
DARYL GREGORY
NINE LAST DAYS ON PLANET EARTH

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Begin Reading

Table of Contents

Copyright Page

1975

On the first night of the meteor storm, his mother came to wake him up, but LT was only pretending to sleep. He'd been lying in the dark waiting for the end of the world.

You have to see this, she said. He didn't want to leave the bed but she was an intense woman who could beam energy into him with a look. She took his hand and led him between the stacks of moving boxes, then across the backyard and through the cattle gate to the field, where the view was unimpeded by trees. Meteors, dozens of meteors, scored the sky. She spread a blanket across the tall grass, and they sat back on their elbows.

LT was ten years old, and he'd only seen one falling star in his life. Not even his mother had seen this many at once, she said. Dozens visible at one time, zooming in from the east, striking the atmosphere like matches, white and orange and butane blue. The show went on, hundreds a minute for ten minutes, then twenty. He could hear his father working in the woodshop back by the garage, pushing wood through a whining band saw. Mom made no move to go get him, didn't call for him.

LT asked for the popsicles they'd made yesterday and Mom said something like *what the hell.* He ran to the freezer, lifted out the aluminum ice tray. The metal sucked at his fingertips. He jiggled the lever and freed one of the cubes, grape Kool-Aid on a toothpick, so good. That memory, even decades later, was as clear as the image of the meteors.

He decided to bring the whole tray with him. He paused outside the woodshop, finally pushed open the door. His father leaned over his bench, marking a plank with a pencil. He worked all day at the lumberyard and came home to work with scraps and spares. Always building something for the house, for her, even after it was too late to change her mind.

"Did you see the sky?" LT asked him. "It's like fireworks."

LT didn't have his mother's gift for commanding attention. But his father

followed him to the field, put his hands on his hips, tilted his head back. Wouldn't sit on the blanket.

"Meteorites," his father said, and Mom said without looking back, "Meteoroid, in the void."

"What now?"

"Meteoroid in the void. Meteorite, rock hound's delight. Meteor, neither nor."

LT repeated this to himself. *Neither nor. Neither nor.*

"Still looks like Revelations," Dad said.

"No," his mother said. "It's beautiful."

The storm continued. LT didn't remember falling asleep on the blanket, but he remembered jerking awake to a sound. Then it came again, a *crack* like a shot from a .22. Seconds later another clap, louder. He didn't understand what was happening.

The sky had reversed: It was more white than black, pulsing with white fireballs. Not long streaks anymore, chasing west. No, the meteors were coming down at them, down upon their heads.

A meteor struck a nearby hill. A wink of light. LT thought, Now it's a meteorite.

His father yanked him onto his feet. "Get inside."

Then a flash, and the air shook. The sound was so loud, so close. He couldn't see. His mother said, "Oh my!" as if it were nothing more surprising than a deer jumping across the road.

His father yelled, "Run to the fireplace!"

LT blinked spots from his vision. His father pushed him in the small of the back and he ran.

His father had built the fireplace himself, stacking the river rock, mortaring it with hand-stirred buckets of cement. It was six feet wide at the mouth, and the exposed chimney ran up the east wall, to the high timbered ceiling twenty-five feet above. Later, LT wondered if rock and mortar could have withstood a direct hit, but at that moment he had no doubt it would protect him.

The explosions seemed random; far away, then suddenly near, a boom that vibrated through the floorboards. It went on, an inundation, a barrage. His mother exclaimed with every report. His father moved from window to window, frowning and silent. LT wished he wouldn't stand next to the glass.

Eventually, most of the strikes seem to be happening over the line of

foothills, rolling west like a thunderstorm. His father insisted that no one sleep away from the lee of the chimney, so his mother assembled a bed for LT out of moving boxes, turning the emergency into a slumber party, an adventure. His father dragged furniture close: the couch for Mom and the recliner for him.

When his mother kissed him goodnight (the second time that night), he whispered, “Will you be here in the morning?”

“I’ll wake you,” she said. LT could feel his father watching them.

It was the last time they would all sleep in the same room, or the same house.

* * *

He opened his eyes, and for a long moment he couldn’t figure out why he was on the floor, in the living room. He stared stupidly at the empty bookshelves. His mother’s bookshelves.

Panic hit, and he sat up. He called, “Mom?”

Then he took in the piles of moving boxes still in the room, and began to calm down. He hadn’t missed her.

In the kitchen his father hunched over the table, staring at the portable black-and-white TV. Two cupboard doors showed empty shelves. The hooks above the stove seemed to gesture for their missing pots.

His father put an arm across LT’s shoulders without looking away from the TV.

The news was full of pictures of damaged buildings and forest fires. It was no ordinary meteor storm, and it wasn’t over. The onslaught had continued through the night and into the day, moving across the globe. The world spun eastward, and the meteors drummed into the atmosphere steady as a playing card against bicycle spokes. No one knew when it would end. The newsman called the storm “biblical,” the first time LT had heard that word outside of church, and warned about radioactivity. He knew *that* word from comic books.

His father turned toward the window, pushed aside the drapes. A truck had pulled off the two-lane into their gravel drive. “Go tell your mother,” he said.

LT didn’t move. His stomach felt like ice.

“Go. She’s in the backyard.”

LT walked out into a sky tinged with orange. If there were meteors up there he couldn’t see them. The air smelled like smoke.

He called for his mother. Checked the garage, where a pyramid of moving

boxes filled the space, all sealed and labeled. Then he realized where she must be, and walked toward the cattle gate.

She stood at the far end of the field. He called again. She turned, beaming, something cupped in her hands. She strode toward him in her ruby cowboy boots, her yellow dress swishing high on her thighs. Then he realized what she carried.

“Mom, no!”

She laughed. “It’s okay, my darlin’. It’s cooled off.”

She held it out to him. A black egg, flecked with silver, etched with spirals.

The meteor storm would go on for five more days and nights. Soon everyone would know the objects weren’t like other meteors. They weren’t chunks of stony iron ripped from a comet’s tail, or fragments of asteroids. They were capsules of woven metal, layered like an onion skin. They’d been bigger when in the void, but their outer shells had ignited and shredded in the atmosphere. The innermost shells remained intact until they slammed into the Earth. Almost all of them cracked on impact. People dug them up, showed them to television crews. Space seeds, they called them. And then the police started going house by house, confiscating them.

But not yet. At this moment, his mother was offering it to him. “Feel it,” she said. “It’s a miracle.”

He couldn’t deny her. The shell was surprisingly light. A jagged seam had opened along its top. Inside was darkness.

She said, “What do you think was in there?”

1976

When he was eleven years old, late in the first summer he’d spend in his mother’s tiny Chicago apartment, she smuggled home one of the fern men. It was four inches tall, planted in a paper coffee cup. Its torso was a segmented tube, like bamboo, glossy as jade. Its two arm-like stems ended in tiny round leaves, and its head was a mantis-green bulb like an unopened tulip.

“Isn’t it illegal?” he asked her. But he knew the answer, and knew his mother. Her reckless instincts worried his young Puritan heart. He’d spent the school year alone in Tennessee with his father and had adopted his military rectitude.

“It’ll be our little secret,” she said.

Ours and the boyfriend's, LT thought.

