

Maker Messiah
by Ed Miracle

Chapter 1

Battle Mountain, Nevada. Thursday, April 4. Advent minus seven years.

Philip Machen sat on a rocky ledge of the great Nevada nowhere and turned up the collar of his pea coat. Since midnight a bully wind had dashed fat clouds against the mountain, smacking the lightning out of a few but releasing no rain. Beyond the glow of his computer screen the tempest howled, impatient and buffeting. Beside him raced a four-legged skitter.

“I have a secret,” Philip called after it.

The skitter stopped, terrified by the voice or puffed with reptilian contempt. *My rock.*

“Okay,” Philip said. “But we're in this together, live or die.”

The lizard responded with pushups. *My rock.*

Philip tossed a pebble its way. “Take cover, Old Shoe.”

Because it was time to poke the universe, to shatter his lifelong stuckness and push the big red button. Except the button wasn't red and the blast it would trigger might vaporize half of Nevada. Or collapse into a singularity that would burrow through Lander County and devour the Earth from beneath his feet. An imaginary collapse, but still he shuddered.

His equations predicted three mutually exclusive possibilities, so his hopes for the evening—for the rest of his life, actually—lay in the third prospect. If that outcome prevailed, his moments would continue, and the lizard could keep its rock.

Should the attempt fail, however, if the blast produced noise and debris but no quantum effects, his future would die with the echo. Then he would erase his equations, expunge them from every medium, and kill himself. Without a way forward, there could be no advent, no Philip Machen worth keeping, and stuckness would prevail.

Again the sky flashed, bright and close. He poised a finger over the blue icon on his screen. Tonight he would fail forever or succeed for all time. Thunder cracked and rolled away. His flinch sent the signal: Begin, begin.

Half a mile north, at the bottom of an open pit mine, a circuit closed and two cylinders the size of rail cars detonated. Shock waves imploded the carbon sphere stationed between them, as flash channels pumped gamma rays into its collapsing heart. For a fraction of a second, pressures and temperatures exceeded those of the solar core. Then came the genius part.

Seeded by a gumball of depleted uranium, and charged by intense radiation, nuclear reactions multiplied the forces, generating quantum fluctuations and forming not one but two entities never observed in nature. Microscopic and invisible, separate yet coupled, these quantum effects should have flashed to pure energy in mutual annihilation or collapsed to a singularity that would devour the Earth. Yet they could not. Conforming to fractal twists of space-time inherent to their ten-dimensional geometries, they embraced ferociously, but could not merge. They whirled mightily, but could not escape. Hyper-geometrically, each fell continuously through the other. While their frantic tango consumed just enough mass to make up for dimensional boundary losses, the imprisoned pair became the first quantum duplex.

The flash from its birth bleached the desert wedding-cake-white, brilliant even through closed eyes. The ledge beneath Philip heaved him off balance, and stones rained from above.

Holy shit. Not his favorite expression, *but damn.*

When he could see again, the ruckus had stolen his laptop, abducted it down some crevice, but there was no time for a search. If the duplex had formed as he hoped, they needed to stabilize it right away. He had plans for that, but the darned thing might wink out of existence before they reached it. Or explode. Quantum freaking dynamics.

He brushed his coat, buffed his scalp, and hurried back to the tow truck. Tanner and Uncle

Orin would drive their rig down from the west rim, while he would enter from the south. If either access was blocked, they hoped the other would remain passable, and that the duplex would not be too heavy, or too radioactive.

An icy dawn was blotting shadows from the mine when they unearthed the product of their labors. Centered on the steel crash plate intended to support it lay a crystalline lump of diamond the size of a tennis ball, a perfect jewel-cradle for the newborn duplex. Its radiations were low-level betas, no gammas or neutrons, so Philip laid a cable mesh beside it on the plate. Then his uncle and his best friend helped him lever the glassy black sphere onto the mesh. As they hoisted it clear, a strain gauge rendered its verdict: 717 pounds.

Philip stopped the winch and sank to his knees. Swaying at the end of a taut chain, the black diamond's unnatural mass affirmed every lonely moment he had endured to create it. From the exhausted grip of what must be, he had prised the first breath of what could be. Tonight was not an irrecoverable end. It was the beginning for which he yearned. His equations worked. Their possibilities had beaten their probabilities, and his duplex was no longer a mathematical curiosity. It was here. It was real. It was his.

One stroke of its obsidian face and the anguish of his twenty-seven years sloughed away. He inspected the veins of his hands, as he had the night his family was murdered. Flesh and bones are made of stardust his father liked to say, from thirteen-point-seven-billion-year-old protons and electrons, bequeathed to us through our parents' love.

No matter what lay ahead for him now—destruction or glory—he had confirmed his vows and bound himself to their consequences. There could be no turning back. He straightened and stood, ready to proceed. If success were the best revenge, his would be perfect. Lizards, especially, would be amazed.

Chapter 2

One Year Later, Livermore, California. Sunday, March 16. Advent minus Six Years.

Their prospect phoned from her car to say she'd be late, something about her daughter, for which she apologized. Philip thanked her for letting him know and hung up. He snugged his white terrycloth robe, poured a second cup of Kona blend, and strolled barefooted into the empty front room. If this woman worked out, they would begin Phase Two of his perfect revenge.

Across Greenville Road, beyond the white three-board fence, a morning drizzle was dissolving the fog over the vineyards. To his left, officious black clouds ruffled along the ridges, occasionally revealing fluffy white petticoats: East Bay snow, too distant to touch, too thin to persist. Like other people's dreams. He padded back through the kitchen and out the glass door, onto the patio that separated the front pavilion from the rear one. His coffee-sipping retreat.

