is so crowded with equipment. The upper reaches are lined with screens, none of which offer images clear enough to show any progress on the ground. Below the screens are stations that monitor temperatures, air quality, barometric pressure, and other atmospheric conditions. Isolated in the middle is Father's control room. Only he and I are ever allowed inside because it holds the most sensitive and important instruments.

As usual, Father is already at the main terminal. I can see his reflection against a glass wall. His face is drawn tight with concern, but that is normal for him.

Placing my hand against the only door into the room, it reads my palm and rotates open. "Good morning, sir," I say to Father.

"Look at this," he says without turning to me. He manipulates a fab projected from the terminal, and I watch as a digital Earth spins around until it stops

on where New Dakota is supposed to be. He taps the region, and a view from the ground appears although I can only see around the fab's edges.

"What is wrong with the image?" I ask. "It appears washed out."

"Nothing's wrong," Father replies. "That's sunlight beaming directly into the lens. The cloud cover is finally dissipating."

"You are certain it is not an anomaly?" I bend closer to analyze the image. "In the past, there has been natural dissipation that did not sustain itself—"

"I'm absolutely positive this will last. Can't you see it's in the New Dakota zone? This is what we've been waiting for."

Father is generally right, so I believe him. The last piece to the puzzle is in place, as he would say, for his regeneration process to move forward. He often explained the process in metaphor because of its complexity. At its most basic, Father is resetting the region now known as New Dakota so it is viable for human life. But that description of the process is inadequate. I do not know if anything could portray the scope correctly. Father has called it an engineering feat equal to the scale of the Panama Canal, the innovation of the Apollo program, and the urgency of the Manhattan Project, all in one. Describing it that way makes the process sound like a mad endeavor. Yet if anyone can restore an entire ecosystem, Father is the man to do it.

I hope I am up to helping him.

I nod at Jessil as she walks through the laboratory to the quarters where she and her brothers are

stationed. Jessil can be distracting because of her curiosity about what takes place in the laboratory. I explain what I can, but Father prefers to hold most information closely. Because Jessil has shown herself to be intelligent—though not uncommonly so—he allows her to track data points although she will never know the whole process of what is occurring on Earth.

Of course, I do not really know what is going on either. At launch, our communication systems were crippled—enemy fighters made them prime targets. Most cameras, antennas, and sensors were destroyed. Without their aid, Father and I have to assume the fail-safe precautions he put in place are working.

But ever since launch, Father has had me focus on repairing what I can. My success has been limited. I have created a link with one of our ground cameras in New Dakota although the view looked like a wasteland of fog and moon rock until today. The dissipation of cloud cover is a good sign that the remediation process is functioning as expected. But we—or at least, I—cannot know for sure. It is only one camera angle. Still, Father has never questioned whether the process is performing as planned.

I try to be so certain. To ease my mind, I have begun experimenting with hydroponics—using information cached on my SOLE for direction—because on the ship, we have lots of water yet little food. But first I needed something to seed my undertaking. Fortunately, the kitchen manager had been able to sustain potted herbs, spices, and roots all

these years. But they were sickly and had never borne any yield, so he parted with them easily.

No one ever visits the ship's dome, and because it receives direct sunlight for many hours of the day, that is where I set up my system. Had the grass survived on the field, I might have planted directly in the dirt. Instead, I rigged up a series of bins, filled them with water and small amounts of human waste for nutrients, then set colanders inside. Next, I set the roots in the colanders and steadied the plants by surrounding them with pea gravel from the track. I check the plants several times a day and use the handheld pump I found to aerate the water-waste solution. So far the plants have grown close to eight inches, and a pepper is starting to form on one. I will need to construct a trellis soon to help the vines as they continue to lengthen. If I am successful, perhaps Father's deadline for return isn't so urgent. But as of yet, he is unaware of my experiment.

"How are you coming on the oxidation gauges?" Father asks as he collapses the fab of Earth and brings me back to reality.

"They are still inconsistent," I tell him. "The measurements fluctuate widely."

"Then make it so they don't," he says, ripping off his glasses and brushing me aside as he moves on to another screen. "We're running out of time, you know."

I know. He makes sure everyone does. I sit at my terminal and start adjusting the controls, but it is as

if I am blind and deaf trying to fix the gauges. My solutions have no reason. I just hope they work.

