

Chapter 1 – Time Disturbed

Survivor's Beach Camp, mid-22nd century A.D. – Forty more people were going to die this week, and there was nothing James Garrett could do about it. It was a problem of population control. More people arrived everyday – hopeful of a chance to build a new life, to start over – and everyday there was less food and clean water available for them. It didn't matter how many he sent out to find more. Garrett was starting to accept the fact that the food simply wasn't there to find.

Garrett slumped down in his chair. His office was just a small room in what was once the main lifeguard station for this beach. Its thick concrete walls had been designed to withstand earthquakes and tsunamis, so it had remained standing when most buildings had been reduced to rubble during the war. The old, metal desk and chair were all the room contained. He opened a desk drawer containing a gun and a salvaged bottle of brandy. Garrett would sometimes take a sip on special occasions since there was no telling how long it would be before he found another bottle. Today he unscrewed the cap and took two large gulps.

“A little early to be drinking, isn't it, Major?” said a voice.

Garrett jumped in his chair. Inside the door stood a tall man with long, black hair and eyes that were dark throughout – two black pearls, like some kind of animal. The eyes made Garrett uneasy. Garrett was sure he hadn't heard the door open, and there was no way this man could have gotten past the guard without him noticing – unless he had already killed the young soldier...

“How did you get in here? What do you want?” As Garrett spoke, he carefully reached towards the drawer with his gun.

The man smiled in a way that made Garrett even more uneasy. “I want to help you,” he said. “Your people need food and water, and they can get it. I can help you.”

Garrett grunted. “How would you do that?” He put his hand in the drawer, but it was empty. He saw the gun there a second ago. Where was it?

“You see the size of this camp as a weakness, but it is your greatest asset. With a camp – a city – this size... you could rule, Major.”

So that was it. He wanted military power. Major Garrett had no intention of letting that happen again. “What if I refuse?”

“You would refuse salvation?” the man laughed. “I’m bringing you news of joy for all your people!”

“I’m not interested,” Garrett waved him off. “Find another camp to be your army.”

The man rolled his black eyes. “I’d really hoped we could do this the easy way,” he said. Garrett blinked, and suddenly he saw Private Emerson, one of his young soldiers, kneeling in front of the stranger. The stranger had one hand on Emerson’s shoulder while the other was holding a gun – Garrett’s gun, he realized – at the young man’s head. Private Emerson’s face went from confusion to pale shock in two seconds.

“What’s going on, sir?” he asked. His voice was trembling.

Major Garrett stood up immediately. “Stay calm, Private,” he replied, then barked, “Let him go. He won’t help you gain anything here.”

The stranger shrugged. “You’re probably right,” he said. Without warning, he pulled the trigger and let Emerson’s body drop to the floor with a thud. “There,” he said, “one less mouth. I’ve already improved your problem.”

Garrett tried to maintain his composure. Other guards would have heard the gunshot and would be on their way, and though he didn't know how the stranger had gotten his gun, he hoped that he was not aware of the smaller pistol strapped to Garrett's ankle. "Do you think killing me, or anyone else in this camp, will help you?" he asked angrily.

"I just want you to know what I'm capable of, Major."

The door opened and a guard peeked in. "I'm sorry, sir. We thought we heard –". He stopped when he saw Emerson's body and the strange man standing over him. He immediately drew his sidearm. A second guard pushed open the door and drew his gun as well. "Don't move!" the first guard shouted.

The dark-eyed man was smiling.

"Hands in the air!" shouted the guard.

He put his hands up, still holding Garrett's gun, and turned around.

"Drop your weapon!"

"You mean this?" the stranger said, feigning innocence. Suddenly, he pointed the gun at each of the soldiers and fired, striking each in the center of the forehead. It happened fast – almost too fast to be seen. One of the guards had gotten a shot off before he was killed, but the dark-eyed man dodged easily. The bullet hit the wall behind Garrett, dusting him with concrete.

Four more soldiers with riot helmets had run quickly to the room behind the first two, rifles in-hand. Major Garrett ducked behind his desk and reached for the pistol hidden at his ankle. He heard shots fired in the melee and could only hope for his men's safety. He peeked over the top of the desk and fired at the back of the stranger's head. Almost instantaneously, the dark-eyed man faced him, making a fist in front of his face. When he opened his hand, he held the bullet Garrett had just fired lying in his palm.

Garrett stared behind the stranger in shock. In the few seconds it had taken to get his pistol, all four soldiers had been killed. One was slumped across the hallway, where it looked as if his body had cracked the concrete wall. The stranger tossed Garrett's bullet back to him. It bounced off his chest and rang on the floor.

“Who are you?” Garrett managed.

The stranger disappeared and Garrett felt someone breathe next to him. “My name is Arad,” the stranger replied in his ear, “but you may call me ‘my lord’.”

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The next thing Major Garrett knew, he woke up with a pounding headache and an empty bottle of brandy in his hand. For a moment, he thought he had fallen asleep at his desk, then he remembered what had happened. He stood up too quickly. The empty bottle crashed to the floor, and he held his aching head in his hands. As the pain subsided, Garrett looked around the room and was surprised to find it empty. There were no bodies, no blood. The concrete wall across the hallway was cracked, but Garrett could not now remember if the crack had always been there or not.

He ran outside. The camp was oddly serene. Silent canvas tents dotted the beach for nearly a mile in each direction. Only a few people were around – patrols and those people off-shift. To the west, the ocean rolled and roared, as it had uninterrupted for thousands of years.

He ran to the nearest soldier and asked the whereabouts of Private Emerson or any of the men he had seen dead. The men he asked about were out on patrol, he was told, though he could not remember having sent them out.

He continued inquiring. How long have they been on patrol? Where? Who ordered it? He received strange looks in return, since, as the military leader of the camp, he should have already known the answers. He even tried asking if anyone had seen a strange man with long hair and black eyes. Nobody had. More than once he was told he should take it easy, and then he realized that he still smelled of brandy. Perhaps he *had* lost control this morning. Perhaps he had really dreamt it all.

He let it go, hoping that sleep would make him feel better. But the next morning he was informed that those same men had been found dead beyond the perimeter of the camp – presumably killed by raiders. He thought he was going crazy. Was it possible he dreamt their deaths while they were dying somewhere else? Maybe he had been working too hard. Maybe he needed to take a break. Maybe the stress of leading a camp devoted to peace, in a time when everyone around them seemed to want war, was finally getting to him.

