

THE CYBER PATIENT

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To RF. Always there

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* * * * *

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Prologue

East Berlin, January 1985

Three men sat in a conference room on the top floor of a utilitarian gray concrete building, headquarters of what would soon become the World Wide Multiverse Computer Corporation. Wind-whipped snow beat against the windows, obscuring a view of the Berlin Wall in the distance. The fluorescent lights in the ceiling lit a long chamber, empty except for a mammoth conference table and a dozen hard-backed chairs.

“This is how it operates?” the Director asked.

“Yes, Herr Director. As amazing as it seems, the simplicity, the fact it has never before been detected...”

“When did you discover this, Josef?” the Director said.

“I’ve been working in this area for the past two years. It’s been tantalizing. I’ve been circling around the solution for months,” Josef replied, a tone of deep satisfaction in his voice. “And then, last week. There it was! The answer! A revolution in physics, certainly in the entire concept of computer programming, perhaps even in space travel.”

“This is nonsense,” the third man said, rolling his eyes. He stood and faced the Director. “Mein Herr, you cannot believe this drivel.”

“Sit down,” the Director said. “If true, this is an important discovery. Josef, how can you convince my skeptical companion?”

“I brought three computers here to demonstrate. Please put on these 3-D stereoscopic goggles. Herr Director, you sit here. And you sit there,” Josef said, gesturing to the third man. Then Josef sat down at his computer.

“The fact that our computers are so far advanced—infinately more sophisticated than the crude technology the Americans have, that this man Gates crows about—has made my discovery possible,” Josef said. “I’ve created avatars for each of us. They will guide us to a parallel universe, your own Metaverse, Herr Director. Come.”

“This is insanity,” the third man said. “Really Herr Director, you can’t...”

“Quiet! Josef, is this some crude computer game? I’ve read about them. They’re for children. And do you expect us to believe that you’ve actually found a parallel universe? And that a computer can lead us there? And that you’ve created avatars? I thought avatars needed to be designed by individual players in these games,” the Director said.

“Ah, but this computer program is not a game,” Josef replied. “This program is completely different. It reaches far beyond any computer program ever devised. You’ll see.”

The Director and the third man followed Josef into the computer where they and their avatars moved back and forth, traveling from their dimension into another identical one. Josef proved that he had uncovered a parallel universe accessible via computer, and proceeded to demonstrate the controls that governed the operation. The Director removed his goggles and closed his eyes. He recognized that this discovery could bring him unlimited economic and political power, and allow him to see his dream of a Caliphate rise again. “What do you say now?” the Director said, turning to the third man, who smiled.

“I’m overwhelmed,” he replied. “I apologize for my deep skepticism, Herr Winkelmann. You’ve convinced me. You are to be commended.” He gazed at the Director, who nodded.

“I’m happy you agree,” the Director said. “Tell me, Josef, have you shown this to anyone else? To any of your colleagues? To your supervisor?”

“No, Herr Director. No one,” Josef said.

“Why?” the Director asked. “Didn’t you need some help from your colleagues?”

“No, sir. And I assure you that if you approve this discovery, subsequent upgrades can be made by our programmers working in isolation, unaware of the existence of this parallel universe, if you so wish.”

“Very interesting. But getting back to the fact you worked in secrecy. Perhaps you didn’t wish to share the rewards you’ll get from me with anyone else?” the Director asked, smiling broadly.

“Well, not exactly, Herr Director. I was hoping my name alone will be attached to this discovery when it’s marketed. As a loyal member of the Communist Party, I would take great satisfaction in seeing us eventually topple the West with *my* discovery. The economic and political power...it will be earthshaking.”

“Yes, yes, we’ll see to that,” the Director said, his voice soft and syrupy. “Do you think Josef Winkelmann’s name will be heralded around the world, demonstrating this mighty achievement of communism?” the Director asked the third man.

“Of course,” the third man said, grinning. Then he rose, swung swiftly behind Josef, and severed the man’s right carotid artery with one smooth slice of his knife.

“Nicely done,” the Director said as he jumped back quickly to avoid the spurting blood. “Poor Josef, so intelligent and yet so stupid. Communism indeed!” He laughed. “I will make sure that both the West and communism will become footnotes in history. Make certain that no one else knows of this discovery, and if anyone does...”

“I understand,” the third man said, as he began attending to the disposal of Josef’s body.

1

Almost twenty-five years later, Dr. Lane Robinson found himself on a ship sailing through calm waters. As he walked the length of the enormous deck, he encountered no one.

“How’d I get here?” he said aloud. Four white sails, billowing in the gentle wind, carried the ship forward. On the bridge, he found a bank of computers that furled and unfurled the sails at the push of a button, and recorded speed, latitude, longitude, ocean depth, distance to surrounding land, other vessels in the vicinity, and a great deal of additional information that he didn’t understand as he skipped through a huge manual that lay on the operations desk.

“I’ll be damned,” he muttered. “A high-tech Flying Dutchman.”

Leaving the bridge, he walked aft and entered a library, filled with books set into rich mahogany bookcases and large glass receptacles in which were displayed rows of DVD’s. A computer with a twenty-one inch screen boldly reported: “This is the 400 foot masted-sail-yacht, SUCCESS ONE, with 4 masts, 3 diesel electric generating sets, and 1 electrical propulsion motor; Country of registration: Bahamas; Maximum capacity: 140 passengers and crew.”

Dr. Robinson was about to leave and continue his search of the ship, when a tall, thin man with almond skin and a trim mustache entered. “Good afternoon, Dr. Robinson. My name is Firouz Esfahani. Welcome to my ship.” He smiled and guided Lane to plush chairs, where they sat and faced each other.

“How did I get here?” Lane asked. He focused on the man’s accent, but couldn’t pinpoint his host’s origins.

“My scientists at the World Wide Multiverse Computer Corporation, one of my many international holdings,

have created this virtual world, my on-line role-playing game. I've brought you, or actually your avatar, here. I assume you know about avatars, and I hope you are pleased with this rendition of you."

"Well, yes. But how did you produce my avatar? It's only I who should be able to do so," Lane said, as he looked carefully at this representation of himself. It was as if he were looking in a mirror, catching him, he thought, as he looked in one of his dreams, where he'd find himself having an out-of-body experience.

Esfahani laughed. "Many elements in this virtual world will surprise you."

For the past five years, Lane had created avatars during his development of virtual surgical teaching programs. He knew the term came from the Sanskrit, meaning "incarnation," and that avatars had come to symbolize an Internet user's representation of himself, or herself, in the form of a three-dimensional image employed in computer games such as *Other Life* and *Planet of Warfare*. He also understood that avatars were utilized as online virtual bodies in cyberpunk science fiction stories and novels.

"Now to the business at hand. I need your help, your great expertise. In the reality world, I am quite ill. I need you to operate on me, and it *must* be successful," Esfahani said.

"Forgive me," Lane said. "Why didn't you just call for an appointment? Why take this bizarre approach to get medical care?"

Esfahani smiled, his voice syrupy. "I have functioned in a virtual world for decades, long before the widespread popularity of what the public calls multiplayer on-line games. But unlike these popular games, I have overcome the problem of generalizability, the investigation and design of reliable observations relating to the real world. What goes on here is directly, and I emphasize *directly*, connected to the real world. The foundation of my business interests rests on the trading of commodities, land, equities, currency, arms—anything one can imagine—and always face-to-face

in this virtual world with my competitors—enemies and friends.”

“How does this apply to me?” Lane asked. “The real world is where I function. So, please tell me in the real world, the one that you and I share, what your medical problems are.”

“I’ve lived a secluded life, and have rarely sought medical care. But over the past three years, I’ve become more and more short of breath and tired. I finally went to a clinic in Zurich, where the doctors were quite thorough. Apparently, I have a ballooning out and weakening of the major artery off my heart that sends blood to the rest of the body.”

Lane nodded. “I presume they told you that you have an aortic aneurysm, probably from a disease called anuloaortic ectasia.”

“Yes, and as I understand it,” Esfahani said, “the aneurysm has expanded during the past two years, and the valve...”

“The aortic valve that lies at the beginning of the aorta where the blood is pushed out...” Lane interjected.

“Yes, that valve is now incompetent and results in a massive flow of blood backward into my left ventricle, the big pumping chamber,” Esfahani continued. “So my heart muscle is rapidly weakening. I need surgery to save my life. Am I fairly accurate in the description of my predicament?”

“Probably. But why have you come to me? There are many excellent cardiothoracic surgeons around the world, some of them in Switzerland.”

“You are too modest, Dr. Robinson. My doctors told me that you and your team are the best equipped, the most experienced in the world, to deal with this problem. Now that you understand my dilemma, when can you operate?”

“I need to see the real you, not your avatar, who obviously looks quite healthy, I guess like you used to be.”

“Precisely. But I need a guarantee that my surgery will be successful.”

Lane frowned and his lean figure stiffened. “That’s impossible. There can’t be any guarantees in a situation like this.”

“Would you be willing to do the surgery first in my virtual world, my Metaverse, to see if the procedure will be successful? That you can really do it?” Esfahani asked.

Lane laughed. He had read about the concept of a Multiverse, and a Metaverse as its extension, a parallel universe or universes hypothesized in cosmology, physics, philosophy, theology, and science fiction. “You used the word Metaverse. Are you implying that you’ve discovered a parallel universe? Isn’t that what a Metaverse is?”

Esfahani chuckled. “Dr. Robinson, whatever one wishes to call it, my virtual world is similar to the virtual reality programs you use in your surgical practice, but perhaps somewhat more advanced. Now tell me, will you operate on my avatar?”

Lane shook his head, stood, looked out at the calm seas and mused, Avatars? Metaverses? Is this man a lunatic? Turning, he stared at Esfahani for a moment, and said, “When I examine you in person, in the real world, I’ll give you my answer.”

“Of course,” Esfahani replied. “I’ll arrange for that promptly. Now I’ll say goodbye.”

2

Dr. Lane Robinson's computer screen went dark momentarily, and then displayed a familiar program. Once again, he was sitting at his spacious wall-to-wall desk on which stood three computers, two printers, and a television set. He removed his 3-D goggles, high fidelity headphones, wired gloves, and rubbed his eyes. "What the hell?" he uttered. Was he dreaming? Who was Esfahani? Was someone playing a joke on him? Some computer hotshot with a new multiplayer online game? And how did Esfahani create his avatar?

Just before Esfahani's virtual world intruded, Lane, a pioneer in the development of computer models of surgical procedures and their experimental use on virtual patients, had been working in his comfortable, walnut paneled, book-lined study in Villanova, Pennsylvania, attempting to perfect a 3-D surgical approach to correct a complex congenital heart abnormality. He had acquired extensive experience with virtual reality in order to devise new, specialized cardiovascular surgical techniques by operating on virtual patients with various circulatory illnesses in computer-simulated operating rooms. During these procedures, visual images were projected through special stereoscopic displays onto his 3-D goggles, while tactile information and the movement of surgical instruments were conveyed via specially wired gloves, and sound provided through enhanced Bose stereophonic headphones.

After several minutes, Lane shut off his computer, rose, left his study, and went into his fourteen year-old daughter's room where she lay sleeping. He leaned over and kissed her cheek, then stood gazing at her, with deep affection. She looks just like Elizabeth, he thought. He remembered when Elizabeth told him she was pregnant. How much they wanted this child. How they planned to see

her grow up together. He hung his head, and stood immobile by his daughter's bedside.

Since his wife's death from an aggressive form of breast cancer, three years ago at age forty two, he had tried his best to raise their teenage daughter. He recalled sitting at Elizabeth's bedside several weeks before her death. She held his hand and allowed a thin smile to cross her face. "Lane, my dear. I'm so sorry I'm leaving you. But at least you'll have Samantha. And if you marry again, and you should, make sure whoever it is will love our daughter as we love her."

"No one else for me, Liz. No one. I'll take good care of Samantha, please know that for all time." But the pressures of his demanding surgical practice interfered, filling him with guilt, torn between love for his daughter, and the professional life he had worked so hard to build.

In the months immediately after his wife's death three years earlier, he had often considered leaving his position as professor and chief of cardiothoracic surgery at Philadelphia's Ben Franklin University. At that time, he was forty-seven years old and wealthy enough to retire and live comfortably. However, so much of his ego, his persona, was encased within his surgical life. Abandoning that life bordered on suicide.

He recalled expressing his concerns to his close friend and neighbor, Peg Northrup. "Lane, you need someone to come in and run your house and look after Samantha."

"I agree. But that's a tall order," Lane replied. "For the past five years, Liz and I have had a nice lady who comes in to clean once a week. But she isn't the kind of person you're describing. Where am I going to find someone like you're suggesting? A person like that, someone with that kind of background, will be awfully hard to locate."

"Let me make some inquiries. If that's okay with you?" she said.

"Of course, Peg. I trust your judgment."

Several weeks later, Peg Northrup called Lane at his office. "I think I have just the person you're looking for," she said. "Her name is Holly Smith. A social work friend of mine told me about her. I met with her and was impressed. Do you want to talk to her? I have her phone number."

"Sure, Peg. Give it to me. I'll let you know. Thanks a lot."

Lane met Holly Smith a week later. He liked her almost immediately. "Mrs. Northrup speaks very highly of you," he said as he led her into his study.

She smiled and thanked him. Then she viewed all the information technology displayed around the room and said, "I see you're quite interested in computers as well as surgery."

"Yes, it plays a significant role in planning operations on patients with complex surgical problems," Lane said. "Are you interested in computers?"

"Yes, although in different ways, I'm sure. We needed topflight IT in managing the agency we worked for," she replied.

Lane asked her about her background and learned that she had been a social worker for thirty-five years, and during the last fifteen, was director of the largest private child-welfare agency in the state. Now she had been retired for two years.

"I must admit that I knew little about how our home was run," Lane said. "As you probably know, my wife died a year ago. She had taken complete charge of everything until two months before she died. So I don't know what a housekeeper does. My view is that in this particular case such a person would function as a manager, oversee everything that goes on, and if possible prepare the meals. No heavy work, of course. And I'm prepared to hire anyone who the housekeeper needs to help from time to time. Am I making sense?"

"If I were to consider taking this position, I'd want to do the job for a couple of months, try it out, see what needs

to be done, find out if you, your daughter, and I are all comfortable with the situation,” she said.

Lane nodded. “I agree, a very practical suggestion. Now let me ask you, why would you want to take on this kind of responsibility? Why not enjoy your retirement?” he asked. “And one more thing. If you did come here, in addition to carrying out your household duties, I’d want you to keep an eye on my daughter, Samantha. You know, make sure she eats well, gets to school on time, who her friends are, her school work...”