After what must be an hour (and ten failed attempts at repair), there's a loud thud outside the laboratory. I glance up for only a moment as no noise follows the first. But when Father rushes out the stairwell door where the commotion came from, I decide to investigate as well.

It is rather obvious what happened. Jessil's younger brother, Kylo, has crashed a mobi-jet, the mobile units soldiers use to maneuver quickly through tight areas although there has not been much use for them on the ship. Jessil thinks they look like praying mantises, and I can somewhat see the resemblance to the insect. The body of this jet appears unharmed aside from the "Run by Osmosynthesis" label being scraped and torn. Yet the four shafts extending from each side like tarsi are bent at awkward angles. At their ends, the thrusters that provide liftoff and drive are wrecked as well. Kylo's lower lip is jutting out as he still holds on to the handlebar that steers the unit.

Jessil comes through the laboratory door then. "Lo, what did you do?"

"He nearly killed someone," Father says. I do not think that is true, unless Father means Kylo himself was in mortal danger.

"I tried to stop—I did," Kylo says. He stares at the floor and nudges his knee against the jet.

"Is anyone hurt?" Jessil asks.

"Fortunately, no," Father says. He breathes in deeply and wipes his laboratory coat as if some

debris from the crash had fallen on it. "No wonder we're in the state we're in. I can't believe I'm trying to save people like this...just so stupid."

"He's not stupid—" Jessil begins.

Father waves her off. "Take care of this quickly. We have work to do." Then he stalks away.

When the laboratory door closes, Jessil says to her brother, "You're such a null. I told you to stay on the Promenade."

"I did—"

"Then how did you get down here?" Jessil says though it is obvious she does not want him to answer. "These mobies aren't cheap. That's the last time you can take a ride as a reward for getting your shot."

I help Jessil lift the jet off the ground and try to set it upright, but the unit is too mangled. "Perhaps I can fix it," I offer.

"You can?" Lo says.

Before I can reply, Jessil interrupts. "Even if Raj can," she says to Kylo, "you still need to tell Captain Monumba what you did."

"But—"

"*Basta*," Jessil says, transitioning to Spanish as she often does when she wants Kylo's complete attention. "We'll let her know later. Right now you've got school. Get going before you're late."

Kylo frowns again. But he does as he is told, heading off toward the library where he and the few other children on board learn their letters and numbers.

As Jessil and I return to the laboratory, I say to her, "You should not be so hard on him."

"Too much like your dad?" Jessil says. She slides open the door and marches off toward her station.

I do not respond. She has no idea the pressure Father is under. Most likely, the people on this ship are the last of the human race, and he is tasked with making sure we survive. He refuses to be responsible for our extinction. I know he will do whatever it takes.

Everyone has left the jet where it crashed, so I tap the wall pad to call a met-wrecker that will clear the unit away. Only a few mets are still around. The biggest of these robots were put into storage because they had nothing to do—no food to haul or supplies to transport. A smaller one soon appears, its main body looking somewhat like an upside-down pin used in bowling, not that many people remember *that* diversion. The met hovers toward me with its forklift blades extended and removes the jet with precision and ease.

The "Run by Osmosynthesis" label peels off completely as the jet is taken away. I pick up the plastic cling promoting this revolutionary power source. It is almost magical—not that I believe in magic. My understanding of Osmosynthesis is that it extracts energy from the atmosphere and reconstitutes it for fuel. To begin the process, a brief thrust is required to enable particle flow through specially designed engines. But once a body starts in motion, Osmosynthesis takes over like an inertial force and can propel anything without harmful by-products.

Father had many misgivings about Osmosynthesis. While its widespread use helped stabilize Earth's

rate of warming, the energy source made oil an obsolete fuel as well. Many countries in the Middle East that were dependent on oil to support their economies went bankrupt and lashed out with terrorism and threats of war. Eventually their petrochemicals were funneled into fertilizer production, which helped feed the starving in China, India, and much of Africa. But more food improved health, which accelerated population growth, leading to disputes over land and a new spike in global warming from all those people doing all the activities people do. Father thinks Osmosynthesis may have had a direct effect on why we are orbiting Earth now, instead of living on it.

This is one other occasion when I am not sure he is right. The nuclear weapons seemed to be just as responsible.