"You are crazy, honey," said the boyfriend. He kissed her, hard, and when they finally broke apart she laughed. LT always thought of his mother as beautiful, but he'd been offended to discover that she was beautiful to others. To men. Like this shaggy *dude* who wore turquoise necklaces like a TV Indian and smelled like turpentine and cigarettes and scents he couldn't yet name.

His mother went into a back closet to find a more durable container for the fern man.

"I know what you're thinking," the shaggy man said.

But even LT didn't know what he was thinking.

"We should probably burn the little fucker, right?"

LT was alarmed, then embarrassed. Of course the boyfriend was right. At school, hallway posters showed spiky, ominous plants with the message *Keep an Eye Out!* Any sightings of invasive species were to be reported. The weeklong meteor storm had sprayed black and silver casings across millions of square miles in a broad band that circled the planet, peppering cities and fields and forests and oceans. Soldiers of every government seized what they could find. And when anything sprouted, good citizens called the authorities.

LT looked down at the fern man.

The boyfriend laughed. "Don't worry, I'm not going to kill it. Your mom would kill *me!* Watch this." He touched a finger to one of the fern's arms. It curled away as if stung.

Mom said, "Don't bother it, it'll get tired and stop growing. That's what the man told me." She transferred the sprout to a ceramic pot with much cooing and fussing. "We can't set him in the window," she said. "Somebody might see." LT picked a sunny spot on the coffee table.

"He's so cute," his mother said.

"That's his survival strategy," the boyfriend said. "So cute you won't throw him out."

"Just like you," she said, and laughed.

He didn't laugh with her. His mood could change, quick. A lot of nights Mom and the boyfriend argued after LT had gone to bed—to bed but not to sleep.

"We're all doomed," he said. "When the aliens come for the harvest, that's it for *Homo sapiens.*"

This was the popular theory: that aliens had targeted Earth and sent their

food stocks ahead of them so there'd be something to eat when they arrived. LT had spent long, hot days in the apartment listening to the boyfriend while Mom was at work, or else following him around the city on vague errands. He didn't have a regular job. He said he was an artist—*with a capital A, kid*—but didn't seem to spend any time painting or anything. He could talk at length about the known invasive species, and why there were so many different ones: the weblike filaments choking the trees in New Orleans, the flame-colored poppies erupting on Mexico City rooftops, the green fins popping up in Florida beach sand like sharks coming ashore. Every shell that struck Earth, and some that hit the surface of the water, cracked and sent millions of seeds into the air or into the oceans. Most of those seeds had not sprouted, or not yet. Of those that had, many of the vines and flowers and unclassifiable blooms soon withered and died. The ones that thrived had been attacked with poison, fire, and machetes. But—but!—there were so many possible sprouts that there was no way to find them all in the millions of acres of wilderness. Even if we managed to find and destroy ninety-nine percent of the invasives, the boyfriend had told LT once, there would be millions and millions of plants growing and reproducing around the globe.

Like the fern man. "We're all going to die," the boyfriend said, "because of this little green dude."

And LT thought, How can something so beautiful, so *cool,* be dangerous?

"Let's give him a name," Mom said. "LT, you do the honors."

"I need to think about it," he said.

* * *

Or maybe, LT thought that night as his mother and the boyfriend whisper-yelled at each other, I should change my own name. Chicago was making him into a different person. He'd become conscious of his Tennessee accent, and had taken steps to tame his vowels. He'd eaten Greek food. He'd almost gotten used to being around so many black people. And he'd started staying up to all hours in his room, an L-shaped nook off the kitchen with a curtain for a door, reading from his mother's collection of Reader's Digest Condensed Books as the rattling fan chased sweat from his ribs. The night they got the fern man he wondered if he should ask everyone to stop calling him LT and start calling him Lawrence or Taylor or something completely of his own creation, like … Lance. Lance was the kind of guy who'd be ready when the UFOs came down.

Doors slammed, his mother sobbed loudly for a while, and then the apartment went quiet. LT waited another twenty minutes, and then got up to pee. He didn't turn on the bathroom light. He was a night creature now, as light-sensitive as a raccoon.

The door to his mother's bedroom was ajar. She was alone in the bed.

He went into the living room. On the wall behind the couch hung four of the boyfriend's pictures. They were all of naked women turning into buildings, or maybe vice versa, with red-brick thighs and doorways for crotches and scaffolds holding up their torsos. One of the nudes, pale and thin and sprouting television aerials from her frizzy hair, looked too much like his mother. LT wondered if other people thought they were beautiful, or if beauty mattered in art with a capital A. The figures didn't seem to be very convincing as women *or* buildings. *Neither nor.*

The fern man stood in the dark on the coffee table. Its bulb head drooped sleepily, and its stem arms hung at its sides. The torso leaned slightly—toward the window, LT realized.

He picked up the ceramic pot and set it on the sill, in a pool of streetlight. Slowly, the trunk began to straighten. Over the next few minutes, the head gradually lifted like a deacon finishing a prayer, and the round leaves at the ends of its arms unfurled like loosening fists. The movement was almost too incremental to detect; its posture seemed to shift only when he looked away or lost concentration.

Slow Mo, he thought. That's what we'll call you.

Tomorrow his mother would throw all the paintings out the front window, send them sailing into the street. LT would never see the boyfriend again. The fern man stayed.

1978

The night they heard about the thistle cloud, LT was daydreaming of burning the house down. It was March and he was bored to the point of paralysis, an old man in a thirteen-year-old body. Country winters stretched each night into a prison sentence. The valley went cave dark before suppertime, stayed dark until the morning school bus honked for him at the end of the lane. He longed for the city. Torching the place, he figured, would make a bonfire that would light up the road all the way to Chicago.

The place was wrong for his father, too. Three years after Mom had left, the house was purposeless without her in it, like a desanctified church. His father's handiwork—the tongue and groove hardwood floors, the hand-turned legs on the kitchen table, the graceful stair rail that curled at the end like the tail of a treble clef—seemed as frivolous as gingerbread. Why stay here? They never used the dining room, or the guest room with its fancy bathroom. No one would ever thread a needle in the sewing room. LT and his father ate their meals in the living room, in front of the fire, wordless as Neanderthals.

LT was grateful when the TV said that a new invasive species had erupted in Tennessee. Dad was in his armchair as usual, eyes on the snowy screen of the portable, which he'd set on a chair close to the fireplace, as if daring it to melt.

"Would you look at that," Dad said.

LT did not look. He was sprawled on the couch, pretending to reread a book he hoped would annoy his father: *Sexual Selection in the Animal World.* There was an entire chapter on the bowerbirds of Papua New Guinea, whose males assembled and decorated elaborate bowers in hopes a female would prefer their art over the competitors'.

The third bachelor in the room was Mo. He was a sturdy three feet tall by then, and occupied the corner by the dark window. He was attracted to the fire. At night his limbs eased toward it, wanting the light if not the heat.

Mom couldn't keep the fern. She'd moved in with a new, temperamental boyfriend, a restaurant owner who named a pasta dish after her the first week they dated, but flew into fits when he felt disrespected. Both Mo and LT had been causes of "friction" that summer, so LT begged to take the fern back to Tennessee in the fall. Mo had traveled in the back seat of his mom's car like a passenger, bulbous head bent against the roof, a seat belt around his pot. LT hadn't asked his father's permission, and was surprised when he let it into his house without a fight. Dad was more upset by his son's shaggy hair and the turquoise necklace around his neck. The day before school started, Dad drove him to the barber and ordered a buzzcut to match Dad's own. LT kept the necklace under his shirt.