Holly Smith, smiled warmly. “Dr. Robinson, to look after your daughter will take more than that. I understand your concerns about her, believe me. I brought up my two girls alone after my husband died. Now they’re grown up and married. One is living in California and the other in Iowa. You asked why I might be interested in this position. You see, I didn’t want to live with either of my daughters and impose myself on their lives, although they both wanted me to join them. I grew up in Philadelphia, and I have many friends in the area. I didn’t want to move away. So, when I retired, I sold my house, and moved into an apartment in Bala Cynwyd. I traveled a lot overseas and here in America, visited with my friends, went to New York to see Broadway shows. But then I became bored. After all those years as a social worker dealing with real-life problems and the responsibilities of running a big agency, I needed something more in my life, a real challenge. This position could be a great opportunity to feel wanted again, to live in a beautiful home with a lovely girl, and a person like you. Please don’t worry. I’ll do my best. I appreciate how difficult it is for you—a busy surgeon trying to raise a teenage girl by yourself. I’ll look after Samantha, bring any problems I see to you, and sort of be a grandmother figure for her.”

At the end of the interview, Lane hired the sixty-three year-old widow as a full-time housekeeper. He never regretted that decision. Holly brought a calm and ordered atmosphere to the household, and a common sense approach to the occasional conflicts that arose between father and

adolescent daughter. Now after two years, Holly had become an integral part of the family, a surrogate grandmother, and Samantha adored her.

He sighed, and began to tiptoe out of Samantha's room, when she opened her eyes and said, "Dad? Anything the matter?" She sat up and turned on her bedside lamp.

"Honey, I'm sorry I woke you. Go back to sleep," he said, retreating to the door again.

"Hey. Come back. Sit down. What've you been doing?"

He sat down on her bed and told her about his encounter with Esfahani.

"That's a creepy way to get an appointment with you."

"Yes, sure is. You have any ideas about how he could create something like that?" Like so many other teenagers, Samantha spent hours playing computer games, some of which were quite sophisticated. She had become so skilled that Lane often asked her for help in the design of his virtual programs.

"Sounds a lot like *Other Life* to me," she said. "You know, with avatars and all kinds of interesting places to own, just like this man's personal ship. You've visited *Other Life*, haven't you?"

"Not since 2003, when it first came on-line. The most interesting thing I remember about it was how to create avatars. On this man's ship, my avatar really looked like me, moved like me, in some ways looked like I did a couple of years ago. Amazing."

She jumped out of bed, turned on her computer, and started up *Other Life*. "Here, look at my avatar going into my favorite spot, The Chocolate Inn."

Lane played the game for several minutes, using her avatar. Then he stopped, turned to Samantha, and said, "This is strange. Sure, there are similarities—but his virtual world seemed much more real. My avatar moved so smoothly, not like avatars in a computer game, and more smoothly even

than in my virtual operations. I tell you, it was as if I were in the computer.”

“That’s weird. Maybe he’s developed a more advanced game. Tomorrow I’ll see if any new games have come on line,” she said, as she shut off her computer, jumped back into bed, and turned off her light. “Love you. See you in the morning.”

“Good night, dear. Love you, too,” Lane said as he closed her door, and walked back to his study.

3

The Benjamin Franklin University Medical Complex consisted of a disparate group of buildings. Some dated back to the 19th and early 20th centuries, and stood side-by-side with recently erected state of the art facilities. This medical campus covered two city blocks from 34th to 36th Street, and back from Spruce Street to Hamilton Walk, Curie Boulevard, and Civic Center Boulevard. The newest medical edifice was The Tower, at 34th and Civic Center Boulevard, which housed the Center for Advanced Medicine, where Lane's surgical department was located on the top floor. Beyond the Medical Center stretched the University, where ivy covered buildings encompassed many acres of West Philadelphia.

The next day between surgical cases, Lane sat in his office and roamed the Internet in an effort to learn more about Esfahani. He discovered that Esfahani had been born in Egypt, son of a wealthy Iranian merchant. He was fifty-five years old, lived in a five hundred acre estate in Switzerland, and ruled an international corporate empire that included World Wide Multiverse Computer Corporation, Amazon Munitions Corporation, Asian-Pacific Pharmaceuticals, Transnational Communications, and the Farworlds Satellite Consortium. He was also rumored to be among the ten wealthiest men in the world, and some believed that much of his wealth was hidden.

Lane yawned, stretched his tall, thin, stoop shouldered body, and stood up. He massaged his back in an effort to quiet the dull pain caused by years of standing for long hours in the operating theater, and then walked off to undertake a difficult ten hour heart-lung transplant operation.

Two weeks later, Esfahani appeared at the Ben Franklin University Hospital multistory Tower for his appointment with Lane. He arrived in a wheelchair, and was

transported through the hospital lobby surrounded by aides and five bodyguards who commandeered an elevator. The entourage rode up to the surgical floor and made their way to Lane's office.

Even before examining the patient, Lane recognized the man's desperate cardiovascular state. *He's quite ill. Lost lots of weight. Short of breath. Carotid arteries pulsating. Head's bobbing slightly. Bad aortic regurgitation.*

After the examination, Esfahani entered Lane's consultation office accompanied by two people. "Dr. Robinson, let me introduce my secretary, Ms. Margo Tancredo, and the COO of Esfahani Industries, Mr. Dieter Grossmann." They both nodded at Lane.

Lane scrutinized Esfahani's companions. The woman looked to be perhaps thirty-five or forty, with dark hair and deep green eyes. The man was short, muscular, about fifty, with coarse, fleshy features and coal-black eyes that stared intently at Lane.

"Mr. Esfahani, after examining you and reviewing the radiologic and heart catheterization studies done by your doctors six weeks ago, I concur with their diagnoses. You have a large aortic aneurysm, and as a result you have a serious backward leak through your aortic valve. Fortunately your coronary arteries are normal, and therefore will not need bypasses. You require prompt surgery to remove the aneurysm and replace it with a composite graft, a tube with an artificial aortic valve at one end. It'll be a risky surgical procedure. The changes in your aorta are far advanced. The aortic tissue is almost certainly friable—crumbly and brittle. So operating in this area will be difficult. The mortality rate in a situation like this is high—30 to 40%, maybe higher. And even if you survive, there are many postoperative complications, such as heart failure, hemorrhage, and infection. I'll agree to do the surgery, but you need to understand the dangers."

"I find the risk unacceptable, although I admire your frankness. When we met on my ship, I asked you about doing the surgery in my virtual world. Will you?"

“If you insist. But you’re wasting time. You need prompt help in the real world.”

“Success in the virtual world doesn’t guarantee success in the real world. But failure in the virtual world...that suggests failure is likely to occur in reality, does it not?” Esfahani asked.

“Perhaps. It’s difficult to say.”

“So, can we go forward tomorrow?”

“I’ll need to set up a virtual operating room, develop avatars for nurses, technicians, surgical colleagues to help me...and a patient. Your avatar was young, healthy...”

“Dr. Robinson, you’ll have the best operating room in cyberspace, and a sick patient upon which to exercise your considerable skills. Allow Mr. Grossmann and Ms. Tancredo to meet your assistants, and I assure you, you’ll have an excellent team.”

“But how...”

“You have your special skills, Dr. Robinson. I have mine. I’ll see you in cyberspace tomorrow. Be ready. Do well.”

After interviewing and subjecting Lane’s real world surgical team to their avatar encoding device, Margo Tancredo and Dieter Grossmann faced each other in a flat, dead silence.

Finally, Margo spoke. “I don’t like this. I’m uneasy about being in the United States. What if...”

“I agree,” Grossmann interrupted her. “But what can we do? Firouz wants this surgeon. We should have stayed in Switzerland. We are in for trouble. We need contingency plans.”

“Of course. But how long can we go without being detected? And do you trust this doctor? This is crazy.”

Grossmann’s eyes became distant and hard. “We will discuss this with Firouz tonight. Robinson is alleged to be a superior technician. And like most Americans, he is unlikely to be suspicious. But we’ll need to watch him carefully.”

They left to find Esfahani.

4

Back in his quarters on the SUCCESS ONE, Esfahani reclined in a comfortable lounge chair beside which stood an oxygen tank connected to his nasal cannulae. Despite the oxygen, he was short of breath. Against his doctors' orders, he sipped a twenty-five year old Scotch whisky.

"What's troubling you, Dieter?" he asked.

Grossmann and Tancredo sat across from him. They had spoken at length with each other before coming into the meeting, and had agreed to try to dissuade Esfahani from going through with his plans for surgery in Philadelphia.

"Please, Firouz. There are too many problems with surgery in the United States. Have it in Zurich. We can control events there much more easily."

"But the most important event is my survival. Can you control that best there?" Esfahani said.

"Even Robinson said there are excellent cardiovascular surgeons in Zurich. So, I investigated the qualifications of a doctor Heinrich Burghaber. He's one of the finest in Europe. He operates at the Zurich Heart Institute. His credentials and results are impeccable. Make it easy for you and us—so we can provide you with ultimate protection. Get the surgery there." Grossmann turned to Tancredo. "Don't you agree?"

"Absolutely. Going to the United States is madness. You know you're wanted by the CIA—if they catch you, they'll kill you. It's a miracle we weren't apprehended at the hospital today. Without the Metaverse, and the fact the Americans are afraid to spark an international incident by sending a death squad into Switzerland, you'd..."

Esfahani interrupted her. "By this time you should be convinced we can move quickly when there's danger. Remember our recent visits to Gaza and Ramadi? In and out, unscathed, right?"

“We were lucky,” she replied. “Our luck is ready to run out. I sense it.”

“Woman’s intuition?” He chuckled. “No, I think we’ll be all right. We just needed to plan very carefully, and I think we’ve done that.” His breathing became more labored, and he increased the oxygen flow.

“You’re so stubborn, Firouz,” Grossmann said, standing and beginning to pace. “I don’t trust Robinson. I don’t trust any of his colleagues. I agree completely with Margo. It’s just a feeling I have. He doesn’t convey a sense of caring about you as a person. To him you’re just a damn aneurysm. I’m not sure he’ll do his best. Now you can accuse me of having woman’s intuition, too.”

“Dieter, we’ve already decided how to make sure he’ll do his best,” Esfahani said.

“No matter. I vote for Zurich,” Tancredo said.

“This is not a democracy, my dear,” Esfahani said, with a frown. “I have all the votes. Now, let us discuss our plans once more. Robinson is to operate on my avatar tomorrow. That is plan A. If the avatar dies, we’ll go to Zurich, I promise you. But if he succeeds, and I think he will, we go to plan B—the girl. If that should fail, and I can’t believe it will, we go to plan C.”

“That’s going to be so difficult. It’s too complicated. It will require manpower,” Grossmann said.

“So, put our soldiers on standby, ready to move when we need them. That’s the beauty of the Metaverse,” Esfahani replied. He began to cough, and needed to sit forward. He spat up some blood-tinged mucus.

Grossmann and Tancredo rushed to his side, but he waved them away. “Look at me. I’m dying. Don’t you see? Robinson put my risk at 30-40%. I tell you, it’s much higher than that. I have very little chance of making it through the surgery. That’s why I want Robinson. Whatever you think of him, my intuition...” He stopped and smiled. “Yes, my intuition tells me he’s the only one who can save me. We shall see. Now back to plan C. We need to bring explosives with us if that plan is to succeed. We have those miniaturized nuclear

devices and the pocket-sized conventional explosives. They need to be brought in by the soldiers. Stop worrying. Look here, I appreciate your concern, both of you. You have my sincerest thanks. Now let me rest.” He closed his eyes as Grossmann and Tancredo left.

Out on deck, they stopped and surveyed the sun setting into the calm Mediterranean, and felt a warm breeze. They remained silent for several minutes, each deep in thought.

Tancredo interrupted the stillness. “I still think this is madness.”

Grossmann gazed at her, shrugged, and left.

5

The next morning in his office, Lane and his surgical team sat in front of their computers, wearing 3-D goggles, headphones, and wired gloves, ready to operate in Esfahani's Metaverse, his universe within a universe. Inside the computers were three lasers—red, green, and blue. The three colors combined with variable intensities to produce light beams of varied colors. By the use of electronic mirrors inside the computer, the beams of light swept back and forth across their goggles, resulting in 3-D images that hung in front of each one's view of reality. Stereo digital sound was sent through the headphones, and tactile information transmitted through the wired gloves, allowing them to manipulate the action of their avatars' hands. Thus, Lane and his colleagues felt as if they were in the computer rather than in his office.

To his amazement, Lane found himself, or rather his avatar, in a fully-equipped operating room, with the avatars of his nurses and technicians; his anesthesiologist, Greg Townsend; and one of his surgical partners, Don Phillips. And on the O.R. table lay Firouz Esfahani's avatar—short of breath, pale, appearing chronically ill—indistinguishable from the “real” billionaire. Lane recognized that this was much more complex than any virtual reality program he'd ever seen. Maybe he really has discovered a true Metaverse, an actual parallel universe, Lane thought.

Greg Townsend anesthetized Esfahani, Phillips made the sternal incision, and the operation began. The nurses and technicians placed the patient on cardiopulmonary bypass to provide blood flow to the brain and other vital organs and applied a cold cardioplegic solution to the heart to stop it and protect it. After Lane and Phillips removed the aneurysm and excised the wide open and incompetent aortic valve, Lane sutured into place a composite graft with a bioprosthetic

valve at one end. The remaining aorta was sewn around the graft, and the coronary arteries were sutured into appropriate openings made in the composite conduit. As Lane suspected, the crumbly, brittle tissue made the operation technically difficult.

After completion of the five hour operation, Esfahani's avatar was taken to a fully equipped virtual cardiothoracic intensive care unit for monitoring. Satisfied that the patient was stable, Lane and his team shut off their computers. After the others left, Lane closed his eyes and felt more exhausted than he could ever remember. *Good God, I've still got two real cases today.* He got up slowly and walked to the operating rooms.

6

Has Esfahani really tapped into some alternate reality? Did I actually operate there? I've got to find out more about this multiverse concept, Lane thought as he entered the physics building at BFU to meet Dr. Conrad Gilmartin, chair of the physics department and a noted quantum theorist.

"Do come in, Dr. Robinson," the rumped and slightly rotund physicist said, ushering Lane into his office. Books and manuscripts were scattered on the floor beside his desk. Across three walls were floor to ceiling bookcases filled with scientific tomes.

"Thanks for seeing me, Dr. Gilmartin. I'd like to get to know a little more about the concept of multiverses and metaverses. Most of my knowledge on the subject is related to computers and, I must confess, science fiction."

Dr. Gilmartin's bushy eyebrows rose, and he stared hard at Lane. "I'm fascinated. Why does a cardiac surgeon like you need to know about such arcane matters?" Lane related his experience on Esfahani's ship, and in the tycoon's virtual reality operating room.

