The Quantum Passageway

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CHAPTER ONE THE TIME MACHINE

"That'll be six hundred credits please," said the electronically synthesized voice of Elvis Presley. The Corporation had equipped all of its fully automated hover-cabs with realistic sounding voices of people throughout history. The Elvis-cab sang traditional Elvis songs like Burning Love and Viva Las Vegas while the Shakespeare-cab recited lines from Romeo and Juliet and Hamlet. There was even a twentyfirst century New York cabbie-cab that told rude jokes and screamed at the other hover-cars. The idea was to make the ride more interesting so as to take the passenger's mind off the fact that he was paying such a ridiculously high fare. Jon took the credit token out of his briefcase, leaned over, and waved it in front of the receiver pad. The small display panel showed paid and an audible "Cha-Ching," like the sound of an ancient cash register, emitted from the speaker.

"Uh, thank you...thank you very much, Mr. Dempsey," said the Elvis-cab in a smooth southern drawl. The cab then descended to within a foot of the ground. The door unlocked and opened automatically allowing Jon to step out. He watched as the Elvis-cab rose up to merge into traffic high above the street level.

"Six hundred credits for a three mile trip," he grumbled. "I think Mr. Dempsey should complain." He felt a pang of guilt as he looked at the forged credit token in his hand. Then he tossed it into the curbside, solar-powered waste disintegrator. He didn't like the idea of stealing from someone, but this was an important mission and he needed to cover his tracks. It wasn't easy to forge a credit token, but Jon Adams had the talent and technology to do it flawlessly. He was a scientist and an engineer. He had lifted the DNA off a discarded coffee cup and melded it into the false credit token. He knew that the Elvis-cab was an older model. Cabs built this year, in 2206, would have facial recognition capability. Most of the older cabs were still waiting for the upgrade. He had considered walking the three miles to the lab complex, but the streets were not a safe place at midnight. He couldn't use his own credit token because the Corporation would be monitoring it for activity. If they found him in the vicinity of the facility at midnight, he'd be stopped before he had a chance to do what was needed.

He gazed at the office complex in front of him. He took a deep breath and walked cautiously toward the rear of the building, being careful to stay clear of the hover-guards. He knew the pear-shaped robotic mechanisms floating around every entrance had a limited sensor range. He wanted to make sure he didn't attract their attention; at least not yet. He made his way to the rear entrance of the building which was protected by two such devices. He watched as each guard glided from opposite ends of the wall toward the doorway in the middle. They paused for a moment when they reached the door and then retreated back to their original positions. They repeated the maneuver over and over. Each guard flew slowly back and forth like a sentry guarding a castle. The hoverguards were a bit larger than baseballs with two antenna-like probes protruding from their heads. The probes scanned the area around the door and throughout the alleyway. If one of them sensed an intruder, it would immobilize him with a pulse ray before notifying the security staff.

Jon opened his briefcase and took out a small robotic device. He tapped program instructions on a tiny keyboard and set the gadget on the ground. He closed the briefcase and stood up. The little robot at his feet came to life and quickly rolled toward the building. It emitted a strong signal that would attract the attention of the hover-guards once it came within range. Both guards stopped in mid-flight as the intruder crossed just inside the outer boundary of their sensors. The little robot stopped in its tracks. One sentry moved toward the door while the other drifted away from the building to investigate the disturbance. The little intruder whistled and flashed its tiny multicolored lights as it moved back and forth and side to side, taunting the approaching guard. One of the probes on the hovering robot began to glow menacingly as it activated its pulse ray. The contraption on the ground quivered and its mocking sounds took on a more frightened tone. Jon crouched as he watched the scene play out. The next few seconds were crucial. If he wanted to enter the building without getting caught, he had to time this just right.