"It's getting worse and worse," his dad said. "Lord almighty."

Now LT did look at the TV. *Lord almighty* was as close to swearing as his father got.

The sky over Chattanooga was crowded with spiky black shapes. A reporter asked a question, and a man held out a bloody arm.

“So much for dominion over the earth,” LT said. At the midweek prayer meeting—they went to services three times a week, twice on Sunday and once on Wednesday night—the pastor had launched into well-worn passages of God giving dominion of the earth to Adam. It came up whenever the invasives or women’s rights were in the news.

“Don’t be smart,” Dad said.

“Face it, we’re *losing.*” Every day the TV showed men in masks hacking down flowers as big as satellite dishes, or Argentinians fretting over alien moss that clung to the hooves of cattle like boots, or Kansas farmers dulling their chainsaws on traveling vines as tough as mahogany. In a lot of places the invasives were just a nuisance, but in some countries, especially the ones closest to the equator, the alien plants were causing real trouble. “They’re trying a million different strategies. All they need are a couple winners to drive us out.”

“What are you talking about?”

“Out-survive us. They’ve got time on their side. We go at animal speed, but plants move at their own speed. Wheels within wheels.” An Elijah reference, just to poke him. “It’s *evolution,* Dad.”

Another provocation. His father believed in the Bible. There was no time for natural selection in the six days of creation, and no need for it. Dad’s God didn’t improvise. He was a measure-twice-cut-once creator.

“They’re better at surviving?” his father said. “These *plants?*”

LT shook his head as if disappointed in his father’s stupidity.

Dad slowly rose from his chair. LT realized he’d miscalculated. “Let’s see, then,” Dad said calmly. He gripped the sides of the ceramic pot, lifted it. It had to weigh almost two hundred pounds. Mo’s limbs curled inward.

LT yelled, “No! Stop it!”

His father turned the pot on its side. Dirt spilled onto the floorboards. He stepped toward the fire and pushed the top of the plant into the mouth of the fireplace.

LT threw himself into his father’s ribs. Stupid, useless. Dad was as squat and thick as an engine block. He turned, swinging Mo’s head out of the fireplace. It wasn’t on fire, but a haze of sizzling mist seemed to shroud the bulb.

LT burst into tears.

His father set the pot on the floor, anger gone now. “Aw, come on.”

LT ran upstairs, threw himself on the bed, awash with embarrassment and anger. He was thirteen! He should be tougher than this. Crying over a damn

plant. He wanted it all to end. How much longer did he have to wait for the aliens to come and scrape this planet clean?

* * *

The Chattanooga cloud was supposed to reach them that next afternoon. Vernon Beck, Dad's oldest friend, drove over from Maryville to see it. Jumped out of his pickup and shook LT's hand. "Goodness sakes, boy, you're two feet taller! Hale, come say hello to LT and Mr. Meyers."

A boy eased out of the passenger side of the pickup, long and lean, hair down to his shoulders. LT hadn't seen Hale Beck since LT's mother left. Their families used to go places together, and even though Hale was two years older than LT they got along like brothers. He remembered a long day riding water slides with Hale at a Pigeon Forge park. A hike in the Smokies during which Hale smashed a rock into a snake, the bravest thing LT had ever seen.

Hale shook hands with LT's father, nodded at LT. Hale had gotten the growth spurt LT was still waiting on.

A strong wind was blowing but the cloud hadn't shown up yet. The men went into the woodshop, and LT stood there awkwardly with Hale, unsure how to talk to him.

Hale took out a tin of Skoal from his back pocket, tucked a pinch of tobacco into his lip. He held out the tin, and LT shook his head. Hale leaned back on the hood of the truck. Spit black juice onto the gravel.

LT said, "We've got a fern man."

"A what?"

"One of the invasives. Right in the house." Dad said never to talk about the fern. But this was the Becks.

Hale said, "The one that moves?" He wanted to see that.

Dad had returned Mo to his usual spot. There was no visible damage from the flames. Hale said, "Looks like a regular plant."

"Watch this," LT said. He stood between Mo and the window and raised his arms. The fern man slowly shifted to the right, back into the light. LT moved in front of him again and Mo moved opposite. "It's called heliotropism. Like sunflowers? But way faster."

"Can I do it?" Hale asked.

"Sure. Just don't tire him out."

Hale took LT's position. They danced in slow motion at first, and then Hale sped up. Mo jerked and flopped in rhythm. Hale laughed. "He's just like one of those windsock guys at the dealership!"

LT was thrilled that Hale was impressed, but nervous about hurting Mo. "Hey, you want to see where the space seed landed?"

He managed to entice Hale to the cattle field. The wind had picked up, turned cold, but the sun was bright and hot. Hale's hair blew across his face, and he kept pushing it back.

They walked around at the far end of the field. LT couldn't find the furrow the seed had made when it hit four years ago. The tall dry grass rattled with every gust.

Hale said, "Look."

In the distance, a dark, churning cloud. Light flashed at the edges of it like tiny lightning. Hale ran toward it, into the wind. They plunged through a line of trees, into the next field—and suddenly the cloud loomed over them. Thousands of glistening tumbleweeds, most the size of a fist, a few big as soccer balls. A sudden downdraft sent scores of them plummeting into the trees. Most stuck in the treetops, others bounced down into the undergrowth, and half a dozen ricocheted back into the air and spun toward them.

"Grab one!" Hale shouted. He pulled his T-shirt over his head in one quick move. His back was pale and muscled. LT felt a sudden heat and looked away, his heart pounding. Then Hale swung the shirt over his head, trying to snag a thistle ball. It floated just out of reach. He chased it, then jumped, jumped again. LT couldn't take his eyes off the way his shoulders moved.

Then a lucky gust sent the ball down and the shirt caught against it. Hale hooted and LT cheered. The thing was hollow, a jumble of flat, silvery blades, thin as the wings of a balsa-wood glider, connected to each other by spongy joints which were decorated with thorns. Hale pulled his shirt free of them, and the cloth tore.

Then the sun dimmed, and they looked up. LT realized they'd only seen the front of the cloud, the first wave. Thousands and thousands more flew toward them, a spinning mass.

LT said, "Ho-lee shit."

This struck Hale as hilarious, and then LT was laughing too, so hard he could barely stand. Then they ran, giggling and shouting.

1981

For months before his summer stay, when he was sixteen years old, LT begged his mother to take him to see the dragon tails of Kansas. Mom worked slow magic on her new husband, Arnaud, a thin, balding, control freak who made a lot of money as a chemical engineer. Eventually Arnaud came up with the idea that he should encourage LT's interest in science and take them all to visit the most successful invasives in the Midwest. He rented an enormous RV and they drove southwest.

The first sign of the invasion came just past Topeka, when road crews waved them off the interstate. Arnaud eased the RV into the parking lot of a McDonald's and said, "There you go."

LT walked out of the RV, into sunlight and heat. At the edge of the lot rose an arch of deeply grooved bark. It emerged from the broken cement and came down about fifteen yards away in a field. Large purple leaf blades ran in single file atop the bark like the plates of a stegosaurus.