Gilmartin frowned. "Do you really believe this fellow has tapped into a parallel universe?" He chuckled. "If so, he should immediately get the Nobel Prize in physics, and then he can have my chair. But to be serious. No, I don't think it's possible. However, I'll be happy to discuss the concept of parallel universes with you, albeit, by necessity, in a most superficial manner. Of course, if you'd like to take classes in my department..."

Lane laughed. "Not at this time. Perhaps when I retire. But please, give me enough information to understand these concepts."

"Let's start with definitions," Gilmartin said. "Multiverse is a term used to indicate the existence of multiple

possible universes, including ours, that together make up all of physical reality. The different universes within a multiverse have been called parallel universes, also called alternate universes, quantum universes, parallel worlds, or alternate realities. Multiverses have been hypothesized for decades in cosmology and physics, as well as in philosophy and theology. In fact, physicists and astronomers have postulated as many as four distinct multiverses. But that's getting much too complicated to discuss now.

"The name metaverse was coined some time in the 1950's by Ervin Laszlo, a Hungarian philosopher, system theorist and integral theorist, who used the term as an extension of the multiverse, to signify all universes past and present. He theorized that there is a fundamental energy and information carrying field that informs our universe as well as all universes, past and present, that is, the metaverse. His theory is that this informational field explains why our fine tuned universe has formed galaxies and conscious life, and why evolution isn't a random process. He believes his theory is the bridge between science and religion."

"So you're saying that this is an accepted concept?"

"Hardly. Sir Martin Rees, a well respected cosmologist and astrophysicist at Cambridge, and currently Astronomer Royal of Britain, insists that the multiverse theory is potentially as revolutionary as the shift from the pre-Copernican idea that the sun and planets revolved around the Earth to the proof that the Earth orbits a typical star out on the edge of the Milky Way. But there aren't many in the field that accept the multiverse theory, and there are some that consider it rubbish."

"What's your perspective?" Lane asked.

"First let me give you a little background," Gilmartin said. "Some stars with enough mass can collapse on themselves and form what have been called black holes, and within these black holes is a point called a singularity where all physical laws might not exist."

“I’ve read about black holes,” Lane interrupted. “I understand black holes have been discovered, including in our galaxy.”

“That’s correct,” Gilmartin replied. “Now, where was I? Oh, yes. Einstein’s theory of relativity is unable to explain the effect singularity would have on an object. From this uncertain state, many theories have been postulated surrounding singularities, including that beyond singularity there are tunnels, or short cuts, to other ends of the universe, or even to parallel universes. These wormholes, as they’re called, might solve the problems of interstellar travel. But there are problems with the theory. The gravitational forces in a black hole would crush any spacecraft. So, the theory of singularity is questionable, but there’s another theory about black holes that has been more accepted, a completely new concept about our universe.”

Lane squirmed in his chair. *I wish I had read more about this before coming here. Over my head, I’m afraid.*

Gilmartin continued. “At the point of singularity, it’s impossible to predict physical behavior. This might mean that beyond the point of singularity, there’s an entirely new set of physical laws. It’s possible that beyond singularity, there might be no basic forces such as gravity, electromagnetism, or the weak and strong nuclear forces. If just one of these forces didn’t exist, or was changed, our universe couldn’t be as it is now. If a basic component of our physical laws were altered, nothing as we know it could endure. So, given the small chance for things to turn out as they did, to be our universe, it suggests that it might be awfully difficult for things to ever duplicate themselves, and the idea of a multiverse might never be more than a theory.”

Lane leaned back in his chair and shook his head. “Are you saying it’s impossible for parallel universes to exist?” Lane asked. “And therefore that Esfahani couldn’t have found access to a parallel universe through his computer?”

“No,” Gilmartin said. “Let me go on. The multiverse theory describes the repeated birth of universes from the

collapse of giant stars, which then form black holes. With every black hole there's a new point of singularity and a new possible universe. Every universe begins with its own big bang, develops its own individual physical laws as it cools, and forms its own cosmic cycle. From this point of view, the big bang that ushered in our universe is an infinitely small part of a complex structure extending well beyond the range of any telescope. And although the concept of parallel universes might seem far-fetched—and this might be of interest to you—at least one Oxford physicist has suggested the possibility of tapping in on parallel universes, that through a parallel universe one computer might be able to discover an identical counterpart computer from another universe and collaborate with it to enhance the knowledge of the other universe. But I must say, the idea is awfully far-fetched, and obviously flies in the face of our present-day scientific knowledge.

“I won't say anything is impossible. In this case, almost impossible. For example, there are individuals on the fringe, some with excellent credentials, who believe in something called the synchronized principle, which states there can be many parallel universes superimposed on ours, and that these universes are different only in the frequency of their synchronization. Thus, when synchronization is shifted such parallel universes can be detected and communicate.”

“But you think this is nonsense?” Lane said.

“Well, yes and no,” Gilmartin replied, lighting his pipe, which he had been packing with tobacco intermittently during the discussion. He now filled the air with a delicious smell. “Hope this doesn't bother you, the smoke I mean. Have to do it when I can—only place is my office. Everywhere else it's smoke-free.” He paused and smiled at Lane. “I guess I haven't helped you, have I?”

“No, no, this hour has been very instructive. I really appreciate your time,” Lane said. “But I must admit, the concept is awfully hazy, almost crackpot.”

“No. Not crackpot,” Gilmartin said. “There are plenty of cosmologists like Professor Rees who take the idea quite

seriously. So do I. But we see it as an unimaginably large cosmic theory. It's hard to imagine it applicable to what sounds almost like a complicated computer game."

He stopped, smiled, and said, "I have an idea. You should speak with one of my faculty—Ephraim Zanger. Have you heard of Schrödinger's Cat? The cat in the box, dead and alive at the same time?"

Lane laughed. "No, I'm afraid not."

"Zanger has used the concept of Schrödinger's Cat to study decoherence and the quantum—classical transition."

"Dr. Gilmartin, you're way over my head."

"Sorry. In the simplest terms, Zanger is trying to prove it is possible to be in two places at once. You see that's what you're saying this person, Esfahani, is doing—being in two places at the same time. You must talk to Zanger."

Lane nodded. "Thanks a lot. I'll contact him as soon as I can. Perhaps when my surgical demands lessen with time, I'll accept your invitation to take courses in your department." He rose, as did Gilmartin, they shook hands, and Lane left.

As he walked across the campus, Lane reflected that there was more to life than cutting and stitching, a whole universe to explore, or maybe many. He wondered if Samantha would be interested in these cosmic mysteries. He promised himself he'd discuss it with her someday soon.

Three days later, just after concluding a double valve replacement operation, he received a message to call Holly.

“Lane, I’m worried. Samantha hasn’t come home from school. She should have been back an hour ago. She told me she was coming right home when she left this morning.”

“Perhaps she went over to a friend’s home. Call her cell phone.”

“I did. Her phone is off. I left a message twice asking her to call me. She rarely turns her phone off. You know, she’s always talking or text messaging.”

“Call some of her friends. I bet you’ll find her. Get back to me if you have no luck.”

He hung up with a sense of uneasiness. Maybe I should go home, he thought. Oh, well. Holly will handle it. I’ll need to have a talk with Samantha. She needs to be more responsible.

As he scrubbed, preparing to operate on a seventy-year-old man who required a quadruple coronary bypass, he called to one of the nurses. “Patty, call Dr. MacFarland. Find out if he’s got any more cases today. If not, ask him to come in. I need to speak with him.”

When Tom MacFarland arrived, Lane said, “Tom, would you scrub in with me, just in case I need to leave in the middle of the operation? Possible trouble at home.” He explained Holly’s concerns.

“Sure,” said MacFarland. “Anything to help the chief. Does this mean you’re putting me in for a raise next year?”

“Fat chance,” Lane replied. They both laughed.

“Let’s go back and review the videotape of this guy’s coronary anatomy,” Lane said. “Bad disease, but clearly

operable.” After viewing the films, they returned to the operating room to begin the surgery.

They were implanting the internal mammary artery into the anterior descending coronary artery, when a nurse entered the O.R. and told Lane there was an urgent message from Holly. He broke scrub and called her.

“Lane, she’s not home yet. It’s after six. I’m really worried. I spoke with several of her classmates. They haven’t seen her.”

“Okay, Holly, I’m coming right home.”

After informing MacFarland, Lane dashed out and drove his car into rush hour traffic on the Schuylkill Expressway. *Damnit. I wish I had gone home when Holly first called.* He cursed the old, inadequate highway, which linked Center City Philadelphia and its suburbs, now choked with cars. Arriving home almost an hour later, he was met by Holly, who held a letter in her trembling hand.

“This just came. Someone pushed it through the mail slot, and then left in a black car. I didn’t see his face, and couldn’t read the license plate number.”

Lane read it, blanched, and felt his heart pounding:

“Your daughter is safe. Please turn on your computer and use the password metaverseonfire.”

Lane raced to his computer, turned it on, used the code, put on his 3-D goggles and headphones, and watched as Esfahani’s virtual world appeared on the screen. Lane saw Esfahani’s avatar patient sitting up in bed, smiling.

“Ah, Dr. Robinson. See, you did a fine job. I’m feeling much better. Now, let us speak about your daughter. She is in a safe place. I assure you, we are taking good care of her. And she will remain safe as long as you follow some simple instructions. First, tell no one about this. If you disobey this order, you’ll never see your daughter again. Next, you are to operate on the reality me as soon as possible. If I survive the operation, and experience no

significant complications, on the fifth day after surgery, your daughter will return to you alive and healthy. But if I do not survive, or am incapacitated for any reason, she will die. Now I'm tired. Goodbye. I'll see you tomorrow." The program vanished from the screen.

Lane ripped off his glasses and picked up the telephone to call the police and the FBI, then hesitated. He weighed the dreadful choices confronting him. Esfahani will kill her whatever I do, unless I get him through his damn surgery. If I go to the FBI and police they might not buy my story. And even if they do, the bastard will deny it, and he'll kill Samantha.

He collapsed into a chair and gazed blankly at the wall. Then he saw Holly standing in the doorway, her frightened eyes staring at him. "What's happened? What's happened to Samantha?" she asked, her face pale and drawn.

Lane confided in her, emphasizing that Samantha's safety depended on complete secrecy. "If her friends or the school call about her, tell them she's ill and can't speak to anyone."

She nodded. "I understand."

Lane continued to wrestle with an urge to call the police. He paced back and forth across the room, his thoughts raging. He can't get away with this. He wouldn't dare kill Samantha. Oh, my God. Samantha, Samantha. What should I do? If only Elizabeth were here.

Later, Holly returned to Lane's study and found him with his elbows on his desk, his hands covering his eyes.

"Lane, can I do anything? Do you want something to eat? Some tea? You like that green tea. It can be very calming," she said, her voice tense.

Lane looked up, and a thin smile crossed his face. "Sure, some tea would be great." Then suddenly, he blurted out, "Holly, what should I do? Should I call the police? But what if I do, and they kill her?"

"Oh, Lane, I don't know." She sat down and folded her hands as tears filled her eyes. "Our poor Samantha.

What's happening to her?" She remained silent for several moments, and then reached out to touch his hand. "I...I just don't know what to say. Maybe it's best to do nothing tonight. Perhaps what you should do will be clearer in the morning. This man, Esfahani, must be a devil, a creature without conscience. But from what you told me, he needs you, and he has promised to return Samantha if..."

"Yes, 'if.' If he lives after the operation. And even if he does, can he be trusted? Of course not. In the end, I'll need to get the law in here. But perhaps you're right. Perhaps things will be clearer in the morning."

8

Esfahani entered the Benjamin Franklin University Hospital Tower early the next day, unannounced. Severely short of breath, pale and sweating, and with a low blood pressure, he appeared in a near-shock state. Since he was too ill to be in an unmonitored room, he was admitted directly to the cardiothoracic surgical intensive care unit.

With the glass door of the cubicle shut, and the nursing staff outside, Lane, his eyes icy and full of hate, shut off Esfahani's oxygen supply. He confronted the billionaire, who lay propped-up in a semi-sitting position. As a physician, Lane's Hippocratic Oath had said to do no harm, to care for any patient, no matter who, under any circumstances. He felt disgusted with what he had just done with the oxygen, with his desire to kill the man. But the love for his daughter...

"You goddamned son of a bitch, you animal, you pig, what the hell have you done with my daughter? If you hurt her..."

Esfahani laughed, and began coughing uncontrollably. Finally, he spoke and replied in short, panting, barely audible words—"Dr. Robinson, don't threaten me...You can't hurt me...I'm sitting here already dead...if you resurrect me, you'll be like God...and I'd never harm God's daughter...To you I am a repugnant person...physically and morally...but I must live...much depends on my survival...the Caliphate must be born again." Esfahani paused and tried to catch his breath, to control his lightheadedness.

Lane stared at his patient. *The Caliphate? What's he rambling about? What's this got to do with Samantha's kidnapping?*

Esfahani sat up and leaned forward, breathing rapidly, his lips blue, his face pale. "You did a splendid job with my avatar...but I needed an insurance policy...to make

certain you'd do your best in the real world...so now my life and your daughter's are in your hands...a cliché to be sure, but the truth. I promise you, your daughter will live, unharmed, if I do. Now please give me back the oxygen." He fell back and closed his eyes.

Lane gazed at Esfahani for several moments, and then restarted the oxygen, his hand trembling as he turned the stopcock. He tried to forget the monster he had just confronted, and instead, stared at a dying patient who urgently needed his surgical skills.

Too distressed to operate, Lane canceled his cases for the day and returned home late that morning. He tried to assess the situation objectively. Despite Esfahani's poor condition, it was essential that the surgery be postponed for at least two days. Lane needed to have a minimum of ten units of blood carefully crossed and typed in the blood bank for possible use during the operation, as well as additional laboratory studies and another MRI of the chest. He hoped to use these forty-eight hours to somehow find Samantha before he was forced to operate—but how? I'm convinced the way to defeat this bastard is through his on-line game, he thought.

He went to his computer and attempted to log into Esfahani's Metaverse. Thank heaven he didn't change the code, Lane reflected. With goggles and headphones in place, he found his avatar in Esfahani's virtual hospital. By means of optical camouflage, which Lane had used in his virtual surgeries to see through his hands and instruments to the patient's underlying tissue, he clothed his avatar in a garment that looked like a hooded raincoat made of metamaterials that reflected light—an invisibility cloak.

Now Lane began a reconnaissance of the place, starting with a look at Esfahani's sleeping avatar, whose monitor showed a normal rhythm and blood pressure. Lane assessed the location of the nurses and orderlies, and avoided them as he slipped down the hallway to the monitoring unit. The central monitor recorded no activity except in Room 21.

Lane peered around the corner and stopped short. Six guards in combat uniforms carrying automatic weapons stood outside that room. He stepped around the sentries and entered the room. He was stunned and momentarily unnerved. An avatar identical in every way to Samantha was lying on the bed, strapped down, sleeping, attached to a slow intravenous saline infusion into which Lane suspected an anesthetic drug was injected intermittently.

