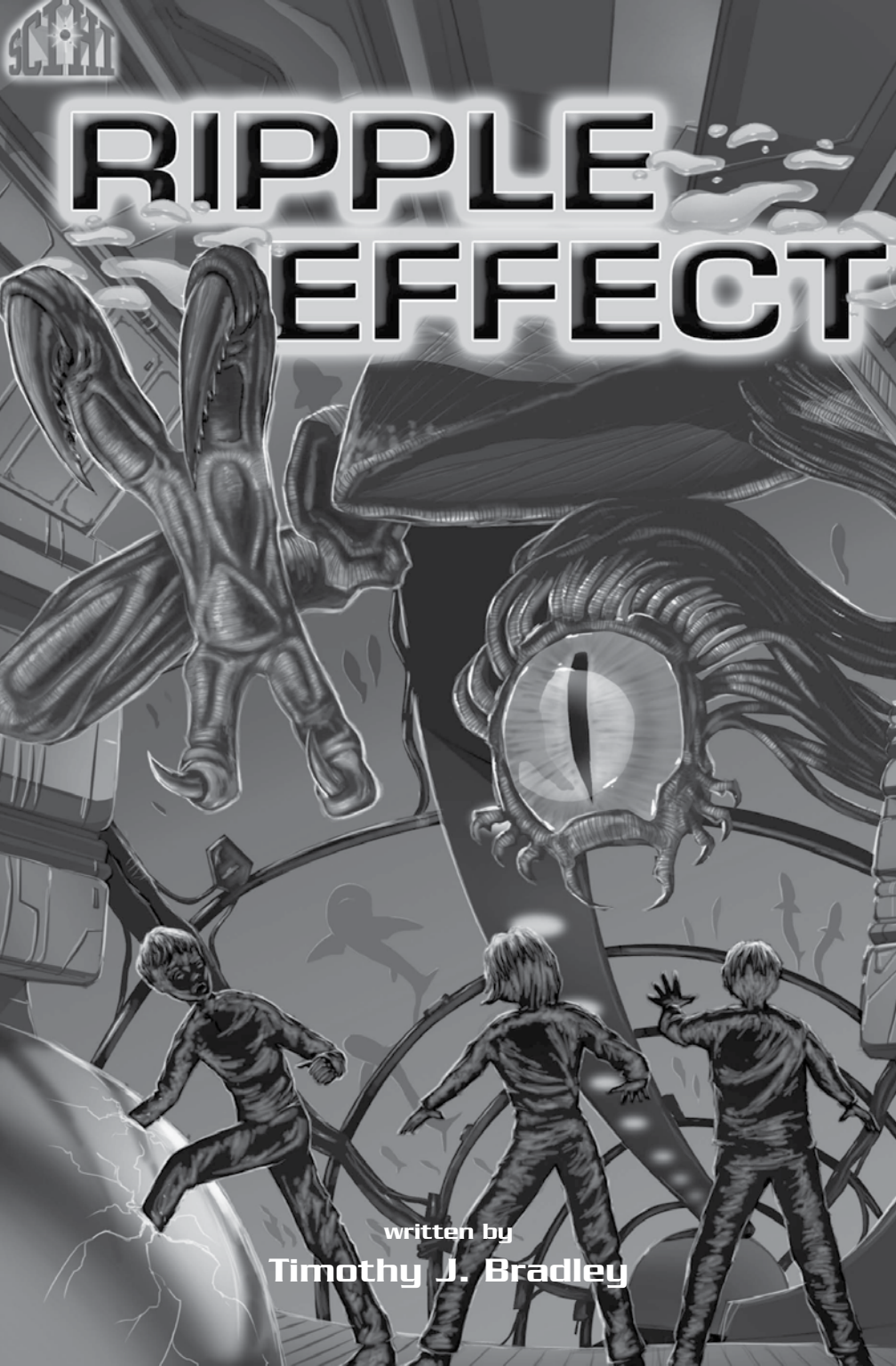

SCIHI
RIPPLE EFFECT
Timothy J. Bradley
BOOK 02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written by
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Prologue

Two small cameras hovered over the audience in the new Genius auditorium on Goddard Island. An elite group of journalists and scientists had been invited to sit in on a private briefing. After signing confidentiality agreements and passing through atomic scanners, they still knew little about why they were there. The rumors were wild, but most speculated that they were there to learn about an exciting new advance in energy technology, an advance that had the potential to change the world.