LT looked back at his mother. She beamed at him, then shooed him forward. He grabbed hold of the sturdy roots of the blades and pulled himself onto the base of the arch. A few careful steps more and he was upright, hands out for balance. The bark was a bit wider than his foot, but uneven. He knew from his books that the tail was not an ordinary trunk, but vines that had twisted around each other as they grew, only gradually adhering to share resources.

He reached the peak of the arch, eight feet off the ground. Twenty or thirty yards away, directly in front of him, another arch emerged, and another, like a sea monster coursing through an ocean of grass. No, one monster in a school of them. To either side, dozens and dozens of the dragon tails breached and dove. A group of them had burst up through the highway, and there was nothing manmade cement could do to keep them underground.

These were the aliens' favorite trees, he thought. How could they not be? They were living architecture.

His mother called his name. She held the fancy, big-lensed camera Arnaud had bought her. She didn't have to prompt LT to smile.

* * *

The last night of the vacation, Arnaud drove to a campground set among the dragon tails, a farmer's feeble attempt to recoup something from the land after

agricultural disaster. As they ate dinner at the RV's tiny table, LT showed his mother pictures from one of his books about the invasives. He told her how the dark fans held chlorophyll-like molecules that absorbed a larger spectrum of light than the Earth versions. "If our plants tried to process that much energy they'd burn up, like a car engine trying to run on rocket fuel."

"It's a bit more complicated than that," Arnaud said. He stood at the galley sink, washing the skillet he'd used to fry the hamburgers. "The photosystems they're using seem to be variable, sometimes like retinol in archaea microbes, sometimes more like chlorophyll with novel sidechains added, so that they can control—"

"Take a look at this," LT said, cutting him off. He showed her a cross section of the dragon tail, and how the vines were twisted around each other. "They call them golden spirals. See, there's this thing called the Fibonacci sequence—"

"Dragon tails follow the golden spiral?" Arnaud said. He came over to the table. LT was pleased to know something the chemist didn't.

Mom said, "What's a Fibonacci?" and LT quickly answered. "It's a series of numbers, starting with one, two, three, five … each one's the sum of the previous two numbers, so—"

"That's a close approximation of the golden ratio," Arnaud said. He pulled the book closer, leaned over LT's mother. "The growth factor of the curve follows that ratio. You can see the spiral in nature—in seashells, pine cones, everywhere."

"So beautiful," his mother said. She ran fingers over the glossy cross section. "Like the head of a sunflower."

LT, suddenly furious, pushed himself out from behind the table. His mother said, "Where you going?"

Arnaud said, "Could you put away your plate?"

He let the door bang shut behind him.

Outside, the atmosphere was greenhouse humid. He marched away, not caring which direction his body took him. It was nine thirty and still not full dark, as if the sun couldn't find the edge of these tabletop plains. The air was heavy with a floral perfume.

He came to the leaping back of a dragon trail, black against the purpling sky, and walked beside it. Gnats puffed out of the grass and he waved them away.

It had been a mistake to come on this trip. The RV was as stifling as a submarine. Arnaud sucked up all available oxygen, inserted himself into every

conversation.

Eventually the dark came down, and he aimed for the fluorescent lights of the cinder-block building that doubled as park office and convenience store. Inside, a couple kids about his age, a boy and a girl, were glued to the Space Invaders cabinet. Were they brother and sister? Boyfriend and girlfriend? He thought about talking to them. He could tell them things. Like how the speed of the game was an accident; the aliens came down slow at first, then got faster and faster as their numbers were destroyed, not because it had been programmed that way, but because the processor could only speed up when the load lightened. *Telling things* was the only way he knew how to make small talk. Other forms of conversation were a mystery.

He bought a Coke and took it outside. Leaned against the wall under the snapping bug zapper.

A flashlight bobbed toward him out of the dark. He ignored it until a voice behind the light said, “Hello, my darlin’.”

His mother stepped up, clicked off the flashlight. “Did you see the stars? They’re amazing out here.”

“Still no meteors,” he said. Six years after the seed storm, everybody was waiting for a second punch. Or maybe the next wave was on its way now, in the void, creeping across the light-years. Perhaps the long delay was necessary because of orbital mechanics. What looked like design could be just an accident of the environment.

He offered her a sip of his Coke. She waved it off. “You ought to give him a chance. He’s just enthusiastic about things. Like you are.”

He wanted to ask her why the hell she kept attaching herself to assholes. The self-involved painter, the rage-aholic restaurant owner, and now the chemist, whom she’d had the audacity to marry. Did she love him, or just his McMansion and its granite countertops?

“He wants to send you to college,” she said. “He thinks you’d be a good scientist.”

“Really?” Then he was embarrassed that the compliment meant something to him. “I’m not taking his money.”

“You should think about it. Your dad can’t afford college. And you deserve better than working in a lumberyard.”

“There’s nothing wrong with the lumberyard.” LT worked there three days a week during the school year, sometimes alongside his father. He’d told her he

hated it, but hadn't mentioned the things he loved about it. His herky-jerky forklift. The terrifying Ekstrom Carlson rip saw. The sawdust and sweat.

But did he want to be there the rest of his life?

From inside the store, the boy shouted in mock dismay and the girl laughed. They'd lost their last laser cannon.

"You should study the invasives," his mother said. "I remember that look on your face when I showed you that seed. And the fern man! You loved that little guy."

"I still have him. Dad keeps him in the living room. He's not so little."

"So," she said. "Think about it."

He thought, If the aliens haven't landed by then.

1986

"Where are the space bees?"

"What?"

"SPACE BEES!" LT shouted above the music. "WHERE ARE THEY?"

He was drunk, and Jeff and Wendy too, and their new friend Doran, all of them drunk together. What else could they be, on this final weekend before Christmas break, and where else but at the Whitehorse, which as far as he was concerned was the only bar in Normal, Illinois.

"Jesus Christ," Jeff said. "Not the bees again."

LT put his hand on the back of Doran's neck—a sweaty neck, and his hand tacky with beer but he didn't care, he wanted to pull Doran close. "I need to tell you things," he said into his ear, and Doran laughed, and then—

—and then they were in a restaurant booth, the lights bright, Jeff and Wendy across from him and Doran—tall, sturdy Doran—beside him. LT leaned into his arm woozily. God he was handsome, naturally handsome, almost hiding it. How did they get here? He concentrated, but his memory of the past two hours was a hopscotch, dancing drinking shouting singing and then the rude bright lights of last call and a flash of ice and cold—did Wendy drive, she must have—to *here*, the 24-hour Steak and Shake, their traditional sober-up station.

He said to Doran, "It's the flowers that make no sense."

Jeff said, "The flowers have no scents?" and Wendy said, "It's that they have scents that makes no sense." They both laughed.

A beat too late LT realized there was wordplay at work. He forged on. "The

blooms of flowers are *lures.*" The word thick on his tongue. "Scent and shape and color, they all evolved to attract specific pollinators, the bees and butterflies and beetles."

"Oh my," Jeff said.

"And you told me he was shy," Doran said.

"He can get wound up," Wendy said. "When he feels comfortable."

"Or tipsy," Jeff said.

LT felt tipsy *and* comfortable. Why hadn't Jeff and Wendy introduced him to Doran before now? Why wait until the last weekend of the last semester LT would be on campus? It was criminal.