Lane was now certain that Esfahani's so-called computer game was indeed the entrance into a fail-safe world, a parallel universe, in which the billionaire could execute his schemes without any restraints. Lane assumed that if he were right, Samantha had to be held captive in some kind of hospital setting in the real world. Please God, if I'm right, let it be somewhere nearby, he prayed silently.

Lane closed the program, sat back, and pondered the problem. He reasoned that since Samantha's avatar was being held in Esfahani's parallel world protected by armed men, Samantha must be a prisoner under the same circumstances. She couldn't be imprisoned in an acute care hospital in the area—it would require taking over too large an institution, and police would be alerted. So where else could she be? A private home? Unlikely with the monitoring and that level of anesthesia. Perhaps a small nursing home? One could be taken over more easily than a large hospital.

Lane logged on to the Internet and printed out a list of the thirty-seven nursing homes in the Philadelphia area. He then shared his reasoning with Holly. "As a social worker, didn't you have to deal with nursing homes around here?"

"Yes, often. I've even visited some of them. But do you really think Samantha is a prisoner in a nursing home? That's so hard to imagine."

"I agree, but I can't come up with any other ideas."

"Okay. How can I help?"

"Let's go over this list of nursing homes. Anything that might help us?" he asked.

Holly studied the list. “Well, some of them are too big, with beds that are usually all filled, and are located in well trafficked areas. I doubt they could be taken over without arousing suspicion and police intervention,” Holly said, as she carefully crossed off ten names. “Now I suggest we call the others, say we need a bed for a relative, and see how they respond.”

They studied the web sites of the remaining facilities and began calling them. They asked to speak with the nurse in charge, said that a family member needed nursing home care, requested a time to come out the next morning to inspect the facilities. Many of those with whom they spoke said the beds were full, but welcomed a visit in case a future opening occurred. All were cordial in their replies, except for the man who answered the phone at the Barkley Nursing Home in West Goshen, Pennsylvania, twenty-five miles from central Philadelphia.

“No sir, I can’t get a nurse to speak with you. And it’s impossible for you to visit, not for at least a couple of weeks,” he said sharply.

“Why?” Lane asked. He motioned for Holly to listen.

“Well...er...we’re closed for renovations at the present time. Give me your name and phone number, and we’ll get back to you. I’m sorry we can’t help you now,” the man said.

“I’ve heard you’re the finest facility in your area, and your web site indicated that you do have a few openings. Can’t I just come out to look?” Lane asked.

“I’m sorry, sir. As I said, we will be closed for another two weeks. I assure you there will be no one here to show you around tomorrow, or in the near future. Goodbye!” He hung up.

Lane stared at the disconnected phone in his hand.

Holly jumped up. “Of course, that’s where Samantha’s being held! It’s a small facility in a semi-rural area. And he didn’t sound right. Not for a place like that. Kind of angry. Annoyed. Lane, that’s it.”

Lane tried to convince himself that Holly was right, that Samantha was a prisoner at the Barkley facility. “Holly, how can we know for sure? We need help. I need to contact the FBI.” Then he he backed off and wondered how he could persuade anyone of their hunch. And once more, he feared that informing the law would lead to Samantha’s death.

He began to pace, pondering his next move, as Holly sat watching him in silence. He decided he must speak with someone else, share his dilemma with someone he trusted—his partner and close friend, Tom MacFarland.

Lane embraced Holly, told her he was more hopeful, and that he was going to talk to MacFarland. He ran out to his car, sped down the Expressway to the South Street exit, screeched into the Tower’s underground garage, ran to the elevator, and rode it to his office. MacFarland, whom Lane had already contacted from his speeding car, came hurrying in twenty minutes later, still in his scrubs.

Lane outlined his dilemma in a voice thick with apprehension. His friend shook his head, then gazed at Lane in disbelief.

“You been smoking things?” he asked. “What you’re telling me is like a damn TV thriller. But what can I do to help?”

“Esfahani has threatened to kill Samantha if the FBI or the police are brought into the case. I don’t doubt that he will. He’s immoral, power-mad, and he’s a dead man if I don’t operate.” Lane slumped in his chair and bowed his head into his hands. “Tom, this is the first time in my life that I just don’t know what to do. I feel helpless and almost hopeless.”

MacFarland had never seen his colleague, always the chief, always in control, so disheartened and uncertain. “If Samantha were my daughter, I’d get the FBI involved. Dealing with kidnapping, especially kids, is one of their main concerns.”

“But, Tom, his threat to kill her if the law is brought in...I’ll be the cause of her death.”

“If you don’t call in the law, suppose he kills her anyway? Can you guarantee he won’t? No matter what you do, Samantha’s life will be in danger. But with the FBI involved, I think you’ve got a better chance of saving her. They’ve got the technical know-how and the manpower that can find her. They deal with this kind of thing every day.”

Lane closed his eyes and shook his head. “I guess there’s no right answer,” he said with finality. “We won’t know until this nightmare is over. All right. Now, how do I approach this? I must get to the FBI fast. I’m supposed to operate on the bastard the day after tomorrow. He’s sick as hell, and might not even make it to the O.R. If that happens, Samantha will be killed, I’m certain.”

“How convinced are you that Samantha is being held at this Barkley Nursing Home?”

“I can’t be sure. But I’ve got this gut feeling that it’s the place.”

“Your guts aren’t going to mean much to the FBI.”

“Yes, I know,” Lane said.

MacFarland sat back, placed his hands behind his head, and closed his eyes. “Jesus God. What a mess.” Then he relaxed, and after several minutes of silence, he sat up, and smiled.

“Hey, remember that kid whose life we saved a couple of years ago? What was his name? Danny something. Yeah, yeah, Henderson, Danny Henderson. Endocarditis with flail mitral and aortic leaflets. Ninety-five percent dead when we got him. Wasn’t his father a retired FBI agent? No, even better, didn’t he used to be head of the Philadelphia FBI field office? I remember how grateful he and his wife were. Call him. You’ve got chips to call in there, brother.”

“Damn! You’re right.”

“But please, Lane, you’ve got to realize that even if he agrees to help, he might be unable to convince the people in his old office. We don’t even know if he still lives in this area. Let’s get his phone number. It must be in the kid’s chart. Christ, we’ve got to act now.”

Lane telephoned Danny Henderson's father, John, and left a message on his answering machine. When two hours passed without a response, Lane stopped pacing and said, "I'm going to the ICU and get Esfahani to tell me where Samantha is, or I'll kill him. I don't care what happens to me. I'm going to kill the bastard." He ran for the door.

MacFarland jumped up and grabbed his friend's arm, barely able to restrain him. "Please, Lane, hold on for just a little while longer. If you kill him now you'll never get Samantha back. They'll kill her for sure. I know it's hard, Lane, but you've got to wait. Maybe Henderson will call back. And if he doesn't we can go to the FBI ourselves."

Ten minutes later, the phone rang. Henderson responded sympathetically to Lane's story, and said he'd do anything he could to help. "Doctor, you saved my son. He's in college. Doing fine. Listen, my wife and I owe everything to you. I'll do my best to convince Ted Pappas at the Philly field office to send agents into that nursing home, and I'll personally be on this with him. They'll need to mobilize the CARD team, the Child Abduction Rapid Deployment Team, and get backup from the state police. We'll rescue your daughter."

"And what if she's not there? You know I'm not absolutely certain."

Henderson laughed. "Doc, then your ass, my ass, and Teddy's ass will be in big trouble. I'll get back to you in a couple of hours."

9

Ted Pappas contacted CARD and FBI headquarters in Washington. He was told that an FBI special unit and the CIA had been searching for Esfahani for years, that he was suspected of being a major funding source for al Qaeda and Hezbollah. “How the hell did he get into the U.S. without us knowing? He’s in Philadelphia? Dying? Jesus Christ. Let’s get him now! And try to get him alive!” shouted the FBI Director. “I’ll send teams up to you as quickly as I can. Don’t let him get away.”

As Lane sat in Pappas’s office and heard the conversation, he sighed and wondered whether they’d be more interested in getting Esfahani than in rescuing Samantha. But he knew he had to believe in them.

By 5:00 the next morning, just as a thick fog began to swirl in from the north, a six-member squad of FBI agents from the CARD team helicoptered in from Washington to the Brandywine Airport just north of the Barkley Nursing Home. They were joined by a Pennsylvania State Police quick strike team and several West Goshen Township officers. Agent Jack Connor, the FBI agent in charge, greeted Lane and Henderson, and then addressed everyone in the group. “We’re lucky we got in when we did. In another half hour it’ll be too thick to fly. But on the other hand, the fog could help us. Less likely to be spotted when we try to surround the building. I’ve got a layout of the nursing home and where we enter, front and back. Given the supposed nature of this crime and its location, we think that surprise would be the tactic to use. If the doctor is right and his daughter is here, it’s unlikely these goons are worried about being found.”

After a fifteen minute discussion of tactics each officer was to employ, the FBI and police prepared to leave.

Conner insisted that Lane and Henderson remain at the airport until they completed the mission. "I'm sorry Dr. Robinson, you just can't come with us. We'll call when we've rescued her," Jack Connor said.

"Dr. Robinson, Agent Connor is right," Henderson added. "We'd be in their way, might impede their action."

Lane shrugged. "Okay. Okay," he said.

Arriving at the nursing home, a small white building located in a secluded wooded area off Five Points Road, the law enforcement teams spread out around the structure, moving slowly and silently through the fog, until the building was surrounded. Agent Connor, two members of the CARD team, and two state policemen crept around the building to the front door, which they found locked. They crouched stone silent for several moments. Then, at Conner's signal they crashed through the main entrance, where they were met by two startled men in military fatigues.

Connor screamed, "FBI! FBI! Don't reach for those guns!"

Ignoring the order, the pair dived for their weapons, and were killed by a spray of bullets from the officers' semiautomatic rifles. The other four guards, who had been sleeping, were wakened by the gunfire. Before they could offer resistance, they were overpowered and surrendered. But not before one of them barked into his cellular phone, which he then crushed with his foot.

During the initial search of the facility, the FBI CARD team found Samantha in a drug-induced coma, a feeding tube down her throat, breathing on her own, and otherwise unharmed. "She seems all right. Wait until her father comes before we treat her. Get him now."

The state police raced through the building and discovered ten elderly, chronically ill patients, three nurses, and three nurses' aides locked in a visitor's lounge. Several were in a shock-like state. All were starving, dehydrated, trembling, and barely able to speak.

While searching the basement, the police discovered the bodies of two patients, three nurses' aides, and two

nurses, all shot in the head, dead at least two days. The stench of death and the gruesome picture of the splayed, decomposing bodies heaped upon one another, overwhelmed even these hardened officers.

Agent Connor contacted Lane and Henderson, who were driven through the fog to the nursing home. Lane examined Samantha and the survivors as the nearby Chester County Hospital sent three ambulances to transport Samantha and the survivors to the hospital's emergency department.

After several hours, Samantha awoke with Lane by her bedside. "Daddy. Oh, Daddy. I'm so glad to see you." She began weeping, as did Lane. He held her tightly, and silently thanked God for her safe return. Slowly, he felt her relax and she stopped sobbing. He placed her head back on her pillows, and she fell asleep.

Later that afternoon, after three hours of careful monitoring, and with Lane standing-by, she awoke, smiled, and said, "Daddy can we go home?"

Lane smiled broadly. "You bet we can."

They were driven back to Villanova by two state troopers, and their home was placed under around-the-clock state police protection.

Samantha was greeted by Holly who embraced her. "Samantha dear, are you all right? Did they hurt you?" Holly asked, tears in her eyes.

"I don't think so. I was sitting at my computer after school, when all of a sudden I was kind of, you know, zipped into the computer, into some kind of weird place, where two really big guys grabbed me. I think I fought back, but they were too strong. They took me into a white building that looked like a hospital inside, made me swallow a tube, and stuck me with a needle. That's all I remember, until I woke up with Daddy looking at me."

"You were dragged into a computer?" Lane cried. "Honey, don't you mean you saw your avatar in the computer?"

“No, Dad. That’s not what happened, honest. I know it sounds crazy, but I tell you, something pulled me into the computer.”

“So you think you became part of an ongoing situation in the computer?”

She began to sob. Holly held her tightly and wept as well. “Please, Lane. No more questions,” Holly pleaded. “She’s exhausted.” But after several minutes, Samantha pulled back a little, smiled, and said, “You know, I’m really hungry. What do we have to eat?”

Certain that Samantha was stable, Lane began to consider his next step. He knew that Esfahani was a dying kidnapper, killer, and terrorist. And so, did he still need to operate on his patient and save him? Didn’t the man deserve to die? The fact that he considered such an alternative disturbed him deeply, a total abrogation of his role as a physician.

At that moment, Agent Pappas telephoned Lane. “You’ve got to get to the university immediately. There’s a police escort on the way to your house. We have a crisis here. I’ll fill you in when you arrive.” Then he hung up.

10

The President entered the Oval Office and prepared to deal with the greatest crisis of his administration. Assembled before him were the Vice-President, the homeland security chief, the head of the Joint Chiefs of Staff, the Secretary of Defense, and the directors of the FBI and CIA. Patched in on a secure line and speaker phones were the governor of Pennsylvania, the mayor of Philadelphia, and Agent Pappas.

“Well, how are we going to deal with this?” the President began.

“Mr. President, Philadelphia is in a state of siege. We need help immediately. We may be facing a nuclear disaster,” Mayor Michael Nelson said, his voice tense.

“And that’s why we’re meeting, Michael. To determine what help *you* need, but also what the nation needs. Do you have any suggestions?” the President said.

“It all depends on whether the terrorists have a nuclear device. If so, we need to evacuate the city immediately,” Nelson replied.

“I have to agree,” Governor Sheila Burns said. “And the surrounding suburbs.”

“And what about New Jersey and Delaware?” Vice-President Daughtridg asked.

“Yes, yes, of course,” Nelson replied. “But that’s your job, isn’t it?”

“Are you certain this maniac has nuclear devices with him?” the President said.

“No, sir,” Pappas replied. “This guy, Grossmann, the mouthpiece for the main man, Esfahani, won’t say. Apparently, Esfahani is sick as hell. That’s why he’s in Philly. Wants to be operated on by the chief heart surgeon at Ben Franklin University, Dr. Lane Robinson.”

“I know Robinson,” the homeland security chief interjected. “He operated on my sister. He’s a superb surgeon.”

“Can’t we detect if they’ve got a nuclear device? Can’t a satellite or drone determine that?” the Vice-President asked.

“We sent a drone over the hospital about two hours ago,” the Secretary of Defense said. “The results are inconclusive. We got some evidence for radioactivity, but nothing overwhelming. The problem is there’s nuclear material in the hospital that’s used for medical purposes. So we can’t be certain about the readings we obtained.”