As the cameras recorded footage of the attendees chatting among themselves, waiting for the briefing to begin, four people appeared onstage and sat at a long table. Behind them, a large image screen lit up with the University of Combined Nations logo. The murmuring crowd went silent as the overhead lights dimmed and spotlights illuminated the people on the stage.

A tall, thin woman with hair just beginning to turn gray addressed the crowd. "Hello, everyone. Thank you for coming. My name is Dr. Delphinia Macron, and I'm a physicist here on Goddard Island. I'm joined by Dr. Benjamin Paradyme,

Dr. Ellen Jamison, and Dr. Rob Jamison. We're here to unveil a new method for generating energy that could potentially repair the damage done by centuries of pollution, volatile greenhouse gases, and aggressive exploitation of the planet's resources. Well, actually, it's a very old method. Stars have used a process called nuclear fusion *for billions of years. We've understood the process for some time, but it has proven very difficult to re-create here on Earth—until now.*

"I'm happy to announce that's the reason we've called you here today. Our team has recently successfully completed tests on a small fusion reactor that has been running constantly for the past month. In fact, it's powering the lights in this auditorium."

The audience was silent. They were hooked.

Dr. Macron continued, "I'm going to turn the meeting over to Dr. Rob Jamison, who will explain the theory behind our working reactor. Rob?"

The young scientist sitting next to Dr. Macron cleared his throat self-consciously, introduced himself, and began explaining the basic fusion process. The image screen behind the scientists was showing an animation of a collection of atoms being whipped around by intense gravity when suddenly, the image broke down into static and the scientists' microphones went silent.

The image on the screen morphed into a strange symbol

drawn in a sickly green color on a black background. The symbol contained a square, a circle, and a triangle nested inside a large circle. One word appeared underneath the symbol: ALCHEMISTS. *The symbol was pulsating on every voxpod in the room. No one in the audience could get a clear signal.*

On the stage, Rob leaned over to his wife, Ellen, and whispered, "Someone's hijacked our press briefing!"

"Who could pull that off?" Ellen wondered warily.

As if in answer to their question, a distorted voice spoke over the auditorium's voicecom. "The so-called scientists who called for this briefing are embarking on a process that will destroy the Earth. Every man, woman, and child should be afraid of the true reason this reckless, deluded group wants to tamper with the very engines of our universe."

Rob shot Ellen a look. Could they know about the windows? The team had agreed to keep that part of their work private—at least until they understood what they were. If they really were what they appeared to be—mysterious windows in space-time, maybe even doorways to other galaxies—then they needed to know much more about them before they made them public.

The monologue continued. "It is we, the Alchemists, who will protect the world from the danger of these mad scientists. It is we, the Alchemists, who will strike back with every tool at our disposal to counter this threat to human survival. It is we, the Alchemists, who will be watching."

With that, the screen dissolved back into static.

The audience erupted in conversation, mystified by the disturbing message.

Dr. Macron traded concerned and bewildered looks with her fellow scientists on stage. They were all wondering the same thing: who are the Alchemists?

CHAPTER 1

Ten Years Later

"Why didn't someone tell me this radiation suit would give me a wedgie?" Fourteen-year-old Sidney Jamison had tried to adjust the bright-orange protective suit every way he could, but he just couldn't get comfortable. "Getting zapped by radiation can't be any worse than this," he complained. He could feel droplets of sweat beginning to form under the snug collar around his neck.

Hari Gupta, Sid's roommate, whispered, "Maybe it would fit better if you didn't have your pants pulled up around your chest."

"Ha! Ha!" Sid grumbled. "Your suit is twelve sizes too big. You look like an idiot, just so you know."