Or maybe this is how the prophets receive their messages, he thought. But if it was a prophetic dream, then who was the stranger supposed to be?

A few days later, he was informed that the camp leaders were having a meeting and desired his presence. When Garrett had been designated the leader of this camp, it had been an informal selection by the people. He had later designated camp leaders to help the camp run more smoothly – to handle the thousands of smaller decisions and judgments that he did not have the time or experience to make – but instead of acting like military subordinates, who took orders and gave orders only to their subordinates, the leaders had begun acting more like a civilian democracy and voting on orders to give *him*. It had always bothered him, but he continued doing his job in spite of it. Even so, it was unusual for them to call a meeting without notifying him first.

He arrived at the meeting tent to find the meeting already in progress – even more unusual. The tent was lit only by the sunlight that filtered in through two tent flaps on opposite sides. The twelve camp leaders were sitting in a circle along with one other person, but Garrett could not make out who it was in the low light. He was asked to sit down, and he listened patiently as the leaders described the state of the camp to him, even though he was already intimately familiar with it. He listened to them as they repeated the ideals the camp was built on – to live peacefully in an attempt to rebuild the society that humanity had been unable to rebuild for decades.

All of this took a very long time. The camp leaders were men of talk, but they were talking a lot even for them. They were going out of their way to thank him for things that they had no reason to thank him for. Each time one leader finished speaking, he would ask another leader if they had more to add. Garrett realized they were avoiding something, and no one wanted to be the one who had to say it, like a diplomatic game of hot potato.

Finally, someone said, “We think, perhaps, that it is time for a change.”

“What do you mean?” asked Major Garrett carefully.

“Well,” said another leader, now that the ice had broken, “we have been rethinking our pacifistic policies to take our larger interests more into account.”

Major Garrett stared at him blankly.

Another explained, “We believe that it would be in our best interests to seek food where we know it can be found.”

“From other camps,” said Garrett.

“Only those who have stolen from us,” he added quickly.

“But you still intend to fight and steal and kill, right? You intend to throw out the ideals that this camp was founded on?”

The leaders shifted uneasily and avoided his gaze. Then the other man, the one Garrett could not identify, spoke. Garrett’s heart froze when he recognized the voice. “You see? This is exactly why I would like to keep the major in charge of the defense of the camp. It is exactly this sort of thinking that will ensure we never lose sight of those ideals.”

“Um, Major Garrett,” said one of the leaders, somewhat embarrassed, “this is Arad. He has been instrumental in helping us sort out many of our problems.”

Garrett had been staring at Arad, but suddenly turned to glare at the leaders, “You have been speaking with this... with him?”

“Yes, well, we have been meeting with him for the past few days. We didn’t want to bother you. You have so much to do and we thought you might be... too busy.” Major Garrett thought he heard someone make a drinking sound. He saw a couple of men trying not to laugh.

“Now, now,” he heard Arad say, “that isn’t fair to Major Garrett. He had one difficult morning, and it shouldn’t be held against him.”

Garrett looked at Arad. The rest of the meeting seemed to fade away. He vaguely heard talk about recent raids and training the men for offensive maneuvers, but his attention was solely on the man he had seen kill seven good soldiers in a matter of seconds. He now knew that he had not dreamt any of it. He did not understand how, but he was sure it had all happened.

And he knew that no one would believe him.

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San Diego Convention Center, early 21st century A.D. – The second annual Conference for Applied Physics was nearing the end of its third day, and Dr. Alex Gaines was glad there would be no more.

“Dr. Gaines, I don’t understand. Are you saying that Albert Einstein was wrong?”

“No, Einstein’s theory of relativity is not wrong, but our understanding of it is incomplete,” Alex sighed. His last seminar on The Possibility of Faster Than Light Travel had started over an hour ago, and he felt it was not going well. It had never gone well before either, but he thought that the potential sponsors in attendance would be more open-minded in their scientific beliefs than his academic colleagues had always been. It turned out that they had heard enough about Dr. Alexander Gaines already to put him on the defensive five minutes into his seminar. He erased the formulas from his whiteboard and began again, “Maybe I’m explaining it poorly. Let me try one more time.

“Einstein’s theory suggests that time travel into the future is possible at or near the speed of light. But so far the fastest any man has ever traveled is a negligible fraction of that. Einstein’s theory goes on to suggest that if we could travel *faster* than the speed of light, we could theoretically travel into the past.”

A stocky man with a military haircut spoke. This man had stopped raising his hand some time ago, merely interjecting when he felt like it. He had become the unofficial spokesman for what Alex thought of as the *Gaines is Crazy Foundation*, whose membership seemed to include everyone in the room but Gaines himself. “Dr. Gaines,” the man said, “I thought that the theory of relativity stated that *nothing* could go faster than the speed of light.”

“Ah, see, that’s a laymen’s misconception.” Alex knew he should be more careful about talking down to his potential employers, but he had lost his patience about half an hour ago as

well. “The theory does predict potential problems for an object with *mass* approaching the speed of light, but the equations certainly allow for speeds faster than the speed of light.”

The Unofficial Spokesman interrupted again. “But what is the point unless we can move something with mass? Didn’t Einstein say that an object’s mass would increase to infinity as it approached the speed of light?”

Alex was mildly annoyed that he was referring to Einstein as if he were a prophet stating absolutes as opposed to a scientist. “No, *his theory* stated that the energy required to accelerate the object would increase to infinity – not the mass of the object itself.”

“So you need an *infinite* amount of energy before this is even possible?” the Spokesman balked.

“Well, I believe this energy requirement may only apply to conventional chemical or electromagnetic means of propulsion. That is, I think I know a way around it.”

Alex was sweating as he looked on the faces of his audience. Far too many of them were frowning. He took a deep breath and continued, “First, let me explain again where I think our understanding of Einstein’s theory may be incomplete. It has been assumed that the speed of light is the fastest anything in nature can travel, but I believe there is something that travels even faster: the speed of gravity.”

“The speed of gravity is 9.8 meters per second, Gaines,” the Spokesman interjected smugly. A few people in the audience chuckled.