"A pretty flower isn't just a simple announcement, like 'Here's pollen.'" LT said. "Simple won't do it." He tried to explain how flowers were in competition. Pollen was everywhere, nestled inside thousands of equally needy plants desperate to spread their genetic material. What was needed was not an announcement but a flashing neon sign. "The flower's goal," LT said, "is to figure out what *hummingbirds* think are beautiful."

"Slow down, Hillbilly," Wendy said. "Eat something."

"Hummingbirds have an aesthetic sense?" Doran said.

"Of course they do! Have I told you about bowerbirds?"

Jeff said, "Guess what his honors thesis is on?"

And then he was off, yammering about the bowerbirds of Papua New Guinea. The males of the species constructed elaborate twiggy structures, not nests but bachelor pads, designed purely to woo females. The Vogelkop Bowerbird set out careful arrangements of colors—blue, green, yellow—each one a particular hue. It didn't matter what the objects were; they could be stones, or petals, or plastic bottle caps even, as long as they were the correct shade. The females could not be coerced into sex; they dropped by the bowers, perused the handiwork, and flew away if they found them substandard. Their choice of mates, their taste in *art,* drove the males over millennia to evolve more and more specific displays, an ongoing gallery show with intercourse as the prize.

"Wait," Doran said. "That doesn't mean they're making an artistic choice. Aren't they just, uh, instinctually responding to whoever seems like the fittest mate? It's not beauty *per se*—"

"I love *per se,*" Jeff said. "Great word."

"I've always been fond of *ergo,*" Wendy said.

"But it is aesthetics!" LT said. "Beauty's just"—he made explosion fingers

—“joy in the brain, right? A flood of chemicals and, and, and—” What was the word? “Fireworks. Neuronal fireworks. We don’t *logic* our way to beauty, it hits us like a fucking hammer.”

“Ipso facto,” Jeff said.

Doran put his arm around LT’s shoulder and said, “Eat your burger before it gets cold, then tell me about the space bees.” Ah! He remembered! The heat of Doran’s arm across his neck made his cheeks flush. Doran smelled of sweat and Mennen Speed Stick and something else, something LT could almost recall from far back in his brain, from a hot afternoon in a Chicago apartment … but the memory slipped the net.

He decided to eat. Wendy told the story of her favorite snowmobile accident. Doran, who’d grown up in New Mexico, couldn’t believe that Wisconsin teenagers were allowed to ride machines across frozen lakes.

LT began to feel a little more sober, though perhaps that was an illusion. “Space bees,” he said.

“I’m ready,” Doran said. “Lay it on me.”

“Every one of the invasives we’ve found, not a single one uses pollination. There’s a lot of budding and spores and wind dispersal and”—he waved a clutch of fries—“you know. I’ve got a fern man at home, it’s like ten feet tall now—”

“You do?”

But LT didn’t want to talk about home. “Doesn’t matter, it just grows and spreads, spilling out of its pot, but it doesn’t require animal assistance.” Actually, he wasn’t sure that was true. Didn’t the fern survive because of him, because of his family? It had played on their human tendency for anthropomorphism.

“Where’d you go, Hillbilly?” Wendy asked.

“Sorry, what did you say?” he asked Doran.

“I said, maybe all the pollinating species died.”

“Maybe! But why colorful flowers and no pollen? There weren’t any animals hatching from the space seeds, so—”

Doran’s eyes went wide. “They have to be designed, then.”

“Exactly!”

Wendy nabbed his glass before it tumbled over.

“Inside voices,” she said.

He gets it, LT thought. The aliens could know what Earth’s sunlight was like from very far away, even guess the composition of its atmosphere and soil, but

they couldn't know what animals would be here, much less humans. So they had to design plants that could propagate without them.

"But if they're designed, why are they so, so *overwrought?*" LT asked. "Those huge fucking umbrellas out west, the sponges smothering South America, all of them crazy-colorful and smelly and weird. So my real question is __"

"Where are the space bees?" Jeff supplied.

"Wrong!" LT said. The real question was the one he was born to answer. He'd get whatever degrees and training he needed, he'd go into the field for evidence, he'd write the books to explain it. He'd explain it to Doran.

"The question is, why all this needless beauty? What's it all for?"

"I don't know, but *you're* beautiful," Doran said, and then—

—and then morning, a thumping that wasn't in his head. Or not all in his head.

LT sat up, and pain spiked in his skull. Light blasted through half-open blinds. And there, beside him, Doran. Mouth agape, rough-jawed, one arm across LT's waist.

Still there. Still real.

He wanted to fall back into the bed, pull that arm across his chest. Then the knocking came again, and he realized who was at the front door.

"Fuck." He slipped out from under Doran's arm without waking him, pulled on shorts. Alcohol sloshed in his bloodstream. He closed the bedroom door behind him. The pounding resumed.

LT pulled open the front door. His father started to speak, then saw what shape his son was in. Shook his head, suddenly angry. No, angri*er.*

"I overslept," LT said.

"Are you packed?"

LT turned to look at the living room, and his father pushed past him.

"Dad! *Dad.* Could you just *wait?*"

His father surveyed the moving boxes, only a few of them taped up. The rest were open, half-filled. LT's plan had been to wake up early and finish packing. Everything had to go. Next semester he'd finish his coursework in the mountains of western New Guinea, collecting data on how birds had adapted to invasives. And now all he wanted to do was stay here, in central Illinois, in this apartment.

"Wait for what?" his father asked. "For *you?*"

LT moved between his father and the bedroom. "Give me an hour. Go for

lunch or something. There's a diner—"

"I'll start taking down what's packed. There's snow coming."

"No. Please. Just … give me some time."

His father looked at the bedroom door. Then at his son. His jaw tightened, and LT stopped himself from edging backward.

He'd lived his boyhood afraid of his father's anger. Power, he'd learned, came not from *blowing off steam*, but demonstrating that you were barely containing it. You won by exacting dread, by making your loved ones wait through the silence so long that they yearned for the explosion.

"In an hour I drive away," his father said.

1994

LT didn't relax until they stepped off the plane in Columbus. Doran kept trying to calm him down, to no effect. The entire trip he'd been imagining that some authority would command the pilot to turn around, send them back to Indonesia. A priest would tell them, Stupid Americans, gays aren't allowed to be parents, and they would yank the infant out of his hands.

Then he emerged from the boarding tunnel holding the baby, saw his mother, and they both burst into tears.

He eased his daughter into his mother's arms. "Mom, this is Christina. Christina, this is—what is it, again?" Teasing her.

"Mimi!" She pressed her face close to the tiny girl and whispered, "I'm your Mimi!"

A tanned, smiling man with a tidy black goatee offered his hand. "Congratulations, LT. You've made your mother very, very happy." This was Marcus, Mom's brand-new husband, five years younger than her, at least. His mother at forty-six was still lithe and alarmingly sexy. LT hadn't met Husband 3.0 before, didn't know Mom was bringing him. He felt a flash of annoyance that he had to deal with this intruder at this moment—but then told himself to let it go. The day was too big for small emotions.

Doran, holding two duffel bags, one in each arm, said, "We made it."

LT kissed him, hard. In New Guinea they hadn't dared engage in PDA. "Eighteen years to go."