Their landlord called this ranch Meadowlark Field, for its wildlife and the private airstrip the birds shared with a board-and-batten house. Over by the hanger, an orange windsock twitched randomly.

Ms. Lavery could arrive at any moment, but some things were more important than business or decorum. *Ring Around the Rosie*, for instance. He shed his robe near the pool and waded into the steaming water with Tanner and his kids, a boy and a girl, ages five and four. Philip joined the circle and helped the sea monsters chant.

“Ashes, ashes, all fall down.”

Everyone submerged and made google-eyes before popping back up. Philip shook like a terrier, snapped at tasty fingers. Their shrieks and giggles made his day.

“Uncle Philip, you scared us.”

From the breezeway between the pavilions a figure approached.

“Daddy, Daddy, somebody's here.”

A woman with lustrous auburn hair and tailored green slacks stepped from the shadows, a classic Mediterranean diva, the sort who might wear a gentleman on her wrist as casually as she would a gold bangle. She clutched the lapels of her blazer and watched Tanner inflate himself.

“What a magnificent woman,” Tanner said.

Which allowed Philip to clear his throat. “Good morning,” he called.

But she focused on Best Friend Tanner, who was doing his eyebrow thing: floating two black caterpillars down his forehead toward a Great and Toothy Grin, patent pending.

Philip waded forward. “Ms. Lavery, I beg your pardon. We thought we had more time.”

His fine blond hair had melted over his scalp, as it did in water, rendering him momentarily bald as well as pale and skinny and half-naked. These calamities, plus Tanner's glistening muscles, gave her pause.

“Good morning,” she said. “Mr. Machen?”

The children yanked Tanner's earlobes, steering him as he carried them from the pool to a dressing cabana. “This way, Elephant. That way, Elephant.”

Philip sloshed up the steps to Ms. Lavery. He dabbed his face with the robe and rubbed some definition into his hair.

“Call me Philip,” he said, trying to smile. He hadn't touched a woman in ten years.

She accepted his hand and flashed a business-cordial response. Her mossy-green eyes probed gently into his, appraising him like a jeweler searching for flaws.

He'd imagined her middle-aged, but couldn't decide. Then he found he didn't care to know. He just wanted . . . *Oh, man* . . . to rein in his libido before it crashed into her. He couldn't resist. He kissed her fingers.

Which she withdrew beneath a fading smile. “Karen,” she replied.

“Welcome to Meadowlark, . . . Karen.”

He slipped into his robe and motioned across the patio. “Would you like to see our machine?”

“Of course.” She said it as if brushing lint from her sleeve, but there was nothing casual about Karen Lavery. She was everything a marketing executive should be, and more.

Still barefooted, Philip led her around the rear pavilion to the concrete pad on which rested a white, ceramic monolith. Waist-high and loaf-shaped, it could have formed the base for a monument or a statue. Except for three saucer-sized disks bolted to its front, its back, and its top.

“Our first Powerpod,” he said. *Technically our third prototype.* “It supplies the whole ranch, including the pool.”

Moisture dripped from the eaves, emphasizing its silence.

“Electricity from a block of marble,” she mused. “Is it running?”

“Always,” he said. “Except for the reset and the breaker switch, there are no moving parts, no exhausts, no emissions. Put one in your house, your shop, or your office. But outside, near your existing service box, would be most convenient. It weighs twelve-hundred pounds, so you’ll want a sturdy floor to bring one inside.” He launched another smile.

She touched the green button near the top disk.

“That’s a reset,” he said, “sort of a ground-fault interrupter.” *Except it’s not.*

“And this?” She indicated a recess.

From a hook on the wall, he retrieved a plastic basting syringe, which he filled from a bucket of water. “Our fuel injector.” He pressed its nipple to the recess near the green button and squeezed the rubber bulb. Rivulets of excess flowed across the Powerpod and down its side.

“Most people will use less than a pint in a year,” he said, and he dared to step closer.

She crossed her arms and met his gaze. “So how does it work?”

“By magnetic induction,” he said, “from sub-atomic mass-energy conversion. Einstein's equation, $E=mc^2$. We turn mass into energy, creating magnetic fields that oscillate. The fields induce a voltage in stationary copper windings, just like an ordinary generator. Microprocessors control the process; there are no internal moving parts; and the fuel is tap water.” *As stated in our brochure.*

She waited, arms crossed.

“The details are not intuitive, Karen. If we published my notes tomorrow, very few people would understand them, and you can bet that your competitors would hire those people. So let them learn the way we did, by working for it. Meanwhile, you and I will offer the world clean, unlimited electricity at a very modest price.”

One penciled eyebrow objected. “This sub-atomic mass-energy conversion, this sounds very nuclear.”

He nodded. “We are not splitting or fusing nuclei,” he said. “We are converting mass directly into energy, without fission or fusion. Radioactivity within a Pod is trivial, and beyond the microscopic domain there are no extreme pressures or temperatures. If you breach the shell, the process extinguishes—like a candle. Also, we will accept any Powerpod for disposal, should it ever fail.”

She approached the Pod, drawn to its bulk or its silence, or pondering hidden consequences.

“You realize,” she said, “no one this side of the grave can sell something that might become a backyard Chernobyl, a personal Fukushima? You'd better have independent verification because somebody is bound to call them nuclear.”

He sighed.

“Ignore the minutia, Karen. We should not waste time refuting all the bad things

Powerpods could be but are not. We should simply demonstrate what they are: cheap, non-polluting, safe sources of electricity." He bounced his fist on its stony crown. "The process is stable, self-extinguishing, and the hazard is electric shock, nothing more."