“I think I’ve got the situation under control if he has explosives and they’re not nuclear,” Pappas said. “We’ve evacuated everyone out of the University, the hospital, and we think all the civilians within a twenty block radius of the target. The Philly police have been great. And the governor sent in the National Guard to prevent any looting, and to bolster the police who are keeping all but essential persons out of the area. However, if Grossmann’s got nukes, we’re looking at something that’ll make September 11th look like a stroll in the park.”

The President nodded, his face pale and drawn. “I hear you, Agent Pappas. I hear you,” he sighed. He turned to the homeland security chief. “Ted, what do we do?”

Ted Goldman paused for a moment, and cleared his throat. “Mr. President, Agent Pappas has done a remarkable job in a very short time. He’s to be commended. The profile on this fellow, Grossmann, indicates he’s a killer. If he threatens to blow up the place and kill everyone in it, he means it. I think we should assume he has a nuclear device and will use it.”

“Meaning?” the president asked.

“Evacuate Philadelphia, the immediate suburban areas, central and southern New Jersey, Delaware, and prepare the entire East Coast for radioactive fallout. Start now,” Goldman said.

“Wait a minute!” General Hastings, head of the Joint Chiefs of Staff, cried. “There’s no time for that. Agent Pappas has already told us that unless Esfahani comes through the surgery without complications, this guy

Grossmann is going to blow up the hospital. And his boss is dying. Suppose he doesn't come through the operation? We might not even have twenty-four hours. Isn't that correct, Pappas?"

"Yes sir."

"You can't achieve an evacuation of that magnitude in twenty-four hours," Hastings continued. "The evacuation will barely get started, and if he nukes the hospital, the evacuees will be caught in a cloud of radioactivity. Even if there's no nuclear explosion, just the order to evacuate will cause chaos, panic, and innumerable deaths. It's impossible, Ted. How the hell can you recommend that?"

"And what if Grossmann doesn't have a nuke? What if he's bluffing?" the FBI director said. "By ordering an emergency evacuation, we might unnecessarily produce the worst panic in American history. I agree with General Hastings. To call for a massive evacuation is madness."

Goldman looked around the room. Then he shook his head and shot back. "Gentlemen, we need to look at the worst case scenario! Even if there's a one percent chance he's got a nuke, we must move ahead on that possibility!"

"I agree with General Hastings," the Secretary of Defense said. "I believe we need to hold back on issuing an emergency decree. But let's start deploying troops around the area in case we need to declare martial law. What about bombing the hospital?"

"And if there's a nuke in the hospital?" Goldman said, frowning.

"It appears that whatever we do, we'll likely precipitate a catastrophe. It seems there's no acceptable answer here," the President said. "What about an assault by a CIA special forces unit?"

"We could do that," the CIA director said.

"I think that would be a mistake," Pappas said. "These people are desperate. They have nothing to lose. They could blow up the place when they see there's an assault on the way. And it would be a hell of a challenge to

get a special forces team into that Tower. Of course, if you want to send a team here to look it over first hand..."

"Well, let me lay this out, and correct me if I omitted anything," the President said. "One. We have a band of lunatics holding patients and nurses hostage in a hospital in Philadelphia. They may or may not have a nuclear device that they're threatening to explode if their leader dies. Two. There's no way of knowing for certain if this man, Grossmann, is lying, but we have to assume he's telling the truth. Three. If we call for an evacuation of the region, it needs to be massive, and we don't have enough time to do it right, because we have no more than about twenty-four hours, probably much less. Four. If we do undertake a full-scale evacuation, and there's no nuke, we'll possibly cause a disaster triggered by us. Five, at present we've got the area pretty clear of unnecessary casualties if a blast occurs with conventional devices. Am I correct on that last point, Agent Pappas?"

"Yes, sir."

"Six, if we try to send in a team, or bomb the site, we might trigger a nuclear explosion," the President continued. "Seven, if we wait it out, and see if Esfahani survives the operation, we may or may not get out of this without a major calamity. Have I outlined the alternatives, and that they're all likely to end up badly?"

Everyone nodded. The governor and mayor agreed.

"It's your call, Mr. President," Goldman said.

"We must decide on some plan," Nelson said. "My city is going to die!"

A cold silence followed.

"Agent Pappas, what's your estimate of the situation?" the President asked. "You're there on the ground. You probably have the best perspective."

Pappas didn't reply immediately. Finally, he began. "Mr. President, you've outlined the situation very clearly. I certainly don't know the right answer, if there is one. But if you want my gut feeling, I'd get the army and the medical people along the East Coast mobilized in case there's a

nuclear blast. Get them mobilized quietly, so there's no panic. Then let's hope that Dr. Robinson can get this psychopath through surgery and out of here, and that Grossmann is telling the truth—that he'll only blow things up if Esfahani dies. I'm putting my money on Dr. Robinson, that he'll do the job, and if the bastard lives, he'll be reluctant to blow himself up.”

For several minutes no one spoke. Then the President said, “Let's hope to God you're right, Agent Pappas. We'll assume the worst and hope for the best. It seems like the only alternative that could end with the least loss of life. You'll all keep me informed. Thank you, ladies and gentlemen. Keep close. Get your people on the stick. And Ted, contact the governors of New Jersey and Delaware. Bring them into the loop. And let's pray that Dr. Robinson can pull this off.”

11

By 5:00 p.m., Lane arrived at the hospital, where he discovered all the buildings under siege. Held up by the fog, a squad of FBI from Washington and state police from Harrisburg hadn't arrived at the airport until 7:00 that morning. Esfahani's band, alerted to Samantha's rescue, had taken over the entire surgical floor including its operating rooms, intensive care units, and offices.

Pappas ran over to Lane and said, "Dr. Robinson, Esfahani's guy, Grossmann, and his gang are holding all the patients and six nurses hostage on the surgical floor. He's threatening to kill them if we storm the building. He claims he's been planting enough explosive devices around the Tower to destroy it, and many of the adjacent hospital buildings...and we don't know if any of those devices are nuclear. We can't prove they've done it, but we can't risk calling their bluff. Grossmann's troops commandeered all six elevators in the Tower, and have them stopped on the surgical floor. So they control all access to that area. He's demanding that you operate on his boss now, and that as soon as Esfahani is medically able, we allow them to get out of the country."

Lane stared at Pappas. "How's he going to get out? That's crazy."

"He says he's got a helicopter waiting offshore to take them away. We've been searching for it, but haven't located it yet. We've managed to evacuate the students and faculty from the main university, and patients and personnel from the medical school and all the hospital buildings, including the lower nine floors of the Tower. We've cordoned off all access for twenty blocks around the hospital and the university, and also evacuated all the surrounding neighborhoods.

"In addition to his demand that you operate on Esfahani, he says that if the son-of-a-bitch dies during

surgery or immediately after, he's going to go through the full destructive scenario. And these guys don't give a damn about blowing themselves up. Look, you don't have to go in there. But I have to tell you that you're the only one who can prevent a massacre and a possible nuclear meltdown. And of course any prospect of us getting the bastard."

"How are you going to capture him if you can't storm the hospital?"

"I have a plan, but I can't tell you what it is. If you go in there, and even if the operation is successful, they could torture you to find out if there's a strategy to stop their escape. You've got to trust me—I know these people."

Lane tried to decide. He realized his chances were almost nil. Even if Esfahani survived the surgery, the terrorist banker might kill him anyway. Samantha would be an orphan if she survived the fallout from a nuclear blast. And the patients held hostage. The nurses. The city and beyond. Lane had no alternative but to give them all a chance, even if slim.

"Yes, of course, I'll go in. But I'll need a team to help me operate on Esfahani—at a minimum another surgeon, at least two O.R. nurses, a cardiac anesthesiologist, and a perfusionist to operate the heart-lung machine. But first, I must be assured they'll have safe passage in and out, or I won't do it. Tell that to Grossmann, and if you can establish some kind of fail-safe entrance and exit for them, I'll try to convince the people I need."

"Okay. I'll be back to you as soon as I can. And thanks, Doc." He reached out and shook Lane's hand. "You're a great guy, Dr. Robinson. In spite of the odds, I think we'll win."

Pappas called Grossmann's cell phone, the only means of communication with the hostage takers, since the phone lines to the hospital had been cut. "Dr. Robinson has agreed to perform the surgery," Pappas said. "But he'll need a team of five in order to complete the operation. He says his people must be guaranteed a safe way out as soon as the procedure is over."

“I told you I wanted to speak to the doctor. Put him on,” Grossmann growled.

“This is Robinson,” Pappas said as he handed the phone to Lane.

“You listen carefully, doctor. Assemble your people and be ready to come up to the surgical floor in one hour, or I’ll execute one of the patients,” Grossmann snarled. “And each fifteen minutes more you keep me waiting, another patient will be shot.” He laughed. “I’ll let your team go, if they give me no trouble. But you stay.” He hung up.

Lane’s hand shook as he returned Pappas’s phone. “He’s threatening to kill patients. We’ve got to move fast.”

Lane asked the police to find Tom MacFarland to assist him; Greg Townsend to provide anesthesia; Donna Steiner and Miriam Klein, his senior cardiac operating room nurses; and Charlie Dawson, his chief perfusionist. Fortunately, they were all on their cell phones and had remained nearby after they were evacuated from the hospital.

Lane huddled with his team. He and Agent Pappas explained the situation. Then Lane said, “Look, guys, we’ve worked together on many tough cases, but this will be one for the ages. I’m asking you to help me, not for me, but for the patients and the nurses being held hostage...and possibly to prevent Armageddon. Before you respond, you must understand that I can’t promise they’ll keep their word about letting you go after the surgery is over.” His face grim, he stepped back, folded his arms across his chest, and prayed silently.

Tom MacFarland spoke first. “Hell, I have to go. If I don’t, the chief won’t give me the raise he promised me. Right?” He laughed, and Lane embraced his friend and whispered, “Thank you.”

Charlie Dawson shrugged. “Sounds just like the kind of emergency caper we do every day, maybe with a little twist,” he added wryly. Then, after hesitating a few moments, he grinned and looked at his watch. “Damnit! I’m going to miss another dinner. Dr. Robinson, we’ve been through a couple thousand of these. Have I ever disappointed

you?” He shook Lane’s hand, patted him on the back, and looked at the other three. “Hey guys, what do you say? Do we all go, or do I need to work more than one job?”

Donna Steiner stepped forward, her face drawn, her eyes filled with fear. “Sure, Dr. Robinson, count me in, although I won’t kid you, I’m scared as hell. I know Dr. MacFarland and Charlie have wives and kids, and they’re willing to go in. I’m single, with no one important waiting for me, except...” And then she said, her voice soft and anxious, “All those patients up on the surgery floor. I can’t let them down.”

Miriam Klein gazed with admiration at her colleague. “Donna’s right. We’re a family. How can we abandon them? I’m scared, too. But, there’s so much at stake. “Okay, count me in. But please call my husband, Harry. He’s got to know what I’m doing.”

“I’ll notify everyone’s family,” Pappas said. “I’ll keep them up to date on what’s happening.”

“I know this is tough on you, Greg,” Lane said, turning to the anesthesiologist. “If you can’t do it, I’ll try to get someone else.”

Greg Townsend nodded, his eyes averted. Several moments passed before he spoke. “Thanks, Lane. I have to go in with the rest of the crew. I can’t let everyone down. I provided anesthesia for half of those patients that are being held hostage. I know them, they’re real to me. If I can help save their lives, I’ve got to try. Hell, there’s not much of a choice—get incinerated or die of radiation sickness. Agent Pappas, my wife, Lucy, is awfully sick, she’s getting chemo. Can you send someone to stay with her and explain what’s happening?”

“Of course,” Pappas replied. “I’ll send people to stay with all the families.”

“Thanks, Greg. Thanks so much,” Lane said, his tone gentle and a little weary. “And to everyone, let’s hope that we can save those patients and nurses, the hospital, and the city as well.” Then he led his team to the Tower entrance.

12

Inside the lobby, the team headed for the elevators, all of which were on the tenth floor. They waited several minutes, and then one car began to descend. When the door opened, they saw two hooded men with automatic weapons who motioned to them to enter. The elevator rose to the tenth floor, where they found other men with similar weapons patrolling the corridors. Lane's team entered the cardiothoracic intensive care unit. Five nurses were making rounds on the patients, all of whom were post-op, still at risk for serious complications—each one frightened as reflected on their monitors that displayed rapid heart rates, often with short bursts of arrhythmias.

“Thank God you're here,” cried Linda Becker, the ICU's head nurse. “Dr. Robinson, these people are awful. They've been going in and out of the patients' rooms, waving their weapons and cursing. Mr. Murphy in bed six has been having runs of ventricular tachycardia. I hung an Amiodarone drip. He's quiet now, but his left ventricle is so weak. I'm afraid to continue that drug.”

“Linda, I'm happy that you and the rest of the folks here are okay. We've been worried about everyone. Look, I'd like to check out all the patients, not only Murphy, but we're under a lot of pressure to get the surgery going on Esfahani. Later, when the operation's over...”

“Please, Dr. Robinson, it'll only take a couple of minutes for you to visit Mr. Murphy. I'm so worried about the Amio, and he's so frail and scared. Seeing you may help.”

Lane hesitated and smiled feebly. “Okay, Linda. Let's go in.”

Four days ago, Lane had replaced Murphy's aortic valve. His poor heart function had made him a significant

operative risk. “Hello, Jerry, how are you feeling?” Lane asked the eighty-year-old man.

“How the hell do think I’m feeling? Those god-damned thugs. Told me I’d be the first to be killed if you weren’t up here in an hour. Now what’s going to happen?”

Murphy was pale, trembling, trying to maintain control. Lane noted with relief that the monitor now displayed a normal rhythm. “Jerry, when you get out of here, you’ll have a great story to tell your grandkids.”

“Thanks, but I could have done without that gift. What’s going to happen?”

“I don’t know. But we’ll get everyone out safely. Now lie back and let me examine you,” Lane said. The incision was clean and healing well. He listened to Murphy’s lungs. “Only a few crackles, no heart failure.” Next the heart. “Valve sounds are crisp. Only a faint systolic murmur. Rhythm regular. Let’s see your legs. No swelling. Jerry, you’re doing fine.”

Lane took Murphy’s hand and shook it gently.” As I said, we’ll get everyone out of here safely. I’ll see you later. Linda, discontinue the Amio, and if the arrhythmia returns, call me.”

As Lane exited Murphy’s room, Grossmann confronted him. “Get going with the operation. Damn you, Mr. Esfahani hasn’t eaten all day, waiting for you to operate. He’s very weak. Get him into the operating room, now!”

“You want him to live, right?” Lane snapped at Esfahani’s henchman.

“What nonsense. Yes, of course.”