Suddenly, a tight beam of blue light shot out of the hoverguard's antenna and struck the tiny trespasser. It squealed and shook as it absorbed the energy from the pulse ray. Then, without warning, it split in two. Each half scurried off in opposite directions running a serpentine pattern at each end of the alleyway. The communications disrupters and holographic emitters on both halves of the evasive little gadget were now fully charged by the beam from the hover-guard. Three dimensional images of thugs, soldiers, ninja robots, women with baby strollers, and small children flooded the alley; each one emanating a very life-like signal. Both hover-guards sprang into action, chasing their targets to opposite ends of the alleyway. Pulse rays zipped through the air in an effort to neutralize any human, android, or robot that posed a threat. The guards were programmed to recognize the difference between dangerous and non-menacing beings. They ignored innocent bystanders, especially children. And, thanks to a holographic scrambler, Jon looked like a ten-year-old boy to the frantic flying sentinels. All scanners on both hover-guards were focused on dealing with the threats. Their calls for assistance were jammed by the communications disrupters on the little assault robot. The entrance was left unprotected.

With the lookouts distracted, the next challenge was getting through the door and into the building. He only had a thirty second window before the backup security protocols kicked in and one of the guards returned to protect the entrance. He pulled a small card out of his pocket as he ran to the door. The Corporation revoked his official access card, but Jon had long ago hacked into the security system and programmed a card that would not only give him unlimited access to the entire complex, but also prevent the system from tracking his movements. If the security team found and disabled the hacked code, his mission would be cut really short. He crossed his fingers and waved the card in front of the receiver pad; there was no response. He waved it in the opposite direction; still nothing. He glanced over at the hoverguards. They were frozen in mid-air, whirring and clicking as the backup security protocols loaded.

He was trapped. The guards snapped to attention and once again they were on the move. He cursed his bad luck and slammed the card dead center of the receiver pad. The door clicked open. With cat-like speed and agility, he grabbed the door, cracked it open enough for him to slip through, and closed it just as one of the hover-guards flew back to cover the entrance. The other guard widened its range to cover all possible threats. Their job done, the robot halves joined together. All holograms converged on the floating guardian. Ninja robots raised their swords, mercenaries aimed their guns, and little old ladies waved their umbrellas as they ran toward the lone defender in a full frontal assault. The hoverguard powered up its pulse ray as it braced for the attack. But just as they were about to strike, the attackers disappeared in a sudden flash of bright blue light. Meanwhile, the little robotic soldier scurried away well out of sensor range. The guard spun around, its antennae twitched in all directions looking for any remaining threats. It turned toward its companion who was protecting the entrance. If a softball sized, pear-shaped, floating robot could shrug, it would have done so. Instead, it beeped, squealed, and produced a small blue lightning bolt between its antennae. Then both guards returned to their original positions and patrolled the alleyway.

Inside the building, Jon leaned against the wall, breathing heavily, his heart racing. He looked around to see if any human guards had been summoned. He relaxed a bit when he noticed he was alone in the hallway. In a minute or two his heart rate fell to almost normal. He put the key card in his pocket and moved quickly down the corridor to a supply closet. He quietly slipped in, closing the door behind him. He opened his briefcase again. Inside the case were a lab coat and a device about the size of an antique cell phone. He clipped the device to his belt and put on the lab coat. He stashed the briefcase in the corner of the supply closet and cautiously stepped out into the hall. There were mostly guards roaming the corridors of the lab complex, but a few technicians remained to tend to the equipment.

He had decided he could move about more freely dressed as a technician than disguised as a guard. He headed for the elevator that went to the laboratory complex far below ground level. Once there, he pressed the down button and touched his keycard to the center of the receiver pad installed to the right of the door. The sliding doors opened with an almost inaudible whish. He stepped into the car and pressed the button for the subbasement. As the elevator descended, he stepped off to the side so as not to be seen once he arrived at his destination. When the doors slid open, he peeked into the hall. The coast was clear. He exited the elevator and made his way toward the main lab.

He ran noiselessly through the dimly lit hallways of the underground laboratory complex. As he moved from one puddle of light to another, the only thing visible was a quick flap of the white lab coat tail. He had once walked carelessly through these halls, talking and joking with the other scientists and technicians, but today was different. No other scientists remained and the technicians were anything but cheerful. The only cheerful people were the guards who were sent in by the Corporation to secure the complex. They patrolled all throughout the main hallways. To avoid detection, he made his way through the back corridors of the subbasement. He wore shoes with noise-cancelling, acoustic soles so as not to make a sound as he hurried toward the main lab.