Christina nestled like a peanut in the high-tech shell of the car seat. As Marcus drove them home, LT and Doran talked about how dicey the whole

process had been. The orphanage, situated about thirty miles from Jayapura, was overcrowded, with hundreds of children left there by the crisis. The facility was nominally run by nuns, but most of the staff were local women who seemed little better off than their charges. LT and Doran had been practicing their Indonesian, especially the phrases involving gift-giving.

“We had to bribe everybody, top to bottom,” Doran said. “If it wasn’t for LT’s friend at the university yelling at them they’d have taken the shirts off our backs.”

“It’s not their fault,” LT said. “Their agriculture is wrecked. The economy’s crashing. They’re starving.”

“Maybe they should stop chewing those sugar sticks.”

“What now?” his mother asked.

He told her how the locals seemed almost addicted to an invasive plant that tasted sweet, but could not be digested. Gut bacteria couldn’t break down those strange peptides and so passed it along through the colon like a package that couldn’t be opened.

Doran said, “It would be great for my diet.”

A joke, but what Doran had seen there had scared him, and even LT, who’d spent months on the island doing fieldwork for his PhD, had been shaken by the rapid decline in the country. Thousands of alien species had been growing in the forests for two decades, ignored and unchecked, and suddenly some tipping point had been reached and those alien plants had reached the cities. The latest was a thread-thin vine that exploded into a red web on contact with flat surfaces. Villages and towns were engulfed by scarlet gauze. In the orphanage, nurses scraped it from the walls, but that only made it worse, dispersing its spores. He and Doran were terrified it was in Christina’s lungs. Invasives might be indigestible, but so was asbestos. In the morning she’d have her first doctor’s appointment. Her papers all said she was healthy, without birth defects, and up-to-date on her vaccinations, but they weren’t about to trust an orphanage under duress.

Once they reached the apartment, LT still couldn’t bear to put down his daughter. While Doran mixed formula and made beds and ordered takeout, LT fed his daughter, changed her, and then let her fall asleep on his chest.

His mother sat beside him on the couch. “You’re going to have to let Doran do more parenting.”

“He can fight me for her.”

“Big talk for the first night. Wait till sleep deprivation hits.”

Christina’s eyes were not quite closed, her lips parted. Mom had to know that he’d strong-armed Doran into adoption. His last trip to New Guinea, LT had been haunted by the abandoned children. Doran had said, This is crazy, we’re not even thirty, and LT said, My parents were teenagers when they had me, and Doran said, You’re making my case.

But that argument was over forever the moment Doran met Christina.

“You used to look just like that,” his mother said. “Milk-drunk.”

She was four weeks old, living through the days of extreme fractions. In another month, she’d have been their daughter for half her life. In a year, she would have been an orphan for only a twelfth of it. And yet those four weeks would never disappear. There would always be some shrinking percentage of her life that she’d lived alone, a blot like a tiny spore. He’d read alarming articles about adopted children who’d failed to “attach.” What if the psychic damage was already done? What if she never felt all the love they were bombarding her with?

His mother called Marcus over. “Sweetie, show them what you brought.”

Marcus opened a wooden box lined with cut paper and lifted out a teardrop-shaped dollop of glass, about eight inches long and six inches wide at the base, purple and red and glinting with gold.

“A crystal for Christina,” he said.

“That is *amazing*,” Doran said. “You made this?”

“Marcus is an award-winning glassblower,” his mother said. She tilted her head. “He made me these earrings.”

Of course, LT thought. His mother had always loved bowerbirds.

The gift was very pretty, and pretty useless, too heavy for a Christmas ornament, and not a shape that could sit upright on a shelf. They’d have to hang it, but not above her bed.

“Which ear is she supposed to wear it in?” LT asked.

Marcus laughed. “Either one. She’ll have to grow into it.”

When the food arrived, LT needed to eat, and he was forced to surrender Christina to Doran. His body moved automatically as he held her, a kind of sway and jiggle that soothed her. Where did he learn that?

Mom said, “Did you call your father?”

And like that, the spell was broken. LT said, “What do you think?”

“I think you should.”

“Fuck him.”

“Hey,” Doran said.

“Right. I gotta stop swearing. Eff that guy.”

“Your mom’s right. We should give him a chance.”

“He’s had six years of chances. Any time he wants to call, I’ll pick up.” There were a few years, after college, when they talked on the phone and his father would pretend that LT lived alone. He never asked about Doran, or about their lives. Then LT sent his father an invitation to the commitment ceremony. The next time LT called, his father said that he was disgusted, and didn’t want to talk to him until he fixed his life.

His mother said, “This is different. Maybe it’s time.”

Maybe. He got up from the table.

Time itself had become different. He looked at Christina in Doran’s arms and thought, I’m going to know you for the rest of my life. The future had broken open, his week-by-week life suddenly stretching to decades. He could picture her on her first day of school, on prom night, at her wedding. He caught a glimpse of her holding a baby as tiny as she was at that moment.

Had his father felt that way, too, when he was born?

He kissed Doran’s cheek, then bent over their daughter. She was awake, dark-eyed, watching both of them. He thought, There’s no way I can go away for six months into the jungle and leave her. He wouldn’t make the choice his parents had made.

“We’ll give it a shot,” LT said. He moved his cheek across her warm head. Inhaled her scent. “Won’t we, my darlin’?”

2007

He was reading to Christina and Carlos when the call came. Or rather, Christina was reading while LT held the book, because Christina said he was only allowed to do the Hagrid and Dumbledore voices. Carlos, five years old, lolled at the end of the bed, seemingly oblivious but missing nothing.

Doran came to the bedroom holding the cordless. “Some guy wants to talk to you. He says he’s a friend of your father’s.”

The thick Tennessee accent opened a door to his childhood. Vernon Beck, hearty as ever. He apologized for bothering LT “up there in D.C.,” but he was worried about LT’s father. “He stopped coming to work. He didn’t quit, just

stopped coming. Same with church. He won't answer the phone at all."

"Is he sick? Did he get hurt at the yard?"

"I went over there, and he finally came out to the porch. He said he was fine, just wanted folks to leave him alone. But I don't know. It ain't like him."

They talked a few minutes more. Mr. Beck apologized again for bothering him, explained how he got his number from a cousin. LT reassured him that it was all right. Asked about his son, Hale, who turned out to be doing fine, still in Maryville, working maintenance for the hospital. Had a wife and four children, all boys.

LT thought about that day they ran from the thistles. Funny how you don't know the last day you'll see someone. He'd spent the rest of that winter when he was thirteen daydreaming about Hale, his first big crush. He didn't mention that to Mr. Beck, and Mr. Beck didn't ask about LT's husband, or children. Southern Silence.

"One more thing," Mr. Beck said. "Your dad, he's let things go. You should be ready for that."

Doran asked, "What happened to your father?"

"Maybe nothing. But I think I have to go lay eyes on him."

Christina said, "I want to lay eyes on him!"

"Me too, kiddo," Doran said. "But not like this."

"Can we *read* now?" Carlos asked.

Doran didn't want LT to travel south. All those famine refugees landing in Florida, and the citizen militias in Texas and New Mexico. LT said his Department of Agriculture credentials would get them through any checkpoint, and besides, Tennessee was nowhere near the trouble. "It's like going into Wisconsin," LT said, quoting one of their favorite movies. "In and out."

"Fine," Doran said, "but why not just call the local police, let them check it out?" But LT didn't want to embarrass Dad, or get him fined if he wasn't taking care of the house.