“Well, you listen to me. I guarantee you this—if any of these patients or nurses are harmed, I’ll kill your boss in a very unpleasant and painful manner. And the same warning holds for my team. You promised them safe passage out of here after the surgery is over—remember to do it. Then your chief will live. Understand?” His teeth hardened against each other, his jaw muscles flexed, and his fists clenched.

Grossmann looked into Lane’s blazing eyes. For a moment he said nothing, then a crooked smile crossed his

face. “We’ll see. You’re a fool if you think you hold the cards. We do. Remember that and you might live. Now, get going.”

Esfahani lay on a gurney, en route to the operating room. Miriam Klein and one of the ICU nurses attended the patient. “He looks bad, Dr. Robinson,” Miriam whispered to Lane. “He’s very short of breath, tachycardic, and his blood pressure is 100/40.”

“Get him into the O.R. fast. Dr. Mac and I will scrub. Dr. Townsend will intubate the patient and put him under quickly. We’ll be right in.” But before allowing the patient to leave, Lane leaned over Esfahani’s face and twisted the intranasal catheter cutting off the oxygen. “I’d like to kill you, you bastard. Nevertheless, I’m going to get you to live and go back to your filthy life. But if your lackeys harm any of my people, I will kill you. Understand?”

Esfahani smiled and nodded. “Finding...your daughter...was an amazing feat. You’re...a...worthy opponent... doctor, so I hear you and know you mean it.”

At that moment, Margo Tancredo stepped beside Lane, and jabbed the muzzle of a semi- automatic pistol into his back, her face grim, her stare icy. “I should shoot you and your little bitches now. That’s no way to speak to my father.”

“Your father? I thought you were his secretary.”

“You pig. If he dies, you, your bitch women, your team, the patients, this hospital, this city will be destroyed. Now, act like a doctor instead of an avenging hero.” She moved aside, prodded both nurses with her gun, and watched as they took the patient into the operating room.

13

After completing their scrub, Lane and MacFarland approached the operating table where the terrorists' banker lay anesthetized.

"While you guys were out, he went into ventricular tachycardia," Townsend said. "I had to buzz him with the defibrillator. Still lots of premature ventricular contractions. Getting ready to do it again. Get him open and on cardiopulmonary bypass pronto, or we're going to lose him."

Lane agreed. "Okay, Tom, let's go." The operating room, filled with tension and fear, lacked the lighthearted banter and classic jazz that usually lightened the atmosphere of the OR when this group worked together. Each member of the team knew how the lives of so many depended on their error-free performance—and a large dose of luck. Using a surgical saw, MacFarland performed a median sternotomy, splitting the breastbone, which opened the chest, exposing an enormous ascending aortic aneurysm, and a huge left ventricle produced by the leaking aortic valve. "Jesus Christ," Lane whispered to MacFarland. "This is going to be complicated as hell, worse than I originally thought, much more difficult than the surgery on his avatar."

"Yeah," MacFarland replied. "And even if the surgery goes well, look at that damn left ventricle. It's a bag. I doubt we'll be able to get it to contract so we can get him off the pump."

Despite the grim picture, Lane and MacFarland proceeded with the surgery. They mobilized the aortic arch to allow high arch cannulation and removal of the aneurysm.

"Okay, Mac, let's dissect the aorta well past the pericardial reflection and put continuous traction on the tape we just passed around the ascending aorta," Lane said softly, his inner tension betrayed by the trace of perspiration on his brow.

Because they found the aorta friable, crumbly and brittle, Lane passed purse string sutures through the outer covering of the aorta, the adventitia, taking care not to penetrate the full thickness of the aorta. Macfarland positioned a cannula in the proximal aorta beyond where he planned to place the cross clamp. “Jesus God, this tissue is horrible, even beyond the arch. Hope he doesn’t throw pieces of this crappy debris to his brain and stroke out when we start working there.”

“Let’s not even think about that,” Lane replied.

Lane introduced a two-stage cannula into the right atrium and a left ventricular vent through the right upper pulmonary vein. Esfahani was quickly placed on cardio-pulmonary bypass during which Charlie Dawson managed the heart-lung machine that took the unoxygenated blood from the venous system, circulated it through the oxygenator in the pump, and returned it to the brain and other organs via the aortic cannula, in order to sustain the near normal function of these vital structures. Dawson maintained the flawless action of the pump throughout the operation, managed the accurate delivery of blood back to the patient, the maintenance of the patient’s blood oxygen at near normal levels, and the preservation of other vital parameters. “So far so good,” Dawson said. “Everything’s working well.”

“All right, now cardioplegia,” Lane instructed. To protect Esfahani’s heart muscle, its beating was stopped by instilling a cardioplegic solution, a high potassium mixture, under moderate hypothermia of 26°C. Cold blood at 16°C was allowed to flow freely and continually through the coronary arteries.

Then MacFarland carefully cross clamped the aorta close to the origin of the innominate artery. “Well, the aorta is holding at the clamp and beyond.”

With MacFarland assisting, Lane dissected out the aneurysm, and removed it and the aortic leaflets. MacFarland then detached and mobilized both coronaries for attachment to the composite graft.

“How do things look on your end, Greg?” Lane asked.

“Quiet. Pressure and oxygenation okay.”

“Charlie?”

“Okay, here, chief.”

Lane, with MacFarland assisting, began the next critical procedure—inserting the graft. He chose a Medtronic-Hall bovine aortic composite graft, which he cut to size, and tied in place proximally. He then cut holes in the graft to allow for the coronary arteries to be sutured to the graft. He paused to be certain of the exact position for the right coronary opening. “Much more critical than the left coronary artery,” he said. “Here looks about right. What do you think?”

“Yeah, looks okay,” MacFarland replied. “When the right ventricle distends and his heart starts beating, we don’t want it to roll over the graft and obstruct the right coronary, that’s for sure.”

MacFarland began the next critical part of the operation, the connection of the coronary arteries to the composite graft. “Okay, Donna, let’s get on the ball and get me some #5 prolene sutures.”

“Hey, Dr. Robinson, you may need another partner. I think Mac’s eyesight is failing. What the hell’s that in front of you, Mac?” She laughed, as did everyone else, breaking the tense atmosphere for the moment.

“Sorry, toots,” MacFarland replied. “It’s late, and I thought you had fallen asleep.” He then began to slowly and carefully sew the coronaries into the graft.

“Beautiful job,” Lane said, when MacFarland sewed in the last suture that attached the left main coronary to the graft.

Lane pushed the Medtronic-Hall conduit into position in the annulus, where the aortic valve had been removed, and sutured the graft distally, thus completing the replacement of the aneurysm. He and MacFarland inspected all of the connections carefully to be certain that the friable tissue still held. Then the two surgeons relaxed and stepped back a few inches from the operating table. “One of the toughest sons-

of-bitches I can remember,” MacFarland said. He then called out, “Hey, Miriam, please wipe the damn sweat off my brow. Otherwise I’ll leak onto our patient.”

She ran over and said, “If you lost a few pounds, maybe you wouldn’t sweat so much.” She then proceeded to mop his forehead.

“Yeah, you’re right. But then I wouldn’t be so jolly.”

They all laughed.

Lane looked at each of them and his thoughts wandered. What a great group of people. Mac’s skills are superb. He should be running his own department. My best friend. I owe him so much. Greg is a great anesthesiologist. No one better. Donna and Miriam did everything right despite the pressure—always the proper instruments almost before we asked. The prep and replenishment of the cardioplegic solution. The excellent retractor skills and suctioning. The constant info on the patient’s overall status. And Charlie. No one knows the pump like he does. Knows more chemistry and physiology than most doctors. Oh, God. They’ve all got to survive. What a nightmare.

Then Lane said quietly, “Charlie, let’s try to get him off the pump.”

“Okay. Here we go.” Dawson proceeded to slowly take Esfahani off cardiopulmonary bypass. The patient’s blood volume was restored, and circulation again established via the heart, now nourished by blood flowing from the grafted coronary arteries to the heart muscle into which temporary pacing wires were inserted. The weaning process took over an hour, during which a pervasive fear of failure was like a brooding omnipresence.

At last, much to everyone’s surprise and relief, the patient came off cardiopulmonary bypass successfully. After two shocks to his heart produced a normal heart rhythm, his blood pressure rose to 100/70, and he began to develop a urinary output. Lane placed a chest tube into the left pleural space to drain off any blood that might be leaking, and MacFarland closed the sternal incision. The patient’s breathing was maintained by Townsend’s rhythmic

compression of an Ambu bag attached to the patient's endotracheal tube.

“He's made it...for now,” Lane said, allowing himself a frosty smile as he pulled off his mask.

14

The team completed the operation at 2:00 a.m. When they finished, they paused for a few moments and looked down at the patient, their eyes strained, faces drawn, and shoulders sagging, after which Donna Steiner, Miriam Klein, and Greg Townsend wheeled Esfahani out of the operating room to the cardiothoracic ICU. Lane and Tom MacFarland followed, joined a few moments later by Charlie Dawson. As the gurney moved into the ICU, Grossmann and Tancredo appeared.

“Is he alive?” Grossmann asked.

“Yes,” Lane replied. “But it’s too early to tell if he’s going to make it. Give it seventy-two to ninety-six hours. By then we’ll know. Now, after we get him hooked up to all the bells and whistles, let my team go.” Miriam, Donna, and two of the ICU nurses had already begun these monitoring procedures, while Greg Townsend attached Esfahani to the respirator, and arranged the proper settings for the machine.

Margo Tancredo faced Lane and growled, “How do we know he’s really alive? This could be some kind of charade.”

“That’s nonsense,” Lane replied irritably. “Look at him, look at the monitor, his rhythm is up there—normal. His blood pressure is slowly coming up. Sure he’s alive.”

She stepped over to Esfahani’s bedside and touched his face, then turned, and again confronted Lane. “We will not let them go until we are certain that my father continues to live and will wake up.” She motioned to three guards who began to close in on the surgical team.

Lane pushed past Tancredo and positioned himself beside the patient. He placed his right hand around Esfahani’s chest tube, and with his left hand gripped the endotracheal tube that connected Esfahani to the respirator. “I won’t allow my colleagues to be held hostage. Unless you let

them go...now, I'm going to rip these out and he dies. I will do what no doctor should ever do—kill his patient. But I'll do it without hesitation because your leader is evil, deeply evil, and deserves to die. If I pull these tubes, your leader will stop breathing, and with the chest tube out, he'll bleed into his chest. Both of these events will kill him, I assure you. You can try to pull me off or shoot me, but you'll kill him, too. I'm tugging hard on each of these hoses, and if I fall they come out. And I guarantee you'll never get them back in in time to save him. Let them leave, and when they're out safely, I'll release my hold on these tubes."

Tancredo's eyes flamed, her face reddened with anger. She lifted her automatic and aimed it at Lane.

"Sure, go ahead. And your father is dead. Go ahead, shoot."

She stood facing him. "You're posturing. You won't let all these people die, and have all these wonderful buildings destroyed."

"Want to find out?"

She glared at him for several moments, and then lowered the gun.

"Please, Margo. Let it go. Put that gun away. Let me handle this," Grossmann said. He followed her out of the room. Lane maintained his position. Minutes later, Grossmann returned. "She's very emotional. She's totally dedicated to our leader. You've disgraced her in front of our men. Don't cross her, she's ready to kill. We've agreed that your team is free to go. We'll escort them out."

Lane's colleagues had watched the drama in amazement and fear. They were unable to move. "I want to speak with Agent Pappas," Lane insisted. "I want him to tell me when the team is out and safe."

"We can't leave you here," MacFarland cried.

Lane managed to smile. "Thanks, Tom, but you all must get out. Remember, that was the deal. Please, no arguments. I'll be okay. Please call Samantha and Holly and tell them I'm all right." The five reluctantly walked out to

the elevator and were escorted down by two of Grossmann's thugs. The surgical team stumbled out of the Tower safely.

Grossmann dialed Pappas and allowed Lane to speak with the FBI agent. Still holding on to the tubes while Grossmann held the phone, Lane called out, "That you, Pappas?"

"Yes. What the hell's happening? Are you okay?"

"So far. Is my team out?"

"Everyone's out. They're pretty shaken, but they're fine."

Lane released both tubes and stepped a few feet from the bed. He continued, "As I'm sure they told you, Esfahani came through the operation. How soon he can be moved, or indeed if he'll survive, is up in the air."

"Take care of yourself."

"I'll try, but with all these guns around..."

At that moment, Margo Tancredo stormed into the room and hit Lane across the face with the butt of her gun. "You'll never get out of here alive, you son-of-a-bitch," she shrieked.

He crumpled to his knees, held the left side of his bleeding face, and felt a throbbing in his head.

Grossmann laughed. "I told you she's emotional. Don't cross her now. Just be quiet." He left the room, called by a guard to assess the status of one of the hostages.

The woman stood in front of Lane, legs spread in a military stance, her gun pointed at him. "I really want to kill you," she screamed. "And maybe I'll have that pleasure before this little drama is over. Please give me the opportunity, please." She smiled crookedly, bent over quickly to inspect her handiwork, shoved a piece of paper into his pocket, and then resumed her previous position.

"Get up and get out," she ordered.

"A couple of the nurses need to get back in and monitor your leader closely," he said, as he rose unsteadily.

"Well, get their asses in here now," she barked. "What are you waiting for?"

Linda Becker provided first-aid for Lane's wounds, after which he went back to his office, lay down on a couch, and pulled out the folded piece of paper Margo Tancredo had given him. But overwhelmed by fatigue, he closed his eyes, relived the past forty-eight hours, and abruptly fell asleep. He slept for a few minutes, but the pounding in his head awakened him. He then unfolded the paper and read: "*I am a friend. Am here to help. Follow my leads.*"

Lane sat up, confused. *Who the hell is she? How can she help? His daughter?*

15

During the next twelve hours, Lane evaluated Esfahani's progress. *Blood pressure, urine output, chest tube drainage, cardiac rhythm—all good. Still not waking up. Lab findings a problem—anemic—needs three units of blood, insulin for high blood sugar.* He gave the nurses medical orders, then made bedside rounds on the other patients in the ICU. All were progressing satisfactorily from the post-operative standpoint, but were frightened. "When's this going to end?" asked Jerry Murphy, whose rhythm remained normal.

"Soon, I hope," Lane replied, allowing a faint smile to cross his injured face. "We'll have you out of this place by tomorrow. Okay?"

"You're a lousy liar, Doc. I expected to die in surgery, but not at the hands of maniacs like these bastards." He gazed at Lane, hesitated, and then said, "Do your best. I know you will. And take care of your face. The sons-of-bitches do that?"

Lane nodded. "They're a very nervous bunch. One needs to be careful. If any of them pop in on you, say as little as possible, and do what they tell you. Okay?"