He glanced at the clock on the wall. It was ten minutes past midnight. It struck him that his concept of time had changed since he had signed on with the Stephen Hawking Project and began experimenting with time travel. The Hawking Project was named after a twenty-first century physicist who theorized that time travel to the future was possible. He did not believe, however, that a person could be transported backward in time. In his mind, the concept of time travel to the past had a fundamental problem. He called this problem a paradox; things that happen in the past affect things in the present and future. Therefore, since he supposed that the past could not be changed, he considered it an impossibility to go there. The scientists involved in the project were determined to prove him wrong. They envisioned a device that would allow people to move back and forth in time as easily as they moved from room to room. They wanted to make time travel a reality; so did the Corporation, the organization that provided the funding. Years into the project, however, it was still incomplete and way over budget. The executive staff had grown tired of waiting for results. They had sent agent Biggs to oversee the process of shutting down the project.

Agent Biggs was the Corporation's lead field representative. He had a tall, muscular body that he somehow managed to stuff into an ill-fitting suit. Jon thought his short, marine-style haircut, rough voice, and two day old beard made him look more like an enforcer than a businessman. He came to them last week to break the news and hand the scientists their walking papers.

"We need to cut our losses and move on," Biggs announced. "Every year it gets tougher to justify the cost of this monstrosity. Effective immediately, the Hawking Project is history." He smirked, obviously enjoying his own joke. No one else found it funny. He cleared his throat and continued, "Yes, well, my people will be here in two weeks to dismantle the device and shut down the lab. In the meantime, the design team is no longer needed and their access cards are hereby revoked. A skeleton crew of technicians will be allowed on site to maintain the equipment and help with its dismantling, packing, and shipping. I have guards posted throughout the facility to make sure these orders are carried out and no one interferes with the process. " He had looked straight at Jon when he said that last sentence. He didn't like Jon much and the feeling was mutual. Within minutes the access cards from the entire design team were collected and the scientists were escorted out of the building.

He frowned as he remembered that conversation. The two week deadline was almost up, which meant his window of opportunity was closing rapidly. The complex was eerily quiet. He continued on to the main lab. He knew that today would be the day he made history, or rather, he thought, today would be the day he *joined* history. He was well aware of the danger, but he knew he had no choice. The lives of all the people he knew and loved depended on his success. He touched his access card to the receiver pad near the entrance to the main lab. He heard the lock disengage with a click. He opened the door a crack and cautiously peeked in. There was no one there. He slipped in and quietly closed the door. He put the card in the pocket of his lab coat as he hurried over to the control panel and started to enter the new calculations.

A million things raced through his mind as he made the final preparations for his journey. He thought about Professor Carlyle, the head of the project and a scientific genius in his own right. A short man with a slender build, his face was usually clean shaven. The bald spot on the top of his head was surrounded by a halo of thick gray hair always in need of a trim. He was very passionate about his work. Sometimes, when he became excited about a new discovery, he would dance around the lab, laughing and waving his arms in the air. His white lab coat would flap behind him like a super hero's cape.

Jon smiled as he remembered the endless debates he had with the professor over physics and quantum theory back at the university. They were an odd pair. The professor looked like something out of a mad scientist comic while he looked more like an athlete. He was average height with a lean, strong body. He had curly, dark brown hair that lay carelessly atop his head. He had grown a beard once, but he decided he looked more like a pirate than a physicist, so he shaved it off.

"My boy," Professor Carlyle had told him, "I am going to prove to the world that time travel is possible and I want you to be my number one man on the project." That's how it all began. As the professor's right hand man, he was deeply involved in all aspects of the project. He was proud of his role. He remembered the day Professor Carlyle decided on a name for the device. He decided "The Time Machine" was a little outdated, so he christened it the *Temporal Transporter*. He was so excited, he bought champagne for the entire staff and they celebrated throughout the night.

He shook his head to bring his thoughts back to the present. He entered the coordinates for what he hoped would be a successful trip. He ran the calculations over and over in his mind to make sure he could get as close to the target time period as possible and back again. That was the tricky part, getting back again. He did not want to be stuck in the past.

little He shivered as he considered their а past experiments. The very first thing they had tried to send back in time was a pineapple. He had the honor of pressing the button that would activate the time circuits. There was a hush in the laboratory as the machine's hum announced the activation of the time transfer sequence. The pineapple started to emit an eerie green radiance. The entire team watched mesmerized as the glow intensified and the pineapple seemed to expand. He had expected the pineapple to disappear. And it did...sort of. It exploded with such force that pieces of the fruit embedded themselves in the machinery. Fortunately no one was seriously hurt; although the lab smelled like cooked pineapple for weeks. The incident did, however, serve to make them a bit more cautious. A blast shield was installed to protect the technicians from any future mishaps.