“No, actually that’s how fast an object accelerates *because* of gravity,” Alex said as if he were talking to a high school student. “For example, if you suddenly appeared in orbit around the Earth, you would begin accelerating towards Earth at the rate you mentioned. Now, we also know that it would take a very small fraction of a second for light from Earth to reach you in

orbit, right? Because light has a speed, and we can measure that speed. But the Earth's gravity would start affecting you *immediately* – even *before* Earth's light reached you.

“Before it was assumed that this was because of some sort of permanent change that large objects make in space – that the gravity is somehow already there to begin with. But I believe that gravity travels in *waves* just like light does, and that these waves travel very fast – faster than light.

“Because gravity is a force, and a strong one at that, it should be possible to use these waves to propel a vehicle – the way a surfer uses the waves of the ocean.” Alex pointed vaguely in the direction of the ocean outside the convention center. “If so, we could travel at speeds previously thought impossible or, according to the laws of relativity, we could push a vehicle through time itself. *This* is how we can avoid the infinite energy requirement, by letting gravity do the work.”

For a moment, the questions seemed to have stopped. Alex wondered if they understood what he just said. *At least they're being quiet*, he thought. He paused to breathe, then to his surprise a man in the back raised his hand rather than interrupting him. The man wore small circular lenses, and had a balding pattern that gave him a severe widow's peak. It took a moment before Alex remembered that he was supposed to call on him for his question. “Dr. Gaines,” the man said in a business-like voice, as if he was there to actually listen to the seminar instead of throw stones, “how do you propose to propel a vehicle using these gravitational waves?”

“A good question,” Alex said gratefully. “To do this, we need to amplify the waves of an existing gravitational field – we need to make them big enough to ride, so to speak.

“It is impossible to use the Earth's gravity, for reasons that I'd be happy to discuss after the seminar. Instead we need the small, powerful gravity that is inside every atom, holding the

protons and neutrons together. However, there is currently no element known to man in which this gravity is accessible. The element we need is possible in theory however, and the bulk of my current research is to create such an element.”

“Gaines, did you just say that time travel requires an element that doesn’t exist?” asked the Spokesman.

Alex nodded, as if finding this alien element were as simple as finding the right aisle in the hardware store. Though he still had ten minutes left to him, Alex’ seminar began to fall apart. The next few minutes were depressingly familiar to Alex. People grumbled and left, some more loudly than others. Small groups congregated in the back, giving him dirty looks but unwilling to say anything to his face. The only interesting parts about this instance were when the Unofficial Spokesman called him a “God-damn lunatic” loud enough for the whole convention center to hear, and when the man with the severe widow’s peak came up to talk to him, rather than berate him, afterwards.

“Dr. Gaines,” he said, giving Alex a firm handshake, “my name is Nelson Cardoso. I represent a group of people who are very interested in your work. If you wouldn’t mind, I’d like a few minutes of your time.”

There was no question that Alex would follow. Nobody had ever been interested in his work before except as an example of what *not* to do in science. He followed Mr. Cardoso through the convention hall, past the numerous companies and private inventors selling practical applications of physics, and out of the convention center into the warm Southern California air. It was still April, yet it was nearly 80 degrees outside.

They walked out to the main street where a black PT Cruiser was waiting. Mr. Cardoso opened the back door for Alex and then got in after him. Alex shivered slightly in the

conditioned air. Not until after the driver had started the car and pulled into the street did Mr. Cardoso speak.

“Traditional science holds that gravity is a function of the curvature of space-time, Dr. Gaines. How certain are you that gravity *has* a speed?”

Alex groaned. “Look, I appreciate you abusing me privately rather than in public, but I’ve got an e-mail address for critics.”

Mr. Cardoso laughed, “I did not mean to criticize at all, Doctor. I have followed your research intently, but papers do not do justice, especially to one accused of lunacy. I had to talk to you in person to know the truth.”

“All right, I’ll humor you then. You’ve heard of the rubber sheet analogy? Take a thick, rubber sheet – that is the space-time continuum. If you are a small ball on that sheet, you can travel anywhere given the right amount of force. Now the traditional analogy for gravity that you’re referring to is what happens when you put a large object, like a bowling ball, onto the rubber sheet. The bowling ball causes the sheet to curve, and if the small ball that represents you comes close enough to the bowling ball, it will be drawn towards it. In the same way, large objects placed in space will draw small objects towards them.”

“Yes,” said Mr. Cardoso, “and the reason gravity affects objects instantaneously is because the sheet curves instantaneously when the bowling ball is placed on it.”

“So says traditional science, but there is a problem with the analogy. The only reason the ball rolls down the curve at all is because there is another force *outside* of the analogy dragging it down along the curve. The analogy is flawed. It is not a poor analogy, as far as it goes, but it has been taken as scientific fact. Without gravity, the ball would stay where it was regardless of any curvature.

“Nothing else in nature works instantaneously like that, so why should gravity? Unfortunately, it’s very hard to prove because you can’t turn gravity off, the way you can a light, so you can’t measure it’s speed very easily.”

“So you believe you can use these gravity waves for propulsion?”

“I’m certain that I can.”

Mr. Cardoso simply nodded. “How long do you think it would take to complete a working machine, once you had discovered an element such as the one you spoke of during the seminar?”

Alex looked at Mr. Cardoso strangely; he had never had to think that far ahead yet. “Well, I have most of the design specs done already, based purely on theoretical knowledge of course. It would probably take about two months to build it, then perhaps another three or four months to work all the bugs out.”

Mr. Cardoso leaned closer to Alex and said softly, “Dr. Gaines, what I’m about to tell you is completely confidential. There would be... *consequences* if you were to tell anybody. Do you understand?”

Alex nodded mutely.

“Good. I am talking to you, not because we want to sponsor your effort to discover a new element, but because we believe that your machine can be a reality and that the discovery would be worth quite a lot of money.

“Dr. Gaines, we believe we have the element you are seeking.”

Alex said nothing for a moment. He was skeptical, but he could not stop his heart from beating very quickly at this possibility. “How do you know it’s the right element? I’d have to inspect it myself to be sure.”

“Of course, Dr. Gaines. In fact, that is where we are going now. As to how we know, well... as I said, we have been following your research very closely. At this point, we are probably more familiar with the element in question than you are, but how to harness it... that’s where we need you.”