Lane returned to his office. He wished he could speak with Samantha, but in addition to cutting the phone lines, Grossmann's gunmen had confiscated all personal cellular phones. Lane sat at his desk and looked out at the Benjamin Franklin University quadrangle, emptied out by the police. The buildings and the walkways, usually filled with the bustle of campus life, were dead. Just like all of us pretty soon, he reflected. Weary, but ready to evaluate the patient again, he swiveled his chair around, and was startled to see Margo Tancredo standing in front of his desk, her finger on her lips telling him to be quiet. She came around and stood

next to him. He noticed her strange, but pleasant perfume. An attractive, dangerous woman, he thought.

She whispered to him. “Please forgive me for hitting you. I have to be certain they don’t suspect me, that they trust me. When you challenged me, I had to reply with some kind of brutality. Dieter made a point of congratulating me on that bit of savagery.”

“I’ll forgive you when my face stops hurting. What’s this all about? Who are you?”

“I’ve been undercover with these bastards for almost six years, right after September 11th. I’m CIA.”

“You’re not his daughter?”

“No. He started calling me his daughter, kind of teasing me, I guess. I amused him by playing on it. He has no family, so Dieter and I have assumed that role.”

“You’re CIA? You’re going to have a hell of a time convincing me of that. How do I know you’re not some rogue agent working for Esfahani? Here to see if I’m not up to something?”

Margo moved around to a chair alongside Lane’s desk, sat down, sighed, and allowed herself to smile briefly. “I know this sounds implausible, but I’m really on your side. I have a long family history of working hard to protect America. My grandfather helped break the Japanese code in World War II. He was a mathematician who got into computers early—things he sold to the CIA. My Mom and Dad were, and still are with the CIA.” She looked around nervously and glanced at her watch.

“So you expect me to believe you’re some kind of patriot?” Lane sneered

“Please listen to me. We don’t have much time. After I graduated from Cal Tech, I joined the CIA as an analyst, too. But the job was boring. So, I went into the field. You’d be surprised where I’ve been, and with whom, during the past ten years. But this has been the worst...and in many ways the most dangerous assignment.” She kept glancing at Lane’s office door and then at her watch.

“I heard briefly that he was important. That the feds wanted him badly,” Lane said.

“That’s right. Esfahani is the major banker for al Qaeda and half a dozen other terrorist groups. He’s the lifeline that keeps them functioning. I’ve been putting together a load of data on him—his banks, those working with him throughout the world, plans for new terrorist attacks. What I’ve managed to get out has helped put him on the defensive. We were about to bring him down when his medical condition got so bad, and he slipped away. I was unable to get the information to headquarters about his plans to go to Philly. And I never got access to his damn Metaverse. That might have been a way to get him. But, he kept that tight between him and Dieter. Now we have him, and we want him alive—there’s so much he knows that can help us.”

She looked at her watch. “I’ve got to meet with Dieter soon. Now listen carefully,” she said as she sat up, urgency in her voice. “I’ve planted an odorless nerve gas in the air-conditioning system. We’ve used this gas many times in our Esfahani capers over the past few years. Its effect lasts for about two hours, sometimes a little less. It’s not toxic and it always works. I’m going to release it and knock out Dieter and his foot soldiers. Unfortunately you and your people will also be affected. I’ll conceal myself, put on a gas mask, and be able to get the police and FBI into the building, to free you, the patients, and the nurses. Because of the variation in the gas’s effects, we’ll get you and them out first, leave a contingent to guard Esfahani and his troops, and then return with a larger group to take them into custody. And try to locate the explosives they’ve placed, not only on this floor, but several floors below. I don’t think that Dieter has them on a trigger yet. At least I hope not.”

“Are any of the explosives nuclear?” Lane asked.

“I don’t know. Dieter handled the explosive piece with our chief bomb expert, and they refused to share the details with me. But I do know they have nuclear devices stored in a secret laboratory at Esfahani’s Amazon Munitions

Corporation. The ultimate plan is to give one warhead to al Qaeda for use in New York City and a second one to Hezbollah for use in Tel Aviv.”

“Maybe they’ll start by blowing up Philadelphia,” Lane said.

“Philadelphia is an important city, but I don’t think it’s a big enough hit for them. They want maximal deaths and maximal disruption of America’s financial institutions. They want New York or L. A. So, I suspect they won’t use nukes even if Esfahani dies here. Much more likely they’ll use conventional explosives as a warning of things to come. But I’m afraid I can’t be sure.”

“Will the FBI cooperate with you if your plan works and you run out to get help?”

Margo smiled. “I’m certain CIA headquarters has let the boys out there know about me.”

“And this gas isn’t lethal? What is it? Remember, the patients are all sick, recently post-op. Can they tolerate this stuff?”

“I don’t know the exact nature of the gas. Before we started using it on a large scale, Esfahani tried it out on many of us, and we had no toxic effects. But, for people already ill...”

“Suppose we don’t do this? Let him escape?” Lane asked.

“Then you, the nurses, and all the patients will die, except for those they take out as hostages to aid in their escape. Esfahani, Dieter, and I spoke before the surgery. Your survival was not part of the plan.”

Lane remained silent. *So, we might die or we will die. Can I trust her? She seems genuine. Hell, do I have a choice?* “Okay, what do you want me to do?”

“Tell me when you think Esfahani has turned the corner and will live. At that point I’ll release the gas, and hopefully we’ll all survive.”

Twenty-four hours passed and the patient rallied. Now extubated, he spoke to Lane, his voice coarse and

raspy, a result of the endotracheal tube. “Dr. Robinson...you did it.”

“Yes.”

“When will it be safe for me to leave?”

“You’ve got a way’s to go before attempting any travel.”

“I think I will leave when the tube is out of my chest. Yes?”

“If you do, it’s against my advice,” Lane answered, realizing that Margo’s plan would need to go into effect in twelve to twenty-four hours.

“What happened to your face?” Esfahani asked.

“Your daughter. Didn’t like what I said and did.”

The patient chuckled. “High spirited, isn’t she? Found her in the slums of Marseilles almost seven years ago. I’ll have to scold her for hurting my doctor,” he said.

Lane left after giving the nurses instructions on further lab tests and medications. As he turned down the corridor to his office, he looked back, and saw Margo enter Esfahani’s cubicle. He went into his office, closed the door, pulled down the shades, sat down at his desk, and prayed.

At 6:00 a.m. on the fifth post operative day, Lane removed Esfahani’s chest tube. He made sure the patient’s breath sounds came through, indicating the left lung had not collapsed. “You’re doing well,” Lane said. “But you shouldn’t travel yet. You’re not strong enough. Lots of complications are still possible at this early stage.”

“Things are now in progress,” Grossmann said, as he entered the room, and told the nurses to leave. “Soon we will be out of here, but I’m afraid you and the rest of the people will stay until we are safely away. We are taking two of your nurses with us to assure that we can leave without any problems.”

“You can’t...”

“Don’t tell me what I can’t do, you officious fool!” he shouted. “I’ve already chosen two of the better looking ones. They’ll be helpful in caring for our leader during his

convalescence. Then, we'll decide what to do with them. And you're lucky. Our original plan was to kill you all. But Mr. Esfahani is so grateful to you, he decided on this change of plans."

Esfahani raised his hand, and said, "Dieter, please. A little respect for the good doctor. We owe him much, do we not? Where is Margo? I've not seen her yet today." He began to cough, and closed his eyes.

Lane became dizzy, and watched Grossmann collapse. The last thing he saw was a face at the door wearing a gas mask.

16

Margo made a rapid assessment of the ICU. The patients and nurses were unconscious. To be certain about Grossmann and the others, she quickly sought them out, and found them asleep, too. She descended on one of the elevators, dashed out of the hospital entrance, and was surrounded by police, who tried to take her into custody. Pappas came running out and stopped that.

“You’re Margo Tancredo?”

“Yes. Come on, let’s get them out. They’re all asleep. But I don’t know how long Esfahani’s people will remain unconscious. We’ve got to hurry.” She led a squad of FBI agents and troopers up to the 10th floor, and the ticklish, laborious evacuation of Lane, the patients, and the nurses began.

Tancredo pointed out Esfahani, Grossmann, and their thugs—and warned the agent in charge to guard them carefully until she returned with additional forces. “Handcuff them. They’re dangerous. If they wake up, they’re trouble.”

Grossmann awoke first. An agent stood guard just outside Esfahani’s room. The billionaire’s lieutenant looked up at the officer and cried, “The patient’s dying!” As soon as the lawman entered the room, Grossmann kicked him violently in the groin, and as the agent doubled over, the terrorist leader kicked him in the chin, and the agent fell to the floor. Grossmann rose and managed to wriggle out of one of the handcuffs, tearing his skin down to the bones and tendons. Despite the bleeding and pain, spurred on by fury and hate, he grabbed the unconscious agent and smashed his head against the floor, killing him. Taking the agent’s weapon and keys, he crawled out of the room on his belly, and shot the two remaining agents and a state trooper in quick succession.

He returned to Esfahani's room and saw normal parameters on the patient's monitor. Leaving him momentarily, he tried to awaken his troops, and began to unshackle them using the keys of the dead lawman. But the excruciating pain in Grossmann's hand made him dizzy. He sank to the floor, his efforts unfinished. Four of his men started to wake up. Grossmann gave the key to one of the men he had freed before his collapse, and ordered him to release his comrades. As his troops awakened, Grossmann positioned them alongside the elevators with orders to shoot to kill when anyone exited the cars, which were now all operating. Then taking out his cell phone, he made a call.

When the next squad of FBI agents and police arrived, they, and five of Grossmann's men, were killed by a salvo of bullets from automatic weapons fired by both sides. Arriving with the agents, Margo burst through the hail of lead and fell to the floor with a wound to her right arm. The mayhem lasted less than a minute.

Grossmann came up to her and kicked her. "You lying traitor. You bitch." He beat her into unconsciousness, and dragged her into Esfahani's room. The patient had awakened.

"See who betrayed us? Shall I kill her now?" Grossmann said.

"No," the terrorist tycoon replied. "We shall deal with her when we get out of here. We'll punish her as slowly and painfully as possible. I'll leave those pleasant duties in your capable hands. Have you called the helicopter?"

"Yes. It should be here very soon."

"As we leave will we have time to blow up the buildings and spray radioactivity over those scum outside?" Esfahani asked.

"I'd like to, but I'm afraid we don't have time to trigger the devices. We have to leave now. The helicopter is due in about one minute. It's my fault, Firouz. I had planned to use the explosives, especially the nuclear devices, only if you had not survived. I didn't anticipate this treachery. I'm

sorry, I don't think I can get the triggers set in less than ten minutes."

"Well, perhaps another day, another time," the patient said.

The remaining guards placed their billionaire leader on a gurney and hurried to the helipad.

Lane awakened on a stretcher on 34th Street surrounded by Pappas, several policemen, Tom MacFarland, and two of Lane's surgical residents. He attempted to sit up, but fell back, lightheaded.

"Did the nurses and patients get out?" he asked.

"Yes," Pappas replied. "They're all a little groggy from the gas, and they're crying, every one of them asking about you. The patients are being transported to a hospital out of the siege zone. Tancredo led us in to get you guys out first."

"So, you knew about her?"

"Sure. Remember? I told you we had plans to block their escape. I learned about her a couple of hours before you went in with your team. She's one of the CIA's top field operatives."

"And Esfahani?"

"A few minutes ago, I sent in another squad of FBI agents and state troopers to help our guys already in there to get Esfahani and his boys out."

"And Margo? Where is she?"

"She went in with them."

"What! Why?" Lane sat up, still lightheaded.

"She insisted on going. The CIA needs to decorate her. Seven years underground with those bastards."

At that moment, they heard the discharge of automatic weapons. Then an unmarked transport helicopter materialized and landed on the hospital heliport. Esfahani's gurney was loaded on the aircraft, followed by Grossmann and their surviving troops.

“They’re getting away. Why aren’t you firing at them? What happened to your men, and Margo? Oh my God,” Lane yelled.

“They’re not getting away,” Pappas shouted. “I’ve got three ships in the Delaware River, if that’s the route they take, ready to shoot the ‘copter down with missiles. And just in case he’s not heading for a ship, we’ve got soldiers armed with stinger missiles scattered throughout the cordoned-off area around the university, ready to shoot them down if they take a different route. We did that in case they escaped Tancredo’s plan.”

“But Margo...if she’s with them you’ll kill her, too,” he shouted

“I’m sorry, doctor, but my orders are to kill Esfahani if there’s no chance of getting him alive,” Pappas replied.

The helicopter took off and sped eastward. In five minutes, two fiery explosions blasted over the horizon. The helicopter plunged into the Delaware.

Pappas sent another squad of FBI agents and police into the Tower. They discovered five of Esfahani’s goons, eight FBI agents, and six troopers dead. Margo Tancredo wasn’t among the living or the dead.

For several days, the Coast Guard and FBI divers searched the Delaware River. They recovered the wreckage of the helicopter, but the hunt for bodies was unsuccessful.

It took a week for the multiple medical services at the Ben Franklin University Hospital to return to normal, and for the bomb squads to remove the cache of explosives scattered around the Tower. Lane remained home for two of those days to be with Samantha and to be mothered by Holly. He slept poorly, his dreams filled with amorphous, dark figures, dead bodies floating around a storm-tossed ship, and Margo Tancredo plunging to her death. He continued to relive the recent events and agonize over Margo's death. *A brave, heroic woman. To die so young. I wish I had had the chance to know her.*

On the second day home, Lane sat at his computer working on the same 3-D virtual program that had preceded Esfahani's first materialization. Suddenly his screen went temporarily blank, and then he found himself once more on the deck of the billionaire's ship. But, unlike his first encounter, the vessel lay anchored in a harbor dominated by luxurious apartments and villas whose windows reflected a glorious vision of the setting sun. A warm breeze fluttered the flags hung on the masts of the dozens of opulent yachts moored there. Lane knew he had seen this place before. But where, he wondered.

Esfahani rested in an easy chair, wearing a hospital gown, smiling, although he still had a sallow complexion and deeply sunken eyes.

"Well, Dr. Robinson. So nice to see you again," he said, his voice as syrupy as the first time Lane met him.

"Is this you or your avatar?" Lane asked, suspecting the truth, but hating to admit it to himself.

"Does it matter? You did a good job, saved my life. I am indebted to you. I wanted to personally let you know that your patient lived and was doing well."

Dieter Grossmann appeared, his right hand heavily bandaged. He nodded to Lane, turned to Esfahani and said, "Firouz, you should get back to bed."

Are they real, or avatars? Lane could not decide.

"Yes, yes. In a little while, Dieter. First I need some closure with the good doctor."

"How did you escape? Or did you?" Lane asked. "And if you did escape, what about..."

"Oh, you must be curious about Miss Tancredo. Bring her out," he said, with a broad grin.