She laid a hand on the smooth, white mound, perhaps imagining it in a quiet garden, as he often did. Without the clumsy discs, a Buddhist might worship such a pleasant artifact. She stepped away and rubbed her hands, doubtful or calculating or both.

"Naturally," he continued, "our competitors will feel threatened. They will fight us with everything they have, including the fear of radioactivity. We must set out from the beginning to counter their attacks. Maybe cut a Pod in half to prove they're safe. I want you to consider the possibilities, Karen. The rewards should be obvious."

She clutched her lapels and tucked her elbows. "Powerpods are not nuclear? I could grind up one and feed it to my ex-husband?"

He chuckled in a resurgent breeze.

"They are smaller and cheaper," he said, "than fuel cells or solar panels of the same capacity. Safer, cleaner and more durable than mechanical generators. No toxins, no combustibles, no more radioactivity than a common smoke detector. Nothing to wear out except the turkey baster and the switch. Let experienced electricians install them, and there's nothing to worry about."

He searched her gaze.

"In fact, let us install one at your house, Karen. Live with it for a while. That's how you come to terms with something like this, isn't it? Try one yourself, and you'll see." He bounced his fist again. "Later, we can restore your monopoly service, if that's what you decide."

A gust flattened her slacks. "Nobody else knows how to build them?"

He shook his head. "Can't be done overnight."

She clamped her knees. “How long do you suppose?”

“Your Powerpods Company will dominate the market before anyone learns how they work, and I assure you no one will beat your price.”

She crossed her arms, rubbed them.

“You’re chilled,” he said, finally noticing. “I beg your pardon. Let’s go inside.” He ushered her back to the patio with little touches. As they passed a glass door, Tanner emerged, still hairy and bare-chested, like the lifeguard he’d been in high school.

“Sorry if I bothered you, Ms. Lavery. I’m Tanner Newe, chief engineer and bottle washer.”

She stopped. “How do you do, Mr. Newe.”

“I’ve just shown Karen her first Powerpod,” Philip said. *So don't screw this up.*

Tanner’s grin levitated his eyebrows again. “You going to peddle them for us?”

“I wouldn’t call it peddling, Mr. Newe.”

The children made a commotion that drew him back. “Pleasure to meet you, Ms. Lavery. I hope you’re the one.” He ducked inside.

Philip escorted her to the front pavilion, to a vaulted sitting room that faced a glass wall overlooking the patio. He switched on every illumination, rendering the space bright and buoyant.

Ms. Lavery fingered her blazer, released its button, and stretched. She was both younger and older than he expected. She moved to a vent to warm herself, where she regarded the leather sofas, the granite coffee table, the blonde hardwood floors.

“Why me, Philip? Siemens and General Electric have resources I can’t match.” She noticed the display case containing his family photo, his father’s three books, and his sister’s scorched doll. And of course, the drone, a six-foot black raven, mounted nose-down over the

display case. "If you licensed your machines to a major corporation wouldn't it be less trouble? Why bother with sales and marketing?"

"My father built a sailboat once," he said. "Named it *Third Child*, which is how I feel about Powerpods. I want to stay close to them, Karen. And I want to deal with one person, someone I trust, not a board or a committee. I want you." He approached her and smiled for real. "Every child needs a mother, don't you think?"

She gazed at the delicate wisps of steam floating in the pool.

Did that insult her? He drew closer and spoke softly. "I want you to sell 100 million Powerpods."

She stared at the wisps. "Your children are darling."

"They're Tanner's," he said, "on loan from his ex."

"You surprise me," she said, facing him again.

"I smoke, too," he said. "Four or five cigars a year, though never in the company of a beautiful woman."

"Flattery." She nodded but didn't smile. "Maybe that's why I like you, Philip. Also why I don't trust you. I wonder if we can do business at all."

He blinked. "We proceed by the contract, do we not? You agree. I agree. We sign the papers, and everything goes paragraph-by-paragraph."

"Contracts are just insurance policies," she said. "We deal with each other, or not at all."

He crossed his arms, exposing the purple V branded into his wrist.

"Your project is very strange, Philip. Too good to be true. Zero-interest loans and a ready-made facility. Exclusive license. I choose my staff and set my own prices. My group takes the profits, while you settle for \$100 per unit. So I'm pleased, even flattered. What I don't see is the depth of your resources, how you can make Powerpods so cheaply, and why you're willing to

lock yourself into these terms for ten years."

He straightened to cover his wrist. "Our factory makes Pods for less than \$100, so if you multiply that times your quotas you will see we stand to profit, as well."

"All right," she said, drilling deeper. "That leaves capitalization. I believe I'm entitled to know your sources."

He shrugged. "We bought a gold mine last year, in Nevada. Installed a new process and delivered 260,000 ounces in six months. Paid off our loans and banked the rest. We can fund your Powerpods Company and any marketing plan you develop, Karen, without third parties. Just give us the numbers."

"Well, I don't have to do this, Philip. I don't have to work with a man I don't trust."

Whammo! "That's why our deal looks so strange, Karen. It favors you. Massively. We want you. We want you to succeed. We want you to sell Powerpods as if your life depended on it. Because that's what we need." He rubbed his covered wrist. "Strike a blow for liberty."

"Pardon me?"

"Stand up for independence. Yours and everyone else's. Powerpods will change the world. Powerpods will empower us, Karen. Powerpods will empower everyone. Let's put ourselves in control."

Now she smiled as if she'd found the real Philip Machen. She perched on a sofa, hands on her knees. "I haven't heard anything like that since I left college."

"Berkeley was it?"