The second attempt came months later. Professor Carlyle had asked a technician to take a picture of him standing next to the unoccupied transport pad. The digital photo was immediately displayed on an overhead monitor. Ten minutes later they stood a mannequin on the pad. They named the mannequin Captain Kirk, in honor of the starship captain in the ancient Star Trek science fiction series who was constantly bouncing around in time. They would attempt to send Kirk ten minutes back in time. If they were successful, they believed the photo would no longer show Professor Carlyle standing next to an empty transporter pad. Instead, he would be standing next to Captain Kirk.

With great anticipation, Professor Carlyle clipped the mobile transmitter to Kirk's belt. This device was an essential part of the time travel experience. Once activated, the mannequin would immediately be transferred back to the present. Carlyle had taken his place behind the blast shield and excitedly pressed the button to activate the time transfer sequence. The Temporal Transporter hummed. An eerie green glow slowly surrounded Captain Kirk and his body began to expand just like the pineapple. Jon remembered the team had all hunkered down behind the blast shield; the memory of the pineapple fiasco still fresh in their minds. Suddenly the mannequin exploded into a thousand shimmering pieces. But instead of splattering against the blast shield, the pieces stopped and hovered in midair. Then each piece took on a glow of its own and began to spin. Suddenly they imploded like dust particles being sucked into a vacuum cleaner.

All eyes had darted to the overhead monitor. Professor Carlyle was no longer alone in the photo. Standing next to him was the stately figure of Captain James T. Kirk; perfectly posed and, thankfully, whole. And that was the last anyone ever saw of him. All attempts to bring him back to the present failed. It was as if he was somehow lost in time. Months passed and there were more experiments. Their most recent experiment had been done using a guinea pig. They had placed a video camera in a room just outside the lab. They were attempting to send the little fellow not only back in time, but also to a different place. They set the time controls to ten minutes in the past and the space controls to the room with the video camera. Then they activated the time transfer sequence. The subject glowed, expanded and suddenly disassembled into an array of glowing, spinning fragments before it was sucked into the time vortex. Unfortunately, all attempts to bring the subject back had failed. As hard as they tried, they could never activate the mobile transmitter.

When Professor Carlyle had viewed the images on the video immediately after the sending the guinea pig to the past, he saw the little brown and white animal moving around the room. The time stamp showed the he had appeared in the room exactly ten minutes before he was sent back in time. But when the professor entered the room, it was empty. There was no sign of the little time traveler. He had left the camera running as he came back to report his findings to the team. When Jon and the professor reviewed the footage again later that evening, they were in for a shock. They had reset the video to watch it from the beginning. The guinea pig appeared as before at the precise time it was sent to the past. Then they saw Carlyle walk into the room. They watched him search in vain for the little fellow as it danced unnoticed around his feet. Jon and the professor had stared at each other in amazement. They fast-forwarded the video; the guinea pig was there all day long. They could see him roaming around the room. They switched the camera to record again. Both Jon and the professor walked into the room where the little white and brown animal should have been. They searched in every corner and could not find him.

When they left the room to review the video again, they saw themselves searching unsuccessfully for the guinea pig. And yet, it stood right in front of them. They suddenly realized that it must have shifted out of phase with normal time. It was an amazing discovery! They had theorized that a phase shift was a possibility during time travel. If it occurred it would place the subject in a kind of limbo. They believed that, from the subject's point of view, time stood still. The subject could essentially live forever in an out of phase state, but he could not interact with anyone in normal time. In other words, the guinea pig could move around all he wanted and never be seen. The fact that it was caught on video was an unexpected bonus.