"I owe him this much," LT said. And Doran said, "You think so?"

Doran stayed home with Carlos, and LT and Christina left before sunrise the next morning with a cooler full of food so they wouldn't have to depend on roadside restaurants. Christina fell asleep immediately, slept through all the phone calls he made to the Department, and woke up outside of Roanoke. He put away the phone and they listened to music and he pointed out invasives and native plants alongside the interstate. They were driving through the battlefield

of a slow-motion war. Old native species were finding novel ways to fight the aliens—sucking resources from them underground, literally throwing shade above—and new invasives kept popping up into ecological niches. “It’s all happening so incrementally,” he told her, “it’s hard to see.”

“Like global warming,” Christina said. He’d let her read the opening chapter of the book he was working on, and had taken her to see the Al Gore movie, so she understood boiling frogs. This had been his job for the past decade at the Department of Agriculture: explainer-in-chief, interpreter of policy, sometimes influencer of it. He missed the fieldwork, and longed to do original research again, but the government desk job provided stability for his family.

“Remember what I told you about animal speed?” he said. “Plant speed, and *planet* speed, that’s just a hard timescale for us mammals to keep our attention on.”

“I know. Wheels within wheels.”

“Exactly.”

After a day of driving and a two-hour wait for inspection at the Tennessee border, they entered the foothills. His hands knew the turns. He remembered the long drive home that last day of college—and realized for the first time that his father must have had to leave the hills at one in the morning to get to Illinois State by noon, and then had turned around and driven all the way back the same day. Drove it in silence, with a hungover, secretly heartbroken boy sulking in the passenger seat.

They pulled into the long gravel drive and parked beside the house. Christina said, “You used to live *here?*”

“Be nice. Your grandfather built this house.”

“No, it’s cool! It looks like a fairy castle.”

His childhood home was being overrun in the same slow, grasping process that had swallowed Christina’s village. The backyard grass, ordinary and native, had grown knee high. But covering the wall of the house was a flat-leafed ivy, brilliant and slick-looking as the heart of a kiwi fruit; definitely an invasive. Was this war, or détente?

Ivy also covered the back door. He tore away a clear space, and knocked. Knocked again. Called out, “Dad! It’s LT!”

He tried the door, and it swung open. “Wait here,” he said to Christina. He didn’t want her to see anything horrible.

The kitchen lights were off. There were dishes in the sink, a pair of pots on

the stove.

He called for his father again. His toe snagged on something. A vine, snaking across the floor. No, many vines.

He stepped into the living room—and froze. Ivy covered everything. A carpet of green clung to the walls. The fireplace burst with green foliage, and the tall stone altar of the chimney had become a trellis. Vines curled through doorways, snaked along the stair rails. Greenish sunlight filtering through the leaf-covered windows made the room into an aquarium. The air was jungle thick and smelled of fruiting bodies.

He stepped closer toward the fireplace, spied dots of white and red nestled into the leaves. Was the ivy *blooming?*

"What are you doing here?"

LT startled. The voice had come from behind him.

"Dad?"

His father sat in his armchair, nestled into the vines. Leaves draped his shoulders like a shawl. He wore a once-white UT Vols sweatshirt that seemed too big for him. His hair was shaggy, a steel gray that matched the stubble on his face. He looked too thin, much older than he should. LT felt as if he'd been catapulted through time. He hadn't seen or spoken to this man for almost twenty years, and now he wasn't even the same person.

His father said, "Who's this?"

LT thought, *Oh God, not Alzheimer's,* and then realized that Christina had come into the room.

She was looking up at the walls, the high ceiling, slowly turning to take it all in. "Dad…" Her voice was strange.

"It's okay, honey, there's nothing to be—"

"This is *awesome.*"

She lifted her hands to her head as if to contain the shock. A sound like applause erupted around the room. The leaves were shaking.

She looked at the corner, then up. "Dad, do you see it?"

He could, a green shape against the green. Enmeshed in leaves, an oak-thick stalk rose up in the corner. At the top, a bulbous head a yard wide was bent against a cross-timber, so that it seemed to be looking down at them. Its right arm stretched across the room, where broad leaves splayed against the wall as if holding it up. Its other arm hung down. Finger leaves brushed the floor.

"Holy fucking—"

"*Dad,*" Christina chided. She walked toward the plant. Lifted her hands above her head. The leaves of its arms rattled like a hundred castanets.

She laughed, and bent at the waist. Slow Mo's huge head eased left, then right.

LT's father said, "Isn't he a lovely boy?"

* * *

Geological time, plant time, animal time … and inside that, yet another, smaller wheel, spinning fast. His father's body had become a container for cells that lived and replicated and mutated at frightening speed.

On the second morning at Blount Memorial Hospital, Christina sat at the edge of her grandfather's bed, curled her fingers around his (carefully not disturbing the IV tubes taped to the top of his hand), and said, "I read a pamphlet about colon cancer. Would you like me to tell you about it?"

His father laughed. "Are you going to be a scientist like your father?" He was remarkably cheery, now that equipment had rehydrated him and delivered a few choice opioids.

She shook her head. "I want to be a real doctor."

LT, listening to on-hold music on his cell, said, "Hey!"

Doran came back on the line. "Okay, I got him an appointment with Lynn's oncologist. Bring him here. I'll move Carlos into Christina's room."

"Are you sure about this?"

"I would only do this for my favorite person. Besides, I don't think anybody else is stepping up. You're an only child, right?"

"Uh, kind of." He'd have to explain later.

He gave Christina a five and told her to sneak some ice cream into the room. "He likes rocky road, but chocolate will do."

His father watched her go. "She reminds me of your mother."

LT thought, Sure, this tiny, dark-haired, brown-skinned girl is *so* much like your blonde, dancer-legged wife.

"I mean it," his father said. "When she looks at me—it was like that with Belinda. That light."

"Dad—"

"All the boys in that school, and she chose me."

"Dad, I need to tell you some things."

“I’m not leaving the house.”

“You can’t go back there. I had Mr. Beck check it out. There are roots running through the floorboards, wrapped around the pipes. The wiring’s been shorted out. You’re lucky the place didn’t burn down.”

“It’s my house. You can’t tell me—”

“No, it’s Mo’s house now. It’s been his for years.”

2028

On that last Thanksgiving he hosted in the Virginia house, the topic of conversation was, appropriately enough, food.

“We haven’t published yet, but the data’s solid,” Christina said. “We’ve got an eater.”

Cheers went up around the table. “Were you using the cyanobacteria?” LT asked. Just a few months ago, her gene-hacking team at McGill was making zero progress. “Or one of the Rhodophyta?”

“Let the woman speak!” LT’s mother said. Christina, sitting beside her, squeezed her arm and said, “Thanks, Mimi.”

“She needs no encouragement,” Christina’s husband said, and Carlos laughed.

“Here’s the amazing thing—we didn’t engineer it. We found the bacteria in the wild. Evolving on its own.”

“You’re kidding me,” LT said.

Christina shrugged. “It turns out we should have been paying more attention to the oceans.”