"Mills," she replied. "Women only."

"Well, every technology has its social dimension, don't you think?"

"Never thought about it," she said. "And what about that? Do your Powerpods have an agenda?"

He scoffed. “We plan to sell 100 million Powerpods, improve the lot of humankind, make scads of money, and go to business heaven. That's the agenda.”

She took a breath and swallowed it.

“I'll hold your hand,” he said, fighting an urge to do just that. “Each week we will get together to see if you might trust me for another week. Then we will continue, week after week, until you sell a hundred million Pods.”

“Stuff the condescension, Philip. This isn't a game for me. I'm thirty-eight, and I've no time for foolishness. You admit the opposition would target my Powerpods Company, not your factory, so as leader of the parade, it would be my derriere the big boys shoot at, not yours. And the Greens would dog me about that nasty nuclear power thing, too.”

She glared at the gap in his robe from which a pale and hairless pectoral flashed.

Oops.

She strode to the door. “You've given me much to consider, Philip. I shall reply by close-of-business tomorrow.”

For a thousand reasons, don't say no.

He took her hand, held her fingers as if they might shatter. “Karen, thank you. If you would, please—” *Where had he put the envelope?*

From the hallway behind them came a hiss and a shimmer. Uncle Orin, complete with potato-peel hair and a red flannel shirt, glided toward them in his wheelchair. He locked its wheels and struggled to stand. Clapping one paw on Philip's shoulder, he extended the other to Karen.

“Orin Machen, by golly.” A rumble from his chest emerged as a chuckle.

She shook his grizzly bear palm. “Karen Lavery.”

“Forgive me, Ms. Lavery.” He descended to his chair. “I am mortified to appear so ugly

before you.” The chair groaned as he pitched toward her. “You are the best at what you do, are you not?”

“I always do my best, Mr. Machen.”

“Not *your* best.” He pounded an armrest. “*The* best. *The* best.”

She drew back.

“Karen *is* the best, Uncle.”

“Good.” Orin huffed like a tent collapsing. “Good and sufficient. Please come again, Ms. Lavery. I'm too weak, anymore, for business. And my nephew couldn't sell umbrellas in a monsoon. We need you.”

He swiveled and propelled himself down the hall. Philip stepped between Karen and the door, blinking his agitation.

“Uncle Orin's not well. Don't let him put you off.”

She sidled past him, opened the door, and assembled another business-cordial smile.

“Thank you, Philip. Your home is lovely, the children are darling, and I enjoyed our discussion.”

She's bailing!

“I'll be in touch,” she said. She turned to leave, but the sight of his airplane, his only luxury, stopped her.

Small and sleek and brilliant red, it nuzzled the fence across the driveway, so close they could count raindrops on its canopy. Its nose hugged the pavement, its slender wings stretched wide, and its tail flipped skyward—a saucy ballerina taking a bow.

“Your plane,” she said. “It's very unusual. I like the color.”

“Karen, yes. Thank you.” He reached to a shelf and found what he needed. “Questions. If you have . . . just call.” He pressed the flimsy envelope into her soft hand. “For your trouble.”

She took it and departed down the steps. Without glancing back, she tossed the envelope into her car and drove away.

Philip drew the hood of his robe over his head and struggled not to shout, *Come back*.

Tanner leaned from the open door. “Gandhi-gee, did your chicken legs frighten her? Did you give her the check?”

Philip nodded. “Fifty-thousand persuaders.”

Chapter 3

SIX YEARS LATER, PLEASANTON, CALIFORNIA. FRIDAY, APRIL 10. ADVENT MINUS EIGHT DAYS.

Philip squinted at his stiff, patent leather shoes, clip-clopping on the sidewalk that ran north along Hopyard Road. How could he warn Karen without losing her forever? Or imperiling his Phase Three?

His rented tuxedo was sponging heat from the rising sun, warming his right side, while the swoosh of passing cars chilled his left. A single ping, emitted by the Cambiar internet-phone in his hand, announced a text from Karen's daughter, Tiffany.

Two minutes.

He stuffed the phone and glanced south, toward downtown and the onrushing traffic. This close to the freeway, Hopyard was eight lanes of commuters surprised to see a pedestrian. The City of Pleasanton had built sidewalks, it seemed, in case walking might one day prove useful. He stopped at the turnout for a Sheraton hotel, to await his fate.

How could he tell Karen, after six years of hustling Powerpods for him, that he suddenly needed to talk? That despite their phenomenal success, there was more about Pods she needed to know? And that this secret might break more than their relationship?

Karen Lavery's black Mercedes glided to the curb like a small warship, nineteen-year-old Tiffany commanding. Her mother, seated beside her, looked startled. Philip took a breath, opened the rear door, and made the acquaintance of two garment bags draped from the opposite side. Over the back of her seat, Karen gaped at him.

“Tiffany,” she said, “what are we doing?”

Philip confirmed her suspicions by clicking his seat belt and shutting the door. Then his co-conspirator drove onward.

“Sorry, Mom. Philip needs to see you.”

“We are not doing this,” Karen said. “Not today. Turn back, please.” She fired a buckshot scowl at Philip. “You were not invited.”

He winced, pierced by her displeasure. He'd never seen his business partner more radiantly beautiful, or more vexed.

“I beg your pardon,” he offered.

She flipped her auburn mane and faced forward. “Tiffany, pull over. Mr. Machen is leaving.”

“Sorry, Mom. No stopping here.” Tiffany steered for the freeway on-ramp.

“How dare you?” Karen demanded. “How dare you both? This is my wedding day.”

Tiffany looped the car to the right and joined the westbound flow.