This discovery had thrown the project team into a frenzy. They had sent a living thing back in time! It had survived and was living in the past. They had proved time travel was possible! But there were still a couple of glitches they had to resolve. First, they had to make sure the next time traveler would not experience a phase shift upon arriving in the past. Second, they needed to find a way to make a connection with the subject once he reached his destination. The gap in time must somehow be bridged. So far they had not found a way to activate the mobile transmitter. The next several months had been a blur of activity. The team recalculated the time transfer sequence algorithms and made adjustments to the mobile transmitter. Jon remembered the heated discussions with Professor Carlyle about what or who should be the next time travel subject.

"No, Jon, we can't risk sending a human being back in time. We have no idea how that person would be affected," Carlyle had said.

"But professor, the guinea pig did not seem to be harmed in any way. He looked and acted perfectly normal."

"That was a guinea pig, my boy. A human being is much more complex. We don't know if there would be any lasting physical or psychological effects. What if the person we send back in time becomes deranged and decides to use his knowledge of the future to change history? Who knows what kind of damage he could do? He could destroy the present as we know it. No sir. We need to do a lot more testing before we introduce the human element." "Professor, I redesigned the mobile transmitter. It has much more functionality now. It's more of an accelerator than just a homing beacon. I added force field technology that will trigger during the time transfer sequence. It will protect the subject during the journey through the vortex and deactivate once he has reached his destination. The subject will not be harmed physically or emotionally. He won't even realize anything has happened. He'll close his eyes in the present and open them in the past. I know it's going to work."

"Force field technology? What are you talking about?"

"It's the same technology that protects the Mars space cruiser during its flight as it passes through a wormhole going from Earth to Mars and back again."

"What do you know about force field technology?"

"My grandfather was the chief engineer in charge of the first Earth to Mars transport missions. He invented it. It was designed to protect a ship full of people as they moved through the space-time distortion that links one location and time with another."

The professor's eye's widened. "Your grandfather was Tiberius Adams?" he asked, surprised.

"Yes, sir."

"My goodness! Well, now I know where that magnificent brain of yours comes from. The man was a genius!"

"Thanks, professor," he said a little embarrassed at the complement. He moved on with his explanation. "The force field needed to send a ship full of people though a wormhole requires a tremendous amount of energy. If you were to put that much energy around a person it would likely crush him."

"So far I don't feel very optimistic about your proposal."

"Hear me out, professor. I adjusted the force field it so that it will produce just enough energy to protect the subject without hurting him. And when he activates the Temporal Accelerator while he is in the past, the force field will spring up and he will be ready for the trip home."

"What about the problem of slipping out of phase with normal time?"

"I've got that covered, too. I added a phase adjuster app. It works with the space-time continuum so that if the traveler begins to shift, it will automatically make the adjustments to put him back in phase. I even added an app that will allow the subject to manually shift in and out of phase just in case."

The professor paused and rubbed his chin. He turned away as he considered the possibilities of what he had just been told. Jon waited anxiously. At last the professor turned back to his young partner and with a proud smile he said, "All right, Jon, let's take a look at that Temporal Accelerator of yours."

That conversation with Carlyle seemed so long ago. He wondered what the professor would think about his decision to go back in time. He wondered what his grandfather would say if he knew he was using the technology he invented to break the time barrier. He stopped for a moment and looked around at the rows of computers, the control panel, the transport pad, and all the other technology that probably would not be here if it wasn't for his grandfather's ground breaking discoveries. He entered the last of his program changes as he let his mind wander back to when he was a little boy visiting his grandparents in Teakwood, Arizona. He was sitting on his grandpa's lap listening intently to another adventure story about time travel. He smiled at the memory. He thought about his grandfather often, the gray in his curly, uncombed hair had replaced all but a few streaks of brown. He had a round face and a cheery smile that peeked out from under a thick gray moustache. He remembered the trips to the observatory where Grandpa would describe the constellations and tell him all sorts of fascinating stories about space travel, the stars, giant wormholes, and time travel; especially time travel. His grandpa had *so* many time travel stories. When he laughed at the stories, his grandfather became very serious.

"Don't you scoff at time travel, Herbie G," cautioned grandpa.

He always called him Herbie G. He never knew why and he never asked. It was grandpa's special name for him and he liked it.