"*I* look like an idiot? *You're* the idiot in this scenario, idiot," Hari said.

"*Stultulo*," Sid teased in Esperanto.

"*Tanga*," Hari shot back in Filipino.

"*Idiootti*," Sid retorted with a grin.

"*Murkha*," Hari smirked. "That's Hindi. Top that!"

"Wait, wait a second..." Sid said, racking his brain for another translation of the word *idiot*. "It's not fair! You speak twice as many languages as I do, so you know twice as many insults."

"Forget it. You lost," Hari said. "Loser."

"*Silencio*!" Penny Day interrupted just as Sid was opening his mouth to reply with *loser* in Japanese. Penny was the same age as her friends, but sometimes she thought Sidney and Hari acted like a couple of five-year-olds. She relied on her natural British accent to sound older and wiser when she needed to keep them in check. "Can't you two keep quiet for more than thirty seconds at a time? I'm trying to hear what—"

"Is there a problem, Ms. Day?" Dr. Paradyme asked sternly as he led the Introduction to Advanced Energy Theory class into a distant wing of the physics lab.

Penny, mortified, replied, "No, Dr. Paradyme. Sorry."

Sid's shoulders shook as he tried to keep his laughter silent. Penny elbowed him in the ribs as Dr. Paradyme continued. "Now, as I was saying...we are about to enter a secure area. This is where the model of the fusion reactor is stored. Everyone, please put your helmets on."

Sid wrestled the heavy bubble-shaped helmet over his dark curls. The helmet's transparent material blocked

atomic radiation but let in light. Sidney could make out the tools in the lab, but the helmet made him feel top-heavy. *I guess I was wrong about this suit not getting any more uncomfortable*, he thought.

The students crowded in, eager to learn what this year's Intro to Advanced Energy Theory class was going to cover.

After looking over the students in their suits, Dr. Paradyme's voice came crisply over Sidney's suitcom. "Very well, we can now proceed into the reactor area." He pressed a button, and a heavy set of doors rumbled aside, revealing a high-arched roof supported by thick beams. The class of thirty students moved into the next room. Talos, the AI, rolled in behind them, stopping just inside the doors.

A single light was focused on a basketball-sized sphere hanging motionless about ten feet off the ground. The sphere's surface was pierced with hundreds of holes. Javelin-like rods pointed at the sphere from all angles of the room, with thick cables wiring them to a small control console against the far wall.

"You're looking at a working model of a fusion reactor. It was designed right here on Goddard Island, nearly ten years ago. I played a part in its construction, as did Dr. Macron and some other young physicists." Dr. Paradyme paused unexpectedly and looked at Sidney more seriously than usual as he noted that last part.

What? Sid thought. *I'm only* thinking *about wedgies—I didn't actually* say *anything this time.*

"As you are all aware," Dr. Paradyme continued, "our planet is running dangerously low on resources. Some metals can be replenished through off-planet operations, such as the automated mining factories out in the asteroid belt. Water exists out in space as well, and robot tugs can bring huge icebergs from the outer planets to Earth.

"However, the one resource that has eluded us has been energy. Past methods involving fossil fuels were costly and polluted the environment. Solar, wind, and hydroelectric power have been with us for some time, but they haven't delivered the high level of power needed to sustain the world's growing energy needs. From fire to fossil fuels and atomic fission, our need for more and more energy has ravaged our planet, destroying land and polluting the atmosphere. We can look to our neighbor Venus to see how this scenario might end." He gestured toward the screen, which showed images of the Venusian surface: a blackened, burned, melted wasteland. "Our civilization is in desperate need of an abundant source of energy that won't destroy our planet."

Dr. Paradyme walked over to the control console on the wall. "Atomic power initially appeared useful. Early nuclear generators used atomic fission to generate energy. As you may know, *fission* occurs when large atoms are split and release

a significant amount of energy. The process worked, but it wasn't efficient enough. The one process that has promised abundant energy is *fusion*, the same process the sun uses to create enough energy to warm our planet from ninety-three million miles away. Instead of splitting large atoms, lighter atoms are fused together to create heavier atoms, releasing enormous amounts of energy in the process.

