Paranormal Studies 313

The Amazing Lectures of Professor Grimes