"When I was your age," he continued, "they didn't believe we could put people on Mars. Now, look at us. We have three domed cities, a mass transit system, and express star cruisers that'll take you from New Florida to Marstown Station in just three days! Why just this morning I heard that Walmart was opening a super store in Marstown Center!"

That was a long time ago. Grandpa was long gone, but he could still hear his voice as clear as if he stood right in front of him. "Study hard, Herbie G. If they can put a Walmart on Mars, they'll figure out a way to send people back and forth through time. Listen to your grandpa. I've got a good feeling about this. I know it's gonna happen. And when it does, you need to be a part of it, understand?"

When he nodded his grandpa would smile, ruffle his hair with his short pudgy fingers, and say, "Good boy, Herbie G, good boy."

Grandpa's enthusiasm was contagious. He found himself caught up in it. He had spent his summers pouring over video

files and old style e-books on science and technology. He had called on the holographic librarian so often, the library institute offered to set up a personal profile for him so that the hologram would look like anyone he wanted. This delighted young Jon. Now, whenever he requested information from the library archives, the librarian in charge was a cheerful, smiling hologram of his grandfather.

Tiberius Adams was something of a legend in physics and engineering. His work on the Mars projects was well documented and Jon had gobbled it up. The subject enthralled him. He took special interest in the documentation of wormholes. And when he found his grandfather's personal notes on the work he'd done initializing, stabilizing, and managing force fields, he absorbed the information like a sponge.

In school he did study hard. He earned a full scholarship to the Virginia Macrocosmic Institute of Technology. VMIT was the most prestigious technology institution in the country. That's where he met Professor Carlyle and forged a bond of friendship and mutual admiration that stayed strong long after his years at VMIT. When the Corporation approached Carlyle with the plans for the Hawking Project, there was no doubt as to who would be his number one man. He knew his grandpa would be proud.

A pen rolled off the control panel and hit the floor, jolting him back to the present. It sounded like a shot, its echo ricocheting off the walls and high ceiling of the underground laboratory. He ducked and instinctively looked around to see if anyone was coming into the lab. He wasn't sure if the guards were close enough to hear it. They tended to steer clear of the main lab. They had heard stories of disappearing guinea pigs and exploding pineapples and preferred to keep their distance whenever possible. He picked up the pen and put it in the pocket of his lab coat. Then he continued adjusting the dials. He had to keep his mind on the task at hand. But so many things had happened recently he found it difficult to focus.

He reached into his back pocket and pulled out an old, tattered notebook. It contained his grandfather's personal notes. At a time when most records were kept digitally, there were certain things his grandfather did not want to put on a database. Details of his early projects, his personal experiences, and his deepest feelings were handwritten on the pages of a series of old notebooks. Jon inherited those notes when his grandfather died. They were the reason he had worked so hard to keep the project going until he could perfect the Temporal Transporter. The notebook in his hand explained why he knew he had to go to the past. He flipped the pages and read the words again. Even though he had memorized them long ago, he felt the need to see them to assure himself he was doing the right thing. He heard the muffled sounds of yelling off in the distance. They found him. In minutes they would overtake him. It was now or never. He put the notebook back into his pocket. Then he pulled an envelope addressed to Professor Carlyle out of the pocket of his lab coat and set it carefully on the control panel. He could hear the guards running through the halls. They were close enough now that he understood some of the muffled shouts.

"There's someone in the main lab, hurry!" shouted one of the guards.

"Biggs is gonna kill us if we don't stop this guy!" cried a second guard.

Jon took off his lab coat and tossed it over the chair. He snatched the Temporal Accelerator off his belt, activated it, checked the display and clipped it back in place. Then he smashed down the button on the control panel that triggered the time transfer sequence. The familiar hum filled the room.

"Somebody turned on the time machine!" yelled the first guard.

He hurried past the blast shield and leapt onto the transport pad. He felt an odd tingling sensation as the room seemed to take on a green aura. He saw two men rushing into the lab. One of them drew his pulse ray blaster, but the other held him back. The last thing he saw was a look of horror on the two men's faces and then suddenly everything went black.

The display on the control panel showed his destination as Teakwood, Arizona. The date was October 10, 2110, ninety six years in the past. His mission was to find his grandfather, Tiberius Adams, and stop him from destroying the world. TO BE CONTINUED