“Don't blame Tiff,” Philip said. “This was my idea. You won't be late. I'll depart at Castro Valley.” He stroked the scar on his wrist. “If I could borrow a few of your minutes, please?”

“Just because you two don't like Terry, you have no right to interfere.” Karen rooted through her sequined purse. “This is our wedding day, and you can't stop us. Even if you kidnap me.”

“Mom, we're on schedule for the City, no problem. Philip just needs to talk.”

“Whatever you may desire,” Karen said to the back seat, “the answer is no. Now please get out of my car. Tiffany, take the next exit. Take it, or you're out of the wedding.”

Tiffany accelerated and merged into the express lane.

Karen glared at her without effect, then found the phone in her purse and began texting.

“It's not about your wedding,” Philip said. “It's about the lawsuit.”

Six years ago, during their one-and-only private dinner, she had spurned his gestures toward a more personal relationship. Then as now, she was both the problem and the solution. Unless he could tell her soon what she needed to know, he would lose her as a friend, as well.

“The suit is your fault,” she said. “Using foreigners to operate your factories and hiding them in barracks, not allowing safety inspections: that's your mistake, not Terry's.” She resumed texting.

“Terry Quinn wants to destroy us,” he said. Which perked Tiffany, but not her mother. “His lawsuit has nothing to do with worker's rights. He wants to abolish Powerpods because his GreenWorld pals think they are nuclear.”

“Why don't you show everyone precisely how they are not nuclear, stop hiding behind those private property charades?”

“You don't understand.”

“Look, Philip, I've sold fifty-five million Pods. We own the world market for personal generators. They have a perfect safety record. Why not show everyone how they're made?” She put down her phone. “Stonewalling Terry just makes him suspicious, more determined to pound it out of you. Why are you putting us through this? Just show him a factory and invite a couple of State inspectors. When they don't find anything, they'll have to shut up.”

“I can't do that.” He rubbed his face. “I'll show you, Karen, every square inch of the factory. Just you.”

“Well, that won't fly,” she said. “Seems I have this massive financial interest, and I'm not an expert. Nobody would believe me.”

“But *he* would. You wouldn't lie to your husband. Once you've seen for yourself, you could tell him there's nothing dangerous or illegal. Get him to stop.”

Karen sniffed. “The fate of the world isn't at stake here, just your personal empowerment thing. Pacific Gas and Electric is dying, they're losing so many customers. So when will you declare victory? How many Pods will it take?”

“He's using you.” Philip leaned closer. “To get to me.”

Tiffany nodded vigorously, but Karen laughed. “So you want me to trade on my marital relationship. Help you thwart my brand-new husband, the naughty GreenWorld attorney. That's outrageous.”

“We can't afford their interference.”

“Then open your doors—! Prove there's nothing nasty going on.”

“I can't.” He swallowed. “It's not about safety or the competition. I will personally escort you through every Powerpods factory that Cambiar owns.” It was his last, best offer. “Then you will know.” *Though you may not forgive.*

Karen said nothing, letting their argument fade in the road noise.

The Mercedes crested a hill and hurtled into a sweeping curve. Tiffany was speeding, driving-while-annoyed, disgusted no doubt with both of them. “Hey, show me,” she said.

“Slow down, Honey.”

Philip slouched in the back seat. He couldn't play Tiffany against her mother. “Take Exit 37,” he said.

“Yes, ma'am. Yes, sir.” A conspicuous sigh boosted Tiffany's shoulders then dropped them. “Does this mean I'm back in the wedding?”

Karen patted her arm. "As soon as Mr. Machen says bye-bye."

Grassy canyon walls passed in a blur. He was gasping like a beached carp. He needed months, not days; at least eighty million Pods, not fifty-five million. Either way, the advent would turn Karen's world upside down, and telling her today might expose her to prosecution later. So until things settled, these must be their last moments together. *Damn, damn, damn.*

"There's more," he said.

"No," Karen said, "not today."

A coil closed around his throat, a noose that ought to tighten all the way, for his failing once again to protect those closest to him, his family long ago and now the only two women in his cloistered life. He was losing them as surely as he'd lost his parents and sister. And his culpability in both cases compounded the pain.

He seldom thought of the fire anymore, of his terrible impotence that night.

Before dawn on his eighteenth birthday, he woke to a siren's wail. Overhead, an orange glow penetrated the frost covering Tanner's bedroom window. It flickered on the wall and propelled him out of a warm bed. He pulled on his jeans and shoes, and bounded down the stairs, out of his best friend's house. He stumbled three blocks across frozen daymelt, to 2210 Glen Avenue, where a pair of snarling, flashing fire engines emerged from the gloom. They groaned to a halt before his family's Michigan house, while tiny yellow flames chinned themselves in his mother's curtains.

"Fire," he shouted, and he ran to the back. He twisted the knob and pounded the door, but neither would budge. "Fire!" he screamed, and he raced to the front.

"Stop!"

Someone grabbed his arm and swung him off the porch, a policewoman. "You can't go in there," she said.

“My family’s inside.” He twisted from her grip, only to catch an accusation spray-painted on the front door, a black letter *A*.

“No,” he cried.

The policewoman planted her boots and tripped him, wrestled him down to the icy lawn.

“No!” he wailed.

“You can't go in there,” she shouted. She torqued his arm and straddled his waist.

“Firefighters will get them out.”

Yet they could not. Across the wide front porch, helmeted figures in bunker coats plunged forward, hauling stiff hoses and sucking bottled air. They forced the door, and explosions cascaded through the interior, blowing out windows, hurling debris. The trio on the porch fell back, retreated for their lives, when a shard—white hot—pierced Philip’s wrist and sizzled into the flesh.