Alex said nothing for the remainder of the trip. His mind was racing trying to think of reasons this man would be telling him these things, other than the obvious possibility that it might be the truth of course. They continued driving along the coastline, until a group of hills blocked the ocean from view. Then they took an exit and headed west over the hills into the rich downtown area known as La Jolla. They drove through a series of narrow streets populated on either side by coffee, breakfast, and souvenir shops as well as the occasional office space and pulled into the parking garage underneath an unlabelled office building.

The driver stayed in the car while Alex and Mr. Cardoso entered the building. The security was unusually tight. Most of the doors had a retinal scanner or a breath analyzer or some other security device that Alex could not recognize, yet Mr. Cardoso seemed to be able to open the doors without bothering with these formalities.

Finally, they arrived in a room behind a thick, steel door beneath the ground floor. The room looked like Alex’ old lab when he taught at the university, except that everything was newer and seemingly untouched. One side had a couple of desks with serious-looking computers, while the other side looked more like a workshop with electrician tools, welding torches, and a few other tools Alex had not seen before. Amongst all of this there were a few other scientific odds and ends – microscopes, Bunsen burners, and so forth.

Mr. Cardoso walked to the opposite side of the room to a safe in the wall. He put his hand on a pad next to the dial and with his other hand he dialed the combination. From the wall

he produced a small black box, which he handed to Alex. Alex opened it and inside, resting in a layer of protective foam, was a completely unremarkable piece of metal. It was triangular in shape, and looked like it had broken off of some larger piece of metal. When Alex picked it up, he sliced his thumb on one of the edges.

“Forgive me,” said Mr. Cardoso, “I should have warned you about that edge. But don’t worry; it’s quite sterile. We call it Element 115.”

“Where did you get it?” asked Alex, sucking on his thumb as he inspected the metal.

“It was found at an archaeological dig in Iran.”

“It’s a natural element?”

“We don’t believe it to be natural, no. Though we don’t know how it was made or how it ended up in Iran.”

Alex turned the piece of metal over and over, trying in vain to learn something about it with his human eyesight. It looked for all the world like a piece of normal steel. He had thought it would be unique somehow – perhaps warm to the touch, or with a soft glow, or *something*. Instead of making him more skeptical of Mr. Cardoso’s offer, the lack of anything obviously alien made him more certain that he was telling the truth.

“I’ll have to run some tests.”

“Of course, doctor. And pending your satisfaction, will you accept our offer?”

“I’m afraid I’m not certain exactly what your offer is, Mr. Cardoso.”

“We intend to sponsor you, Dr. Gaines. We will provide you with the element, funding, and facilities, and you will create your machine.”

“And when the machine is finished, what will happen? It would be too dangerous for such a machine to be in private hands.”

“Of course,” Mr. Cardoso said. “Upon successful completion of the machine, its use would be up to your sole discretion. The discovery would be in your name alone, though the money would be mostly ours. Of course, we would provide you with a suitable portion. If your research is correct, it should be enough money for you to live out your days quite comfortably.”

“I’m not interested in the money.”

“I am aware of that, Dr. Gaines, but recompense is only fair. And I am nothing if not fair.”

“And if I decide that the machine should only be used by myself, or even by no one?”

Mr. Cardoso smiled and nodded his head slightly, “It is completely up to you, Dr. Gaines. We will not interfere with the use of the machine, only in the publication of the discovery and the incoming funds. As I said, Doctor, we are only interested in the money.”

Mr. Cardoso smiled again. Had he been paying attention, Alex might have found the smile to be unsettling, but at the moment he was focused entirely on the shard of metal and on the potential that lay inside.

* * * * *

It was two hours after the final bell had rung at Hope Christian Academy. Most of the students had left, though there were a few in the library or on the football field, and behind the gym there were a handful of ninth graders finishing their last cigarettes.

The largest boy, who looked as if he was holding up the gym instead of leaning against it, took a long drag and said, “I heard you had detention, Tom.”

“Hah,” laughed a lanky boy with hair partially covering his face. “I did, but it was a joke. They made me write *sentences*.”

“Really? I didn’t think anyone did that anymore,” replied the large boy.

“I know,” said Tom. “I felt like Bart Simpson. ‘This punishment is not boring and meaningless.’” He acted as if he was writing on a chalkboard. The other boys laughed and stopped only to take another drag from their cigarettes.

A third boy asked, “How’d you get detention?”

“How else? I told Mr. Munsey off again.”

The large boy groaned. “What’d you say this time? That creation is a load of pseudo-scientific crap?”

“I told him Behe’s argument of irreducible complexity ignores the possibility that evolution can work to simplify as well as complicate.”

The other boys stared at him.

“I said it was a load of pseudo-scientific crap,” Tom conceded.

One of the boys took another drag. “What’d he say?”

“He started talking about some ‘Dumb-ski’ guy and gave me detention when I said he was changing the subject.”

“He gave you detention for that?”

Tom shrugged. “I might’ve used the word ‘pussy’.” He pushed the hair out of his face and took another drag. “Hey, guys, I gotta go meet my dad out front. I’ll see you tomorrow.”

“Later.”

Tom walked through the empty campus to the front of the school where a battered Honda coupe was waiting. Tom got in, feeling the springs poking through the vinyl in the seat. He

sighed. His dad worked all the time *and* had no job. It was like the worst of both worlds, ever since Mom died.

“So how was school, Thomas?” his dad asked.

He groaned, “Just Tom, Dad,” then shrugged. His dad didn’t know about the detention, and he didn’t need to know. He was even later than normal today in picking him up because of some convention, Tom remembered, and Tom’s teacher probably wouldn’t call home. Mr. Munsey liked talking with Tom’s dad about as much as Tom did, and Tom got detention enough that it wasn’t worth reporting to his parents anymore. Besides, what would his dad do about it anyway?

“Well,” his dad continued, “I had a pretty good day at the Convention Center. Well, not so much *at* the Convention Center. More later, really. The convention itself was kind of...”

Tom didn’t say anything. He just let his dad go on about the seminars he gave and the arguments he had with people. He didn’t really listen much at all until he heard him say he got a job. “What kind of job?” Tom asked.