"The world's first working fusion reactor is about to come online, and I'm pleased to announce our class has an exciting opportunity to take part in this momentous event. Students will be visiting the reactor in the underwater WAVElab just off the coast of Goddard Island, starting in two days' time."

The class buzzed with excitement.

"Small groups of Sci Hi students will live and work on WAVElab, helping the laboratory staff and observing the reactor as it is tested for the first time. This is an extraordinary opportunity and a weighty responsibility. You'll be helping the WAVElab scientists determine the capabilities of the reactor, so let's take a look how it all works," Dr. Paradyme instructed. "Everyone, stand outside the red circle." Sid stepped back. Once all the other students were clear, the professor switched on the reactor. The lighting in the room shifted to blue. "The particle projectors you see pointed at the central chamber are now firing a stream of hydrogen atoms at high speed. And this is where we get into one of

the more amazing elements of this device—a micro black hole lies at the center of the sphere."

Sidney grinned at Hari. They were standing less than two feet away from a black hole. How much more lethal could this class get?

"This is the first time a stable black hole has been created in the lab," Dr. Paradyme continued. "While there is much we don't understand about black holes, we do know that the gravity found at the center of them can be dangerously intense, destroying anything within its radius. After much trial and error, we've found a way to use the extreme gravitational pull of a miniature black hole to speed up hydrogen atoms. At the same time, strong magnetic fields keep the black hole from consuming those hydrogen atoms as they're projected into the reactor."

The particles were much too small to see, but Sidney couldn't help trying to picture what was happening inside the reactor. He drifted away from the group to study one of the particle projectors. It was about ten feet long and segmented, narrowing to a fine nozzle that pointed at the floating sphere. Sidney felt the familiar mental itch he got whenever he was curious. It was the itch that had gotten Sidney into Sci Hi, but it had also gotten him into a lot of trouble.

"When the hydrogen atoms collide," Dr. Paradyme continued, "they fuse and become helium atoms. The act of

fusing the atoms releases energy at a high rate. The energy is collected and beamed to a storage area, somewhat like a battery. I'll bring up a simulation of the process that occurs inside the sphere."