“Get off of me!” he cried. “Let me go. My family's in there.”

But the policewoman throttled him, made his eyes bulge, and threatened handcuffs.

A wave of heat struck them as flames gawped from the windows and fanned up the clapboard walls. In minutes, fire breached the roof and arced into the night, spewing cinders that crackled and winked: brilliant, festive, obscene. Soon, much too soon, the outer walls sagged. They knelt in succession, one-by-one, until they toppled onto the pyre. At last the flames withdrew, leaving two pairs of sullen, exhausted firefighters staggering through heaps of irredeemable filth.

Out of the darkness Tanner arrived, bringing Philip's shirt and socks, his green Lucite clipboard with his precious equations. Tanner’s mom brought his peacoat, the gift his father had so proudly given him just hours ago. They must have chased him down that slippery street, thinly dressed, to help. Such friends he would not forget. But as dawn confirmed his desolation, young

Philip stood apart from everyone, alone as never before.

He had watched them burn: his sister, his mother, his father. He had watched them burn and begged to join them.

Now, as Karen's Mercedes floated downhill toward San Francisco Bay, bright orange flames from the past demanded that he tend not to her fate but to his vows from long ago: to persist among the living, to transmute matter and energy, and to avenge three charred bodies.

How could he betray Karen, this woman he loved, and her innocent daughter? How could he not?

When Tiffany delivered them to a Castro Valley strip mall, he nearly forgot his gift for Karen, a silver-wrapped memento he hoped would explain everything. He opened the door and passed his treasure to the magnificent woman he might never see again.

“Congratulations, Karen. I hope you'll be very happy.”

Chapter 4

One week later, Tracy, California, Saturday, April 18, 7:30 pm. Maker Advent.

On the night of Philip's announcement, twenty-two-year-old Everett Aboud was threading his motorcycle between the ranks of taillights descending herd-like into California's Central Valley. The herd bunched and surged as he passed among them, numb to the cold yet hyper-alert. One distracted driver might cancel his choreography, but splitting lanes on his way home from work was the best he'd felt all day. He was making thirty-miles-an-hour, versus twenty for the herd, eastbound over the sagging shoulders of Altamont Pass. Eight more miles in fourteen minutes brought him to a swath of tract houses, tile-roofed kudzu spreading outward from the old valley town of Tracy. Then finally home: a peeling white clapboard he and his father rented in a

neighborhood of tall trees, wooden porches, and detached garages. He parked beside the sentinel of their barren flowerbeds, a stone-silent Powerpod.

Everett stretched and flexed, removed his helmet and shook out his ebony hair. Johnny Mathis on a motorcycle, the boss's wife had called him this morning. A singer, not a biker, he learned, so he took it as a compliment. He might resemble someone who had actually made a difference.

He stomped through the back door, into a stale potpourri of cigarette butts, gun oil, and powder solvent. Used cleaning patches littered the kitchen counter between two antique revolvers his father, Bobby, never fired but had lately been trying to sell. In the living room, Bobby was collecting dead Budweisers from the sofa. He wasn't drunk, but the smell was on him. The first time too many Budweisers had punched Everett in the mouth, ten years ago, was the start of his calling him Bobby, instead of Dad.

“There’s a guy coming from Stockton tomorrow, about those Colts,” Bobby said. “And I made a hundred dollars lumping furniture for Dario.”

“That’ll help.” Everett peeled off his riding leathers and hung them in the laundry. “General paid me in cash.”

His father, clad in habitual denim, came into the light. "I should go over there and thank him, personally."

This was Everett's first week at General Johnson's Shoes-for-You, in Oakland, a forty-eight-mile commute from Tracy. The job was only temporary, but with the rent due Tuesday he and Bobby needed the money.

“Remember that hulking box of parts we got?” Bobby opened the refrigerator and removed two bottles. “That junk Powerpods Company has been sending to people who didn't order it? They're making an announcement tonight on the internet. Supposed to be a big deal.”

Why would anyone care? “Spaghetti all right with you, Pop?”

“Sure.” Bobby decapped a beer and sipped. “You want to watch the announcement?”

“I need to check my email.” One of his long-shot resumes might snag another interview.

Bobby shrugged, held out the second bottle.

“No thanks,” Everett said. “I’m flying tomorrow.”

“Did you get a charter?”

“Just an hour with a student.” For which he might clear thirty bucks. He moved past Bobby, to the drawer where they kept their cash. He fished his wages from a pocket and stuffed all but a single twenty into the rent envelope. “We’re two hundred short.”

Bobby nodded, cleared his mess from the counter. His thick gray mane shifted against his collar as he dumped an ashtray. Smoker’s wrinkles like Bobby’s would never crease Everett’s face, and he hoped to stay as trim and muscular when he reached fifty, but it was clear his father’s fate could easily become his own: lurching from one shaky, no-benefits job to the next, reduced to odd jobs and day labor. It wasn’t supposed to be this way.

Flying was supposed to be a career, not a supplement. Three years ago, Bobby sold his heating and air conditioning business in Oakland and moved inland for the lower rents, just to finance Everett’s dream. But the investment wasn’t paying off. More than a year had passed since Everett graduated from that expensive flying school down in Florida, where he flew every day and loved every minute. Except for seaplanes and jumbos, he could pilot anything with wings. Yet flying jobs were as scarce as others, so he took students and occasional charters from the service up at Stockton. Between engagements, he launched resumes at every airline and charter outfit in North America and rode long distances to interviews that came to nothing. Probably because of his name. *Aboud* remained suspect, automatically an Arab, potentially a terrorist, even though he was third-generation Lebanese-American and not a Muslim. At least tomorrow

the automatic Arab could fly.