Margo appeared, dragged roughly out on deck by one of Esfahani's goons. Her clothes were torn, her hair disheveled, her face bruised. She looked at Lane and tried to smile.

"A CIA agent," the terrorist banker said, his eyes growing distant and hard. "Imagine that. Goodbye, Dr. Robinson. Hopefully we won't need to see you again."

"But Margo," he stuttered. "Can't you..."

"Goodbye, Dr. Robinson."

Lane tore off his goggles and stared at his computer screen that displayed his surgical program once again and exclaimed, "He's alive and has Margo. I've got to go back and try to save her." He tried to download Esfahani's program, but his computer crashed.

Samantha stood at the doorway to his office. "Daddy, what's happening? You look worried."

"No, no, dear. Just a problem with my computer. A problem that needs urgent attention. But, it might not get fixed...unless I create my own Metaverse."

Lane lay awake that night and agonized over the question, Where was that ship anchored? He knew he'd been there. A tropical port that Elizabeth and he had visited. A port filled with expensive yachts. He was certain they had sailed into that harbor. But where? The Caribbean? No. Italy? No. He closed his eyes and felt an overwhelming dark weariness. He slept about an hour and then suddenly awoke.

Yes! Lane sat up abruptly, and swung his legs over the side of the bed. Spain, that's it. Spain. He and Elizabeth had traveled in the Mediterranean along the Costa del Sol. Where on that coast? Puerto Banus!! Just outside Marabella. He remembered sailing into the marina and how delighted they were to see pristine beaches on each side. He recalled how he and Elizabeth sat on deck from where they could see the magnificent La Concha Mountains. They swam, laughed, made love. And the very special way the sun reflected off the windows of the condominiums and hotels beyond the marina. They had waited for that spectacle every evening. "That's it! That's where the bastard is," he cried. He looked at his watch. 5:00 a.m. No time to lose. He picked up the phone.

18

“Don’t tell me there’s another crisis! What now?” Henderson groaned.

Lane explained what happened and asked the ex-FBI chief to help him mobilize a rescue operation.

Several hours later, in Pappas’s office, Lane engaged in a secure conference call with the directors of the FBI and CIA. “I’m certain that Esfahani is in Puerto Banus in Spain. And that in our world he, Margo, and that thug Grossmann are all alive. But she may not survive much longer. We need to get her out immediately, and at the same time capture those swine,” Lane declared.

“It’s difficult for me to believe that the computer is telling you where they are. And if so, why did Esfahani disclose this to you?” the FBI director asked.

“He couldn’t know I’d recognize the harbor. There are dozens of places similar to that all over the Mediterranean. He brought me into his Metaverse to show me he was alive and that he had outwitted everyone. It’s his damn gigantic ego.”

“What the hell is a Metaverse? How can someone jump from one world to another? Come on. This is crazy,” the CIA director growled.

“Look, I really can’t explain this either. You’ll have to take my word. Somehow, Esfahani has found a way, and damned if I know how, to access a parallel universe, his Metaverse, and attach it to a computer network so that what occurs in reality is duplicated in the computer, in this parallel world. And he’s able to somehow travel between these two places. Remember, we rescued my daughter in the real world because I detected her presence in Esfahani’s Metaverse. I’m certain he’s in Puerto Banus.”

“All right. But it all sounds wacky to me. However, I’ll go ahead and contact the appropriate people in Spain,”

the CIA director replied. “Dr. Robinson, we, this nation, owe you and Margo Tancredo a helluva lot. I promise you we’ll do all we can.”

“Can’t we do anything directly now? Do we have to rely on the Spanish?” Lane asked. “Esfahani can move quickly, in and out of his Metaverse. Whatever you plan, it’s got to be done with the utmost secrecy. I suspect he’s got people allied with him in every part of the world.”

“We’ll do our best here,” the FBI director said. “But we can’t send our people in and precipitate an international incident. If you’re right, the bastard is on Spanish territory.”

“Can’t you send in a special ops unit?” Lane said.

“No,” the CIA director said. “Even if we were certain of the location, we wouldn’t send in our own team. Spain is an ally and part of NATO. We’d be violating their territory based on flimsy evidence—a computer program that nobody understands. But, I assure you, along with the State Department, we’ll inform the Spanish government of the problem, and put as much pressure as we can to get the bastards, and rescue one of our finest agents.”

The conference ended, and Lane turned to Pappas. “I’ve got to go to Spain and rescue her before she’s murdered.”

“No, you can’t. This has to be handled by professionals. And if you continue to push, I’ll insist you surrender your passport. Look, I know how you feel. I promise I’ll keep you up-to-date on what’s happening. But you stay in Philly. Understand?”

Lane stared off in the distance. Then he rose, walked to the door, and turned to face Pappas. “I’m grateful for everything you’ve done. I didn’t mean to sound off. But she’s saved so many lives. We’ve got to save her!”

Pappas nodded. “I understand. Leave your cell phone number, and your schedule for the next few days. I promise, I’ll keep you informed.”

The next day, Lane returned to the hospital, but the images of the past two weeks remained fresh in his consciousness. He performed two coronary bypass operations

and an aortic valve replacement. The three cases went smoothly and, as evening descended, he packed up his briefcase and prepared to go home. He paused. What was Margo enduring right now? What was being done to her? He had to act. But how?

19

That evening, Samantha asked Lane why he seemed so preoccupied. “You ok, Dad?”

“No, dear. I’ve been thinking about the people who kidnapped you and held us hostage at the hospital, and about the woman who saved our lives. If I could get back into Esfahani’s Metaverse, I think I could save her. But, I don’t know how to create my own Metaverse, and I don’t know how to access his again.”

“How’d you get into his Metaverse before?”

“After he kidnapped you, he communicated with me through his program, and for a while he must have forgotten I had the code that allowed me to log into his Metaverse. But now he’s changed the code.”

“Did you look at your memory chip?”

“I did, but there’s no evidence his program ever ran on my computer.”

She thought for a moment. “So, how did he find you in the first place?”

“I was working on one of my 3-D surgical programs.”

“I bet there’s a wormhole in there. It’s just like my new game, *Interstellar Troopers*. It’s about human space cavalry that go zooming through wormholes to other sides of the galaxy to battle all kinds of great, scary aliens. We just have to find it.”

Lane pondered her suggestion. “Interesting, dear. It’s worth a try, although I don’t know how to start.”

“Come on, Dad, I’ll show you,” Samantha said.

Lane and Samantha tinkered with the complex congenital heart defect software, the one Esfahani had interrupted. Together they searched for some irregularity that might serve as an entrance into Esfahani’s alternate universe. Watching her perform, Lane decided that Samantha was

definitely surgical material. She'd tried every surgical maneuver Lane could think of on the virtual patient, and even found some minor flaws in the program. But nothing unexpected, nothing that even hinted at a wormhole.

Lane told her he was about to give up. But Samantha said, "Hey, Dad. Let me try something else."

Samantha took the surgical probe and began touching every part of the virtual operating room. At a point at the foot of the operating gurney, the tip of the probe disappeared. When Samantha pulled back, the tip reappeared. She repeated the exercise several times with the same result.

"There it is!" Samantha cried. She had found the crack in the software, the crack into Esfahani's Metaverse.

"Samantha, you're a genius!"

"Let's go across and see where it takes us," Samantha replied

"No, dear. You can't go. It's too dangerous."

"Look, Dad. I know more about computer games than you do. And remember what those bast... , I mean, bad guys did to me. I'd like to see them punished, and I want to see what happens. This is the best computer game I've ever played."

He smiled and hugged her. "Okay, partner. Off we go! But wait. We need to create avatars."

Samantha brought in her computer and logged on to Lane's program. Lane re-created his avatar and Samantha designed an animal avatar, an owl, who sat on Lane's shoulder. He provided optical camouflage for both of them, and they moved through the crack into Esfahani's Metaverse, still centered on the luxury yacht, SUCCESS ONE. Armed guards patrolled everywhere. Careful to note the spot on the deck through which they had come, they searched the ship, hoping to find Margo alive. Finally they came to a door down on the engine room deck. They entered a tiny, dark cabin in which Margo lay in chains, her face swollen, her partially clothed body severely bruised. He stifled the urge to let her know that a rescue plan had been launched because he

feared that she might be tortured further and give up the rescue plan, or be too far gone to help. He and Samantha returned to the main deck, and disappeared through the crack in space.

Lane telephoned Pappas and explained what he and Samantha had done, and where Margo was imprisoned. “Any news? Are the Spanish police moving? She’s in a bad state—the bastards have been beating her. The Spanish will need to use special forces—the ship is heavily guarded and her prison is down on the engine room deck, which is not easy to access.”

A flurry of confidential phone calls were made from the U. S. State Department and CIA headquarters to Spanish officials in Madrid, who were reluctant to act on what they called a “science fiction melodrama.” After it appeared that negotiations would break down, Lane, Henderson, and Pappas flew to Washington, and convinced the President to contact the Spanish Prime Minister, who then approved the dispatch of a crack special forces team to Puerto Banus, under the leadership of Major Ernesto Garcia-Ramirez.

Arriving at the Puerto Banus harbor before sunrise, twelve hours after the Prime Minister's orders, the Spanish troops moved quickly on to boats that took them out to where Esfahani's ship lay anchored. As the special forces boarded the vessel, a gun battle broke out between them and the billionaire's guards, awakening the sleepy inhabitants of the luxury hotels and condominiums. The bodies of dead guards fell overboard, painting the early morning water crimson. Grossmann ran up to the main deck, viewed the carnage, escaped a hail of bullets from Garcia-Ramirez's forces, and raced to his leader's cabin.

"We've got to get into the Metaverse now," Grossmann screamed as he dragged the terrorist banker out of his bed.

"Margo," Esfahani croaked. "We must take her with us."

At that moment, the Spanish forces came running down the steps toward Esfahani's stateroom. "The hell with the girl. We've got to go," Grossmann shouted, as he heard semiautomatic gunfire from an exchange between Esfahani's guards and the rescuers.

Grossmann grabbed his chief's arm and pulled him to the computer that sat on the other side of the stateroom. He quickly typed in the code for the Metaverse and gave a computer crash order that would be carried out as soon as they were safely across.

Twelve hours later, Lane stood beside Margo Tancredo's bed in the medical intensive care unit at Madrid's Hospital Universitario de La Princesa. She lay breathing slowly, unlabored, her eyes closed, an intravenous infusion of saline in her left arm. The attending physician told Lane that Margo had received two units of blood to treat a

moderate anemia. She had a serious fracture of the humerus of her right arm. No significant damage to any other organ had been found, although there was evidence that she had been raped.

Lane touched her hand, and she opened her eyes. She smiled wanly through her swollen face.

“How did you find me?” she asked in a hoarse voice.

“A long story,” he replied gently. “When you’re well enough, I’ll be taking you back to the States, and we’ll have plenty of time to talk.”

She nodded and closed her eyes. Lane stepped back, his jaw clamped down hard, as he gazed at Margo.

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Lane and four members of a CIA special forces team had assembled in the surgeon's study in Villanova. Each sat at a computer and logged on to Lane's 3-D surgical program. All wore newly enhanced 3-D stereoscopic goggles, wired gloves, and stereophonic headphones. Lane's avatar led the four CIA special forces avatars through the crack in his surgical program and into Esfahani's Metaverse. They found themselves at midnight in a garden shed inside the tycoon's Swiss estate, which was defended by high walls and guards carrying automatic rifles. Lane outfitted all the avatars with optical camouflage and, equipped with night sensing goggles, they stepped through the main entrance of the mansion.

Even in the darkness, the opulence of the house was overwhelming. What appeared to be original masterpieces hung from the walls. Thick oriental rugs covered the floors. Antique clocks and magnificent carved furniture were in every chamber. Lane and two of the agents walked slowly through the rooms. Despite their invisibility cloaks, they were careful to avoid the guards who patrolled the halls. The agents made notes and diagrams of the mansion's layout, in case the plan didn't work, and an action in reality was required. The other two agents found the entrance to the mansion's labyrinthine basement. After cautious exploration, they opened their satchels and planted explosives in multiple strategic sites. On an upper floor, Lane saw Esfahani in his study working at his computer, and Grossmann busily scanning voluminous printouts in the financial center just beyond the billionaire terrorist's office. Lane left them undisturbed. The group reassembled in the great hall of the mansion, and were about to leave when a trio of guards entered. Lane and the agents slid back along one wall and waited. After a cursory search of the room, the guards

departed. Lane and his team quickly returned to the shed, and reappeared in Lane's 3-D surgical matrix.

Lane and the agents took off their goggles, gloves and headsets, and shut down their computers. "It's been great working with you fellows. Let's hope our effort was successful. I guess we'll know soon," Lane said.

"Dr. Robinson, it's been our pleasure collaborating with you. And if this caper scores, you'll have pointed out a new direction for us in the war on terror. We'll be calling on you soon to help us," Ken Ferguson, leader of the CIA team, said.

"I'd be delighted," Lane replied. They all shook hands, and the agents left.

Lane sat back, and smiled. If I'm right, two for the price of one, he thought. He regretted that he'd probably never know how Esfahani did it, how he constructed his Metaverse, the cracks in space, and how he could move in and out of reality so easily. Lane considered contacting Dr. Zanger to learn more about Schrödinger's Cat and find some answers there. But he bet that all of this would remain a secret forever, or until some really smart computer geek came along.

Then he heard the sound of automobiles in the driveway, and looked at his watch. Time to go, he thought. He rose, and walked downstairs for dinner with Samantha, Holly, his surgical team, and Margo.

Lane awoke early the next morning. He surfed the TV news shows and the local radio stations, but found no news concerning Esfahani. Then he opened his computer and logged on to philly.com, and discovered two items he had hoped to see:

02:30 AM EDT

Mysterious Midnight Explosion

By Anthony Price—Reuters

Zurich, Switzerland.

A nighttime explosion destroyed the estate of the billionaire international tycoon, Firouz Esfahani. The cause of the explosion is still uncertain. Everyone in the house was killed, including Mr. Esfahani. Swiss authorities are investigating.

Widespread Computer Problems—02:40 AM EDT

By Richard Glendenning—Associated Press

Personal computers across the United States and Europe were suddenly blacked out yesterday. Most sustained no permanent damage, but a handful of individuals complained they had lost some of their files. The cause at present is unknown, although some blame hackers.

“Yes, yes, yes!” he shouted. “We did it!” He jumped up and was about to awaken Samantha, when his gaze fell on an additional story.

Ship Vanishes—05: 58 AM EDT

By Clifford James—Associated Press.

British and Spanish sources report seeing a 400 foot masted-sail-yacht sailing westward through the Straits of Gibraltar.

As it exited the Straits, it appeared to suddenly vanish. Both British and Spanish rescue vessels are combing the area searching for possible survivors.

He sat down, shook his head, and mumbled, “It’s not...” just as his computer crashed.