LT tried not to hear this as a rebuke. As the USDA’s deputy secretary, he orchestrated the research grants, helped set the agenda for managing the ongoing crisis. It was a political job more than a scientific one, and much of the time the money had to go into putting out fires. So even though everyone knew that most of the seeds had gone down in water, the difficulty in retrieving them meant that almost all the research on water-based invasives focused on ones near the surface: the white pods like bloated worms floating in Lake Superior, the fibrous beach balls bobbing in the Indian Ocean, the blue fans that attached themselves to Japanese tuna like superhero capes.

Christina said that the bacteria were found feeding on rainbow mats. The scientific community had missed the explosion of translucent invasives hovering

in the ocean's photic zone, until they linked and rose to the surface in a coruscating, multi-colored mass. The satellite pictures of it were lovely and terrifying. The alien plants were so efficient at sucking up carbon dioxide, in a few decades of unrestricted growth they could put a serious dent in global warming—while maybe killing everything else in the ocean.

But somehow, fast-evolving Earth organisms were trying to eat them first. Or at least, one species of them. But if one Earth organism had figured it out, maybe others had, too.

"You have to tell us how they're breaking down those peptides," LT said.

"Or not," Carlos said.

"I have a story," said Bella, Christina's four-year-old daughter. "During craft time, this girl Neva? It was a *disaster*."

"Wait your turn, darling," Aaron said. Christina's husband was a white man from Portland. He ran cool to Christina's hot, which was good for Bella.

Through some quasi-Lamarckian process, LT's children, and his children's children, had inherited his most annoying conversational tendency. On Thanksgiving they didn't go around the table saying what they were thankful for, but rather took turns explaining things to each other. Nothing made LT happier. All he wanted in the world was this: to be surrounded by his family, talking and talking. Much of the world was in dire shape, but they were rich enough to afford the traditional dry turkey breast, the cranberry sauce with the ridges from the can, sweet potato casserole piled with a layer of marshmallow.

"You know what this means," Christina said. She caught LT's eye. "Next year we'll be eating sugar sticks like the aliens did."

Perhaps only LT understood what she meant. Homo sapiens are only ten percent human; most of the DNA in their bodies comes from the tiny flora that they carry inside themselves to digest their food and perform a million tiny tasks that keep them alive. If humans could someday adopt these new bacteria into their microbiome, a host of invasives could become edible. It would be the end of the famine.

She saw the wonder in his face, and laughed. "Wheels within wheels, Dad."

After dinner, the urge to nap descended like a cloud, and only little Bella was immune. Carlos offered to take her to the park, but LT said he would like that honor.

"Where the slides are?" she asked.

"All the slides," he said. "Just let me tuck in Mimi."

He led his mother to the master bedroom, which was on the ground floor and had the best mattress. She moved carefully, as if hearing faint music in the distance, but at eighty she was still sharp, still beautiful, still determined to stay up with fashion. Her hair was three different shades of red.

"Eighty-five outside," she said, "and in here it's a Chicago winter."

"I'll get an afghan," he said, and opened the closet. When he turned around, she was sitting on the edge of the bed, one hand out on the coverlet.

"You must miss Doran."

The knot that he carried in his chest tightened a fraction. He nodded.

"It's not fair," she said. "All our men dying so young."

"Arnaud's still alive," LT said. "At least he was last year. He sent me a Christmas card."

"Good God, what an asshole," she said. "It's true what they say, then."

"I was the teenage asshole. I don't know how anybody put up with me."

She lay down and folded her hands across her chest like Cleopatra. He spread the afghan so that it covered her feet.

"This is a lovely house," she said.

"It's too big for me now. Unless you move in."

"I prefer living on my own these days. I do my painting in the nude, you know."

"You do not."

"But I *could.* That's the point."

Bella was waiting for him by the front door. "Papa!"

"Ciao, Bella!"

She jumped into his arms. It was a pleasure to be someone's favorite person again, at least for the moment. "Ready for the slides?"

He wished she didn't live so far away. He wished he wasn't so busy. People were making noises about nominating him for secretary, but he could say no, get off the treadmill. He could move to Canada and be close to Christina and Aaron and Bella, finally finish the book. Make one more research trip. He'd like to visit New Guinea again, see how the land of his daughter was faring. Fifty-three years after the meteor storm, and there were still so many questions to answer, and so many new things to see.

He carried Bella out into the Virginia heat. Soon he'd have to put her down, but he wanted to carry her as long as he could, as long as she let him. "So," he said to her. "What's all this about a disaster at craft time?"

2062

The house was full of strangers. They kept touching his shoulder, leaning down into his face, wishing him happy birthday. Ninety-seven was a ridiculous age to celebrate. Not even a round number. They thought he wouldn't make it to ninety-eight, much less a hundred. They'd probably been waiting for years for him to kick off, and this premature wake was the admission of their surrender.

A tiny gray-haired woman sat beside him. Christina. "You have to see this," she said. She held a glass case, and suspended inside it was a glossy black shape flecked with silver. "It's from the current Secretary of Agriculture. 'For forty-five years of service to the nation and the world.' This one came from Tennessee. You remember telling me about Mimi finding a seed?"

There was an ocean of days he couldn't remember, but that day he recalled clearly. "Rock hound's delight," he said softly.

"What's that, Dad?"

Ah. The strangers were watching, waiting for a proper response. He cleared his throat, and said loudly, "So have those alien bastards shown up yet?"

Everyone laughed.

The afternoon stretched on interminably. Cake, singing, talking, so much talking. He asked for his jacket and a familiar-looking stranger brought it to him, helped him out of his chair. "I have to tell you, sir, your books made me want to be a scientist. *The Distant Gardener* was the first—"

LT lifted a hand. "Which way is the backyard?" He could still walk on his own. He was proud of that.

Outside, the sky was bright, the air too warm. He didn't need his coat, after all. He stood in a garden, surrounded by towering trees. But whose garden, whose house? It wasn't his home in Virginia, that was long gone. Not Chicago or Columbus. Was this Tennessee?

Everything moves too fast, he thought, or else barely moves at all.

"Papa?"

A young woman, holding the hand of a little girl. The girl, just three or four years old, held a huge black flower whose petals were edged with scarlet.

"Ciao, Bella!" he said to the girl.

The woman said, "No, Papa, this is Annie. I'm Bella."

A stab of embarrassment. And wonder. Bella was so old. How had that

happened? How had he gotten so far from home? He wanted to do it all over again. He wanted Doran's shoulder next to him, and tiny Christina in his arms. He wanted Carlos on his shoulders at the National Zoo. All of it, all of it again.

"It's okay, Papa," Bella said. His tears concerned her. What a small, common thing to worry about.

He inclined his head toward the little girl. "My apologies, Annie. How are you doing this afternoon? Did you fly all the way from California?"

She let go of her mother's hand and approached him. "I have a flower."

"Yes, you do."

"It's a pretty flower."

"It certainly is."

Bella said, "She likes to tell people things."

The girl offered the flower to him. Up close, the black petals seemed to ripple and shift. Their dark surfaces swirled with traceries of silver that caught the light and spun it prettily. He raised it to his nose and made a show of sniffing it. The little girl laughed.

Words were not required. Sometimes the only way you could tell someone you loved them was to show them something beautiful. Sometimes, he thought, you have to send it from very far away.

"Where did you find this lovely flower?" he asked.

She pointed past his shoulder. He could feel the tower of green behind him. The leaves were about to move.

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NOTE: The mnemonic for meteoroids, meteors, and meteorites was written by Andy Duncan and is used with his permission.

Contents