Bobby set the table then switched on the video screen. “Here we go.”

Up on the wall screen, a sturdy blond teenager strolled through a rose garden wearing a sleeveless yellow blouse and a cheerleader's grin. She approached a familiar white boulder the size and shape of a steamer trunk: a Powerpod. Six years of upbeat marketing and they still looked like tombstones.

“We have exciting news for all Powerpod owners,” she said.

Everett filled a saucepan with water and set it on the stove.

“A new paradigm that will change your life.” Nothing to buy. Blah, blah, blah. “You must see Philip Machen, Saturday, April 18, at nine pm, for the most amazing demonstration of your life. Got power? Get Powerpods.”

A countdown clock appeared at the corner of the screen, while the name Machen rattled through Everett's head. Philip *Mock-en*, the millionaire inventor of Powerpods, never gave interviews, never spoke publicly. When President Washburn hung that medal around his neck last year, the guy said “Thank you,” then returned to his cave, or wherever he lived, a place the paparazzi with all their cameras could not find.

The screen displayed *PhilipMachen.com* and played elevator music, which Bobby muted. “Ten minutes to go,” he said.

Everett boiled water and fed noodles into the pot. How could a stupid commercial change anything? In another pan, he stirred red sauce with a wooden spoon and tasted it—tomato, basil, oregano.

“So what do you think, Son?”

“Who cares?” More than fatigue weighted his voice.

“You know,” Bobby said, “we can make it on day-labor and help from friends like

General Johnson, but not if we had to pay for electricity. Having that Pod is saving our butts.”

“You were afraid of them.”

“Yeah, there's something weird about sucking electricity out of tap water,” Bobby said, “but nobody's getting zapped or polluted. If the rest of the world worked as good as Powerpods, we wouldn't be stuck in this damn recession, that's for sure.”

Everett dumped boiling noodles into a colander and hoped Bobby wasn't warming to a speech. Bobby lived in a world of manifest duties and summary order, from which he imparted his judgments, no extra charge. Everett ladled sauce over a plate of noodles.

“Here you go, Bobby.”

As usual, they ate in silence, until the screen came back to life and Bobby un-muted it. Everett expected another round of the Powerpod commercial, featuring a guy cutting a Pod in half with a giant chop saw, to prove it contained nothing hazardous. This time a smooth-faced white guy with skinny arms and wispy blond hair gazed at them, eager to begin. His flowing white shirt stood open at the collar, sleeves rolled—a pale academic trying to look manly. Except for his eyes, which seemed to draw the light out of the sky and reflect it back, brighter. Ghosts would have eyes that gray.

“Hello. My name is Philip Machen. What I am about to show you is going to change your life, and mine, forever.”

“See,” Bobby said. Everett stabbed the last of his noodles.

“In this introduction, I will show you a Maker and demonstrate it. In the next segment, I will show you how to convert your Powerpod into a Maker, to begin making things you need or enjoy.”

Everett carried his plate to the sink.

“In later segments . . . ” The ghost cleared his throat. “I will describe some of the changes

we can expect Makers to bring, and why you should use your Maker to secure your family in a new and universal prosperity. My webpage and the free Cambiar net-phones I sent to every Powerpod owner contain complete documentation, including a Maker guidebook."

Infomercials sucked, but a movement caught Everett's attention.

A man with hairy arms rolled a Powerpod, still on its delivery cart, to Machen's side. The modifications were bizarre. From the Pod's two broadest sides, and from its top, fluted metal cones protruded at right angles. About a meter in depth and diameter, each jet-black cone tapered to a saucer-sized flange, bolted to the Pod. Hinged metal doors covered the wide ends of the cones. Stadium speakers, it seemed, sprouting from a fat, white tombstone.

"This is our prototype, the world's first Maker. It makes perfect duplicates of anything that fits into its chambers." Machen smiled like a kid with a frog in his pocket.

Bobby blew across the top of his bottle, producing a soft hoot.

"Big deal. It's a 3-D printer."

Everett waved for silence. This wasn't the usual Powerpods spiel. On-screen, the hairy arms passed a garden hose to Machen, who lifted a top-cone cover and directed a stream of water into it.

"Any material which fits in the upper chamber can be used, but water may be the handiest. Consider this water to be the raw material from which you will make your copies. Your raw material does not have to be water or even a liquid. It could be any sort of scrap, from lawn trimmings to sewage, to common dirt. The imperative restriction is that the mass of the raw material in the upper chamber must always be greater than the mass of any item you wish to copy."

"Mass?" Bobby peered down the neck of his bottle.

Everett snatched the remote to increase the volume.

The upper cone overflowed, splashing Machen, who ducked too late and threw the hose aside. He opened a side-cone door. The camera zoomed to reveal a wire shelf spanning the interior. Machen unclasped his wristwatch, held it to show a twitching second hand, and laid the watch on the shelf.

“Place your original item in one of the copy chambers. It doesn't matter which side, except the opposite chamber must always be empty.” He shut the door and reached between the cones, to the Powerpod.

“Then you press the green button.” Which he did.

Hairy Arms retrieved a second watch from the opposite chamber, while Machen removed his original. They held them to show identical straps and faces, with perfectly synchronized minute, hour, and second hands.

How could this not be a trick?

“You may copy anything that fits in the chambers, so long as there is sufficient raw material in your upper cone.”

Hairy Arms brought out an old-fashioned boom-box stereo. One arm steadied the box on a table, while the other pressed a running circular saw against it. With a whine and a screech, it lopped off a jagged corner, leaving the case splintered. Hairy placed this wounded artifact into one of the cones and shut the doors.