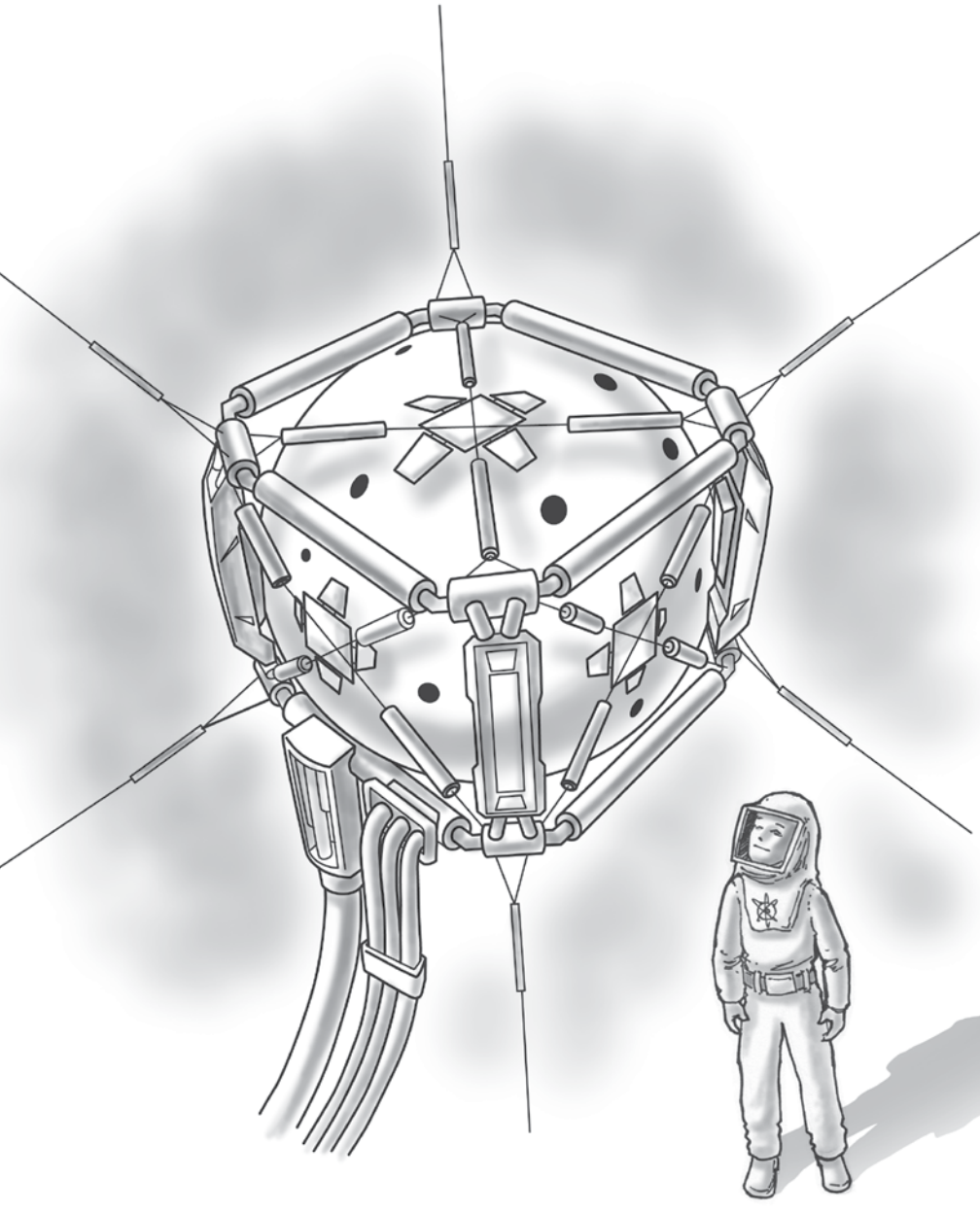
Sidney turned back to watch as Dr. Paradyme opened an image window and tossed it out toward the students. The window enlarged to the size of a movie screen. As particles collided, it showed what looked like fireworks erupting.

The students let out a collective "*ooooh*" as the sparks and particle trails flashed and glowed. The reactor was already producing tremendous levels of energy at the lowest setting, and it clearly had the potential for even more impressive results.

While everyone else in the room was watching the atomic light show, Sidney sidled away to study one of the shaft-like projectors up close, stepping over thick cables to reach it. He ran his hand over the smooth surface, where he encountered a small panel that popped open when he pressed on it. *Totally lethal*, Sidney thought.

Inside, a small touch screen displayed the stats of the projector. Sid studied the readout, which showed the temperature and the rate the particles were being fired at the black hole.

By now, Sid felt as if his brain were crawling around inside his skull as his curiosity reached full strength. He



watched his hand move to the touch screen as if it weren't connected to his body. *What would happen if this baby were cranked up to full power?*

A tiny voice in his mind noted, *This is NOT a good idea*, but in typical Sidney fashion, he ignored it.

Sidney moved the slider to the right to bring the projector to its maximum firing rate. He couldn't see any difference in the projector. But when he looked back at the image window, he saw a heavy stream of particles blasting the spherical chamber, and the particle collisions had increased to the point where the image window was filled with a flickering light. There were so many particles colliding, it looked like a snowstorm.

Wow, he thought, awed by the sight.

He glanced over at Dr. Paradyme, who had jerked in surprise when he realized that the particle collisions had increased dramatically.

Suddenly, the room went from a cool blue to an angry red. A mournful alarm sounded.

Dr. Paradyme snapped at Talos, "Get the students out now! The reaction sphere is destabilizing!"

Uh oh, Sid thought.

The particle projectors were busy making minute adjustments, trying to hold their focus as uneven streams