“A real job. Someone’s finally going to pay me for my research.”

Well that was something. *Probably a good thing*, Tom thought as he shifted in his seat, trying to find a comfortable position where nothing was poking him. “So what’s the pay?”

“Uh... I don’t know actually.”

“They *are* paying you though, right?”

“Well, upon completion the pay will be considerable, but we didn’t actually talk about payment in the interim. I expect it will be adequate.”

Tom groaned, “Geez, Dad, you’re such an idiot sometimes.”

“Well, excuse me for caring about more than just money! Do you realize the potential impact of this discovery?”

“How could I?” Tom replied. “You won’t tell me anything about it.” While that was strictly true, what Tom did not say was that he had been reading through his dad’s papers whenever he left his work at home. He didn’t understand any of the formulas, but he had a few guesses – some of them rather wild – as to what his dad was working on based on the diagrams and margin notes.

“I can’t, you know that. Suffice to say that it will revolutionize *everything*.”

“So we’re sacrificing my life for your future.”

“Not *my* future, but, yes, we’ll both have to make some sacrifices to make this happen.”

His dad pushed his glasses up on his nose. “Like...”

Here it comes. “Like what?” Tom challenged.

“Well, like...” He pushed his glasses up again, even though they were already as far up as they could go. “It’s just I expect to be very busy for the next few months. I’m afraid you’ll have to get yourself home for a while. I’m sorry about that.”

“When will you be home?”

“If I’m not home in time for dinner, feel free to make yourself something.”

Bothered, Tom said nothing in reply. Neither of them said anything for a long time. Tom just stared out the window at the other cars on the freeway, wondering how often the kids in the other cars were left home alone. *Maybe I should be happy*, he thought. *I can do whatever I want.* As they passed a city bus, Tom found himself wondering how he’d have to get home from school now. Did the school bus even go out to North Park?

In an attempt to break the silence, his dad asked, “So what’d you learn at school today?”

Tom was about to say, “Nothing,” but he was annoyed. “I learned about Dembski’s argument of specified complexity,” he said. “Did you know it can be used as a indication of intelligent design?”

It was his dad’s turn to groan. “God, why do they still allow people to teach that nonsense. It’s not even mathetically sound. It’s like letting them teach you that three is a prime number.”

“Three *is* a prime number, Dad.”

“Four, I meant four. A-anyway you know what I mean. Jesus. I wish we would’ve never sent you to that school. I wish I could just go back in time and – ” He stopped.

“And what, Dad?” Tom said a little more loudly than he meant to. “Bring Mom back?”

“Well, I was *going* to say... go back in time and put my foot down – send you to Hoover High or somewhere. But,” he muttered, “it seemed inappropriate.”

Tom didn’t ask what he meant by that, but he wondered if it had something to do with the job offer. He made a note to take another look at any papers that might be left lying around tonight. Maybe some of his wilder guesses were not as wild as he thought.

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That could’ve gone better, thought Alex as he began to parallel park. He kicked himself for getting into another faith vs. science debate with Thomas. He knew that his son did it just to annoy him, but he also knew that there was a part of Thomas that believed it – or wanted to anyway. That’s what annoyed him.

But Alex a long time ago had come to accept that, no matter what he did – selfish or sacrificial – it would be received with something like resentment from his son. So he decided he would just continue to do what he thought was right, whatever his son said. He was aware that this job meant less time with Thomas, but things would be better this way. For one thing, they'd have money to spend. They wouldn't have to live off of Ramen noodles and Rosarita refried beans for the next few months – maybe never again, if everything worked out.

Thomas followed him through the front gate of the building and up to their unit. Alex tossed the keys near, though not actually on, the small table near the door. He went to the kitchen, put a can of beans in the electric can opener and grabbed the bag of tortillas from the fridge. He didn't get paid today, so it would be at least one more night of homemade microwave burritos. Thomas had disappeared, probably to his room, but he'd be back when he heard the microwave ding.

Alex made two burritos for himself and then put three for Thomas in the microwave. He walked to his study – the desk in his bedroom – and chewed thoughtfully. His desk was a mess of notes and printouts. His computer was underneath it somewhere; he could hear the fans whirring. He would have to clean all of this up, or at least move the mess to the lab in La Jolla, but not now. Maybe tomorrow.

One of his papers caught his eye. It was buried far beneath the others. It was something he had scribbled on when he was stuck thinking about the element – the element he would never have to think about again, if Mr. Cardoso was right. The paper that caught his eye had a crude drawing of an egg with a door in it. All around the egg were field lines and other arrows pointing and labeling things. It was the beginning concepts of his time machine.

The possibility that in a few months he might have a working time machine was too astounding to consider. What would he do with it? *Let's build it first*, he thought. *We can worry about the details later*. He put the plate of burritos down on the desk and began scribbling on the paper. Now that the element was real, it changed a lot of things. He knew the size and shape of the element now. He didn't have to wonder if it would be a gas or a liquid or a solid. He scribbled furiously until almost two in the morning when he finally fell asleep in his clothes, with a half-eaten burrito still forgotten on the desk.

He dreamed of his machine completed, and he was running tests on it – tests that he had been thinking of ever since he realized time travel was possible. The test to determine that time travel had occurred was easy – they did it in the movie *Back to the Future* back in 1985. The dog from that movie was even in Alex' dream. The tests for going into the past though were complex, and Alex hadn't even had them all worked out yet. In his dream he was using two glasses of water on a table, recorded with every device imaginable, and then he went into the past and drank one of them. Or he went to the past and broke one of the glasses before he filled it. Or he went farther into the past and bought a different set of glasses.

He half woke up while it was still dark and thought he saw Thomas in his room, probably finishing the burrito for him. The rest of the night was dreamless until his alarm went off. He woke to find the burrito gone, as he suspected, along with the plate. Alex woke Thomas, made breakfast out of the rest of the beans and tortillas, tossed all his papers into his briefcase, gave Thomas some bus money, promised to get him a monthly pass, gave him a quick hug, and left for work.

And that was his life for the next seven months. He missed dinner more often than not, but despite Thomas' doubts he did get paid. So he made sure there was plenty of frozen food –

the good stuff that goes in the oven, not the cheap microwave food, and he even occasionally ordered a pizza and had it sent home, when he thought of it.

Most of the time he didn't think of it though. His work consumed him, and he often lost track of time. Working in an underground lab with no windows just made things worse. Some nights he slept in the lab, while other nights he worked straight through and then slept in the lab in the morning. All sense of time was lost to him. Thomas asked him if he could apply for a job at Jack in the Box, and that was the first time Alex realized it was June. He only knew about the Fourth of July and Labor Day because his programmer asked if he could have a day off. He nearly forgot to re-enroll Thomas to Hope Academy and had to pay \$50 in late fees.

After paying the late fees, he bought a calendar and put it on the wall. He circled Thomas' birthday on Friday, November 14th – the one date he knew he couldn't be allowed to forget – and set his watch alarm to go off at 8 am everyday as a reminder to cross off the previous day. It helped, mostly.

As the time machine got closer and closer to completion, he decided he would start taking Saturdays off to be at home. At least Saturday afternoons. He usually made it too, though some days Thomas was gone already, and the days he was there, they hardly spoke. They were able to watch movies together, but something inside Alex told him that wasn't good enough.

When he turned the calendar to November, he actually found that he was thinking about something other than work for once. The time machine was nearly finished, though it still had some bugs in it that kept it from actually working, but Alex wasn't thinking about the future anymore. Finally, on the Saturday before Thomas' birthday, while they were sitting at home watching *Dragonslayer* on some random movie channel, Alex decided he would bring it up.

“Hey,” he started, “how about I pick you up on Friday afterschool?”

Thomas said nothing for a while. When he realized his father was watching him and not the movie, he asked, “Why?”

“It’s your birthday. I want to take you out somewhere special. Anywhere you want.”

“Whatever. I don’t care.”

“No, seriously. You gotta choose something.”

Thomas shrugged, “I don’t know. Can’t we just order pizza and watch a movie?”

“No, that doesn’t count. We do that all the time. Something special, just you and me.”

Thomas groaned, but he looked like he was thinking about it. “I don’t know, Dad. Anything’s fine with me. I really don’t care.”

“Well,” Alex said, “you think about it. Let me know.”

They didn’t say much more than that, even after the movie was over – no more than they had to. But Alex felt better. He realized he should’ve been doing this for months. It felt good to talk with his son, even for just a little bit, and he crossed off the days until Friday, sometimes even before his alarm went off. On Thursday, when his time machine had its first successful test traveling two minutes into the future, he almost forgot how excited he should be. He almost forgot that he was changing the world.

* * * * *

That Friday, the final bell rang throughout the campus of Hope Christian. Students began exiting their classrooms in herds anxious to start their weekends. Behind the gym, less anxious to go, Tom and his friends were finishing their last cigarettes.

“So what are you guys doing tonight?” his friend Cody asked. “Anyone wanna hit the arcade?”

Lonnie said, “Can’t. Got football practice again tonight. They won’t give us a break with homecoming coming up.”

Tom finished his cigarette and threw it on the ground, “I can’t either. My dad wants to take me out for my birthday or something.”

“Where are you going?”

“I dunno,” he shrugged. “He told me he’d take me wherever I want, but I can’t think of anywhere that’d be interesting alone with my dad.”

“At least he wants to do something. With my dad, if it’s not football, it’s not worth his time.”

“Whatever,” Tom replied. “Hey, I gotta go meet him out front. I’ll see you guys on Monday, alright?”

“Yeah, Tom. Later.”

Tom walked around the herds of students to the front of the school where his dad’s old coupe was waiting. Whatever he was getting paid, he certainly wasn’t spending it on a car. Tom got inside while his father’s cell phone rang.

“Alex Gaines,” his dad said to the phone. “No, sir, I just left to pick up my son from school.... Yes, sir, it’s nearly finished. We’ll be ready by Monday, don’t worry.... Yes.... No, we made a major milestone, and it’s my son’s birthday today so I thought I’d take the night off.... Of course, don’t worry about it. Everything will be ready.... Uh-huh.... All right, sir. I’ll talk to you in the morning.” Alex hung up and dropped the phone into a cup holder. He started the car and began driving home. “How was school, Thomas? Oh, happy birthday, by the way.”

Tom groaned. No matter how many times he said it, his dad never learned.

“Fine. *Tom*. I just like the name Thomas. Your mother gave it to you.”

“Well, she’s in Heaven, and I like Tom.” Tom was annoyed. Maybe cuz it was his birthday. Maybe it was Dad’s lame attempts at being a father. Probably cuz he mentioned Mom.

His dad sighed, but surprisingly he didn’t go for the debate. “So where am I taking you today?”

“I don’t know, Dad. Anywhere. It’s not like it’s a big deal.”

“Come on, it’s your birthday. It’s a very big deal. And... I guess we’re celebrating something else too.”

“What, your ‘milestone’ or whatever?”

“Well, yes.”

“What’d you do, split a quark?” Tom actually knew what his dad was working on. He saw it months ago, sketched onto a piece of paper next to a half-eaten burrito. He had seen it before then too, but he wasn’t sure what it was until that night. Since then, things he had heard and overheard only confirmed his suspicion that what his dad was working on was a for-real, honest-to-God time machine. Actually, he kinda wanted to tell his dad he knew, but he wasn’t sure how without getting in trouble.

“Maybe,” he said seriously. “More likely though we... Nevermind.”

“Come on, Dad, just tell me. I’m just a kid, right? Who am I gonna talk to?”

“It’s not that. It’s just that if they ever found out, they’d...”

“They’d what?” Thomas turned to look at his dad. “Fire you? Come on, Dad. You’re the only one who knows enough to even *design* a time machine, let alone build one.” *Whoops*.

Alex slammed on the brakes, nearly causing a pile-up behind him. “How do you know that?” he asked, almost in a whisper.

Tom shrugged. *No sense pretending, I guess.* “I’ve seen your notes.”

“You’ve been looking at my papers,” his dad asked in shock. “You... *understand my papers?*”

“Kind of,” Tom replied. “I mean, I understand some notes and most of the diagrams, and I recognize the formulas. It’s like the stuff they won’t let me use in Physics.”

His dad looked impressed. Slowly, he began driving again. “You haven’t told anyone, have you?”

“Yeah, right. Like who, Dad?”

They drove on for a while, neither saying anything. Then his dad got a funny smile. “So have you figured out where you want to go for your birthday yet?” he asked.

Thomas groaned, “Come on, Dad, I don’t – ”

“Well,” he interrupted, still smiling, “would you like to see it?”

* * * * *

Later that night, a battered Honda coupe pulled into the underground parking lot of an unlabelled office building in La Jolla. Tom and his father stepped out and walked towards the lobby.

“What about the cameras, Dad?” Tom said, not realizing he was whispering.

“Don’t worry. I come in and out of here all the time. They’ll think I’m just working late again.”

“But what about me?”

His dad thought a moment and said, “Maybe you shouldn’t look straight at the cameras, just in case.”

Tom pulled his jacket across his face. It was late enough that there was no guard at the desk, only the automated security systems and perhaps an occasional security guard walking the halls. Fortunately, they did not see anybody as they walked to the stairs (his dad felt it safer than taking the elevator), to the floor below, and down the hall to the steel door. Using a keycard and thumbprint, his dad opened the door, and they walked into the lab.

The lab was a mess, though Tom was not surprised. His dad saw cleaning up as wasted overhead time from the real work. On one side of the lab were a pair of decent computers buried beneath papers, empty soda cans, and pizza boxes. The other side looked like Tom’s auto shop class, except in place of a car there stood an object that Tom had only seen once before, scribbled on a piece of paper.

It was a giant, metallic egg about twice the size of their car stood on end and held up by a complicated network of rebar beneath. Tom walked around it, inspecting every bit of it, though there was nothing on the outside but sheets of metal that looked like they had been patched together with rivets. When he had finished circling, his dad stepped forward and pressed one of the rivets with his finger. The rivet moved, and the machine began to make a hissing sound. One of the metal sheets came out of the shell a few inches and moved to the side.

The inside of the machine was surprisingly spartan. There was a small dashboard on the opposite side with a cylinder in the middle of the floor for the pilot to sit on. On the dashboard, there was a keyboard and a monitor attached to it. Actually, it looked to Tom as if his dad had embedded an Apple laptop into the dashboard itself. Tom looked at him questioningly.

“What?” he shrugged. “No sense reinventing the wheel. It was easier to hire a programmer than to hardwire everything myself, so I used a computer as the basic controlling device.”

“Yeah, Dad, but a Mac?”

“I needed something reliable, and I thought your mother would have liked the aesthetic,” he said with a smile.

“How is it powered?”

“Let me show you,” he said. He knelt down and turned the cylinder on the floor counter-clockwise until Tom heard a click. Then he lifted it off and set it to the side. Underneath, along with a mass of wires, was what looked like a large battery.

“You power your time machine with a car battery?”

“No, I just power the computer and the internal lighting with the car battery. The time machine is powered by this.” He picked up the cylinder that he had set aside and showed Tom its underside. He saw a small chamber that housed a triangular and otherwise unremarkable piece of metal. “We call this Element 115. Mr. Cardoso found it in Iran. It is the only element we know of with a gravitation field that extends beyond the atoms themselves.” Tom nodded to assure his dad that he understood – the basic theory, at least, if not the details. “So,” he continued, “we amplify that new gravitational field and use it to spin the machine, moving it almost infinitely fast – faster than the speed of light.”

“Allowing you to effectively travel through time.”

“Yes, exactly.”

“Can you go *back* in time?”

“I haven’t actually tested that yet. Theoretically, yes, but the potential paradoxes involved are frightening to say the least. I need to come up with a satisfactory way to test those paradoxes without much risk. That is what I plan to do this weekend.”

“So you’ve... I mean, does it... have you tested it in the *other* direction, then?”

His dad smiled again. “Let me show you. Wait here a moment.”

He replaced the cylinder holding the strange element and left the lab. A couple of minutes later, he returned holding the hand of a monkey. “Thomas,” he said, “I would like you to meet Dwayne, the first intentional time traveler.”

Tom’s dad took a watch out of his pocket and placed it on the monkey’s wrist. “Here, Dwayne,” he said. He motioned Tom to come over. “I want you to verify with me that both Dwayne’s watch and mine show the same time.”

“What, you mean like in *Back to the Future*?”

“Like I said, no sense reinventing the wheel.”

Tom looked at the watches. They were on the same minute, but a few seconds off from each other. “Shouldn’t they be exactly the same? I mean, don’t you need atomic clocks for this or something?”

“No, actually. Atomic clocks are only necessary to measure tiny, insignificant jumps, like mankind has been doing for the last couple of decades. We’re going to do a *real* jump. A few seconds won’t make any difference to us.”

Tom watched as his dad led Dwayne into the machine. He sat down at the computer and typed in something, then password-protected the laptop so that Dwayne could not accidentally change anything. He quickly jumped out of the machine, motioned for Dwayne to stay (who

obediently did so), and closed the door of the machine. He then guided Thomas away from the machine to the other side of the room.

“Now watch,” he said. For a moment, nothing happened. Then silently, without so much as a hum, the riveted machine rose in the air a few inches and began to spin. As it spun faster, Tom could feel a slight breeze. Suddenly, he was almost knocked off of his feet when the entire room seemed to explode with a loud pop. His ears still ringing, Thomas opened his eyes to see the machine spinning faster and faster until it looked like a smooth, silver egg. As it spun even faster, it shrank in width, becoming thinner and thinner, until finally it vanished without a sound. The room was still and silent once more.

“Sorry,” his dad said, “I should’ve warned you about the sonic boom. It’s not as bad as I thought it would be, actually.”

“But where did it go?” asked Tom.

“Traveling at the speed of light is a funny thing, it turns out. The machine is still there, but to us it looks like it has disappeared.”

“If it’s still there, can I touch it?”

“Surprisingly, no. It not only seems to have disappeared visually, but to all other senses as well. If you put something else, like this chair, where the machine used to be, nothing would happen until the machine began to slow down and reappear.”

“And what would happen then?”

“I don’t really know,” his dad said. “I can’t imagine it would be good.”

Tom walked forward and, hesitantly, touched the space where the machine had been. He waved his hand back and forth through the space experimentally. His dad was right; there was

nothing there. “What did you mean when you said that Dwayne was the first ‘intentional’ time traveler?” Tom asked.

“I was referring to the fact that all of us travel through time all our lives, though not intentionally. If you think of time like a river, flowing swiftly from the Big Bang towards the future, then imagine that we are like leaves floating on that river. We can neither change our course nor control our speed. We are merely carried along with Time. What I have done, I suppose, is I’ve created a sort of boat by which we can move faster downstream or even upstream, I hope.” His dad looked at his watch, “Okay, come back here and watch now. Here he comes.”

With a rush of wind, Tom saw the machine appear in the reverse of how it disappeared – slowly growing in width as its spinning slowed down, until finally the machine stopped and lightly descended back into its rebar stand. Tom’s dad opened the door, and Dwayne came walking out as if nothing had happened. Tom and his dad looked at the two watches and found that Dwayne’s watch was about 3 minutes and 50 seconds slower than his dad’s.

“Why such an odd number?”

“I sent him five minutes into the future, but it takes some time for him to accelerate and decelerate. Still, it should not have taken that much time. Would you mind if I took a look at the machine for a bit?”

“Sure,” he said. While his dad was inside the machine, Tom watched. He looked over the machine, and down again at the two watches – one of which had essentially skipped a moment in time. It hit him all at once the importance of his dad’s discovery, and, for just a moment, he almost understood why his dad had been gone so often these past few months.

Almost. He understood enough to say, “Dad, you did it.”

“Hm?”

“You did it.”

His dad looked at the giant egg he had constructed, then he looked at Tom. There was something in his expression that Tom hadn't seen before – or maybe not in a long time. He smiled at Tom and said, “Yeah.” He went back to work on the computer. “I couldn't have done it without your mother's faith in me, you know.”

“Her faith in you, or her faith?” Tom joked.

His dad looked at him, suddenly stern, “Thomas, why can't you, just for one...” He sighed. “Just take Dwayne back for me, will you?”

Geez, I was just joking, Tom thought, but he said, “Sure, where?”

“Turn right, then right again at the end. His room is the second door on the left. Make sure you lock his cage, though. I'll leave the lab door open so you can get back in.”

Tom left, holding Dwayne's hand. It was a long way to the end of the hall. He was still in awe of what his dad had accomplished, and he desperately wished that his mom could be here to see it. She always believed in him; she even prayed for his success, which is something most scientists would never do. Maybe that was why the mention of it bothered his dad so much. He was never comfortable with the ties she had made between science and faith.

Tom thought he heard voices and stopped at the corner of the hall. Thinking it might be a security guard, he slowly peeked around the corner. Nobody was there. The voices were coming from a door on the right. Thomas was about to sneak by quietly when he heard his name.

“We need Gaines, at least until we can guarantee that we can operate the machine without his assistance. Right now he's the only one who knows how it works,” said a calm, business-like voice.

“We can figure it out after he’s taken care of. He’s a liability,” a gruffer voice said.

The calm voice replied, “No. We will not discharge Gaines until after we have our guarantee. Besides, it is only fair to let him see the fruits of his labor, and I am nothing if not fair.”

“‘Discharge’ him?” laughed the gruff voice. “Like we’re just going to lay him off?”

A third voice said, “You know what he means. Cardoso’s always careful about his choice of words, even if he knows nobody is listening.”

“Right,” said the gruff voice. “So what’s the plan?”

The calm voice answered, “After the press conference on Monday, and when we are certain the machine works, we will get our final information out of Gaines and then, as you said, we will lay him off. But we must be careful that he suspects nothing. We can’t risk him telling anybody or doing anything stupid.”

Tom couldn’t believe what he was hearing. Were they talking about killing Dad? He was interrupted in his eavesdropping by a shout from the far end of the corridor. Tom looked up and saw a security guard running towards him.

“What was that?” someone in the room said.

Without wasting a second, Tom ran back to the lab. Dwayne jumped up into his arms as he did. He ran into the lab and shut the door without looking behind him. Then he looked around and started pushing one of the desks towards the door.

“What are you doing?” his dad asked.

“Dad,” he said, grunting as he pushed the heavy desk, “you’re not going to believe this, but I think your boss is planning to kill you.”

“What?”

“I heard them talking about you down the hall. They said that as soon as they got what they needed from you, they would ‘take care of you’.”

“Who did?”

“Cardoso and some other men, they –” Tom stopped as they heard footsteps running outside. He had managed to get the desk at least partially in the way of the door before they heard knocking.

“Come on, kid,” said a voice, “I know you’re in there. There’s no way out.”

“Allow me,” said a calmer voice that Tom recognized. With a loud click, the door was unlocked and pushed open, but only partially as it hit the desk Thomas had put in the way.

“Let me in there!” the gruff voice from before shouted. With a loud bang, the door quaked and the desk moved an inch.

Tom saw the point of a gun appear through the crack in the door. “Dad!” he yelled.

“I see it, son,” he said quietly. “Get in the machine. Quickly!”

Tom, his dad, and the monkey jumped into the machine while the lab door continued to be assaulted. Tom’s dad pressed the button to close the machine. Before the door had closed completely, the men outside had opened the lab’s door enough to rush in. Tom looked into the eyes of Cardoso, behind whom was a security guard and two other men wearing suits and pointing their guns at the machine. Then the machine closed.

“Don’t shoot, you idiots!” Cardoso said. “Gaines! If you want to come through this alive and well and with your son, then step out of the machine now.”

His dad didn’t say a word, but quietly unlocked the computer and typed in a few numbers, then clicked the mouse button. They could feel the machine begin to rise.

Outside, one of the men exclaimed, “It’s moving!”

“It works,” Cardoso said under his breath. “I can’t believe it works.”

“What’s it doing?”

“It’s accelerating to the speed of light,” Cardoso replied in awe as the machine slowly began to spin.

“So they’re getting away!”

Cardoso snapped back to reality. “Shoot them! Shoot the machine.”

“But you said –”

“I said shoot it! Before they get away!”

The two suited men and the security guard immediately began shooting on the now-rotating machine. The gunshots were deafening in the small room. The bullets dented, and then penetrated, the machine like picks on a block of ice. But the machine continued to spin faster and faster, until finally the bullets were ricocheting violently off of it.

Suddenly all four men were knocked to the ground by a violent sonic boom. They watched in stunned silence as the machine shrank, until finally it disappeared entirely.