Again, Machen pressed his button. Side-by-side, the emergent stereos were identical in every visible respect, including their ripped edges.

“Wonder how they do that,” Bobby said.

Everett shushed him. If anyone could do the impossible, it would be the guy who had already conjured electricity from artificial boulders.

Next, Machen and his assistant copied the circular saw, followed by a baguette of French

bread, a plate of fish, and a wicker tray of fruits and vegetables. Holding up a tiny white speck, Machen waited for the camera to focus on it.

“From a single grain of wheat or rice, anyone with a Maker can feed a city. Copy one grain and you have two. Copy two grains and you have four. Within an hour, you could fill a truck.”

From off-screen, Machen produced a toad in a red-wire cage and placed the cage in one of the cones. A close-up showed the amphibian panting and blinking.

“Never,” he said, “never try to copy a living animal. This means *any* animal. Your Maker will kill it.” He pressed the button. Two cages emerged, each containing a collapsed, motionless toad.

“At the molecular level these toads are identical, but they are both dead. Nothing with a nervous system can survive duplication. If your children try to copy a pet, the pet will die. This is very important. Children must never play with your Maker. In particular, they must never play hiding games in the cones. Maker cones should be locked shut when not in use. Please be careful with living things.”

Everett's stomach churned. How could this not be a trick?

“Duplicate toads,” Bobby said through a belch. He held his bottle at arm's length, swirled it by the neck. “Didn't think I drank that much.”

Machen strolled to a bigger Maker. This one's side-cones exceeded his height, and the towering top-cone, supported by steel struts, cast a shadow. Nestled between the cones, a central Powerpod was jacked waist high.

“As you can see, larger items may be copied by extending the size of the chambers. Among the first things you will want to copy is a friend's Powerpod, along with the cone segments he will need to turn it into a Maker. Copy as many Pods and cones as you wish, and

give them to your friends. Ask them to do the same. In this way, you will help to ensure that everyone who wants a Powerpod or a Maker will have one. It will cost you nothing but the effort to do it." He backed from the machine and faced the camera.

"Then together, you and I will eliminate poverty and scarcity for all time."

Everett froze. His limbic brain, beneath the conscious one, locked every motor impulse against a tectonic shift that it alone detected. Hairy Arms rolled a second Powerpod into view, and Everett held his breath. The narration faded. Hairy jacked his Powerpod chest-high and set a bridge into one of the big side cones. He aligned the rails and shoved a twelve-hundred-pound Powerpod into the chamber. Only when Machen leaned between the struts to press his green button did Everett breathe again. *Thump*, a boulder falling on moss. Then Machen and his assistant extracted two identical Powerpods.

Everett stood. "If that thing is real . . ."

Machen continued, ghost-eyes blazing.

"Just as a lens splits and rejoins patterns of light, Makers split and rejoin patterns of mass and energy. $E=mc^2$. The mass-equivalent energy of the item being copied is drawn into folded dimensions within the machine, where an equal mass-equivalent energy is drawn from the raw material in the top cone. The Maker splits these energies between the two receptor chambers to form perfect duplicates—all in the wink of an eye.

"While a full description of this process requires some advanced mathematics, I assure you there is nothing mystical or supernatural about it. It only looks like magic."

His half-smile blossomed into a grin.

"Makers are not about making more stuff. They are about getting stuff out of our way. As Maker owners convert their goods into free commodities, they will free us to focus our compassion and humanity on improving the world. For the first time, Makers will allow us to—"

Everett wielded the remote to skip the baloney. “Where's the part about setting it up?”

“You going to build one?” Bobby set down his bottle.

Everett found a menu and clicked *Assemble Your Maker*. A training video commenced, and they viewed the first part, learned how to attach the cones. When the voice went on about extending the cones to build a larger Maker, Everett switched it off.

“Do we have—“

“Still in the crate, behind the garage.” Bobby spoke with his fist against his mouth. “I was going to throw them away.”

Everett strode for the door, and Bobby rushed to catch up.

“Do you suppose this thing is for real?” Bobby said. “I mean, if we can copy the copy machine, how will that guy make any money?”

Everett stopped to glare at him.

“Bobby, nobody's going to make toads or wristwatches.”

“Holy cow.” Realization flowed into Bobby's rheumy eyes. “Everybody's got one, everybody's going to get one, and everybody's going to make . . . money.”

They unpacked the parts and lugged them to their Powerpod. Working in the glow of a fluorescent drop light, they assembled and attached the small cones, then filled the top one with water. First, they tried Bobby's wallet.

When Everett pressed the green button, the machine thumped softly, and the house lights blinked. As the drop light flickered back to life, he extracted two identical wallets, containing duplicate cards, identical driving licenses, and two wads of currency. They sat on the damp grass, comparing Federal Reserve Notes: three sets of fives, a pair of tens, and a pair of twenties.

After a moment Bobby couldn't decide. “Which are the real ones?”

Without a word, Everett got up and slipped into the house. He returned with Bobby's

favorite pistol—a semi-automatic, still in its holster—and stuffed it in the machine.

“Stand back, Dad. It might cook off the ammo.”

Bobby scrambled as Everett pressed the button. A louder thump. Again the lights blinked. Identical holsters and pistols emerged, right down to the worn bluing, the scratches, the serial numbers. Even the smell. Disbelieving, Everett hefted one in each hand.

“Son . . . of . . . a . . . bitch.”

Then Everett Aboud, the automatic Arab, pointed his father’s pistols at the lawn and pulled both triggers. The double blast woke every dog in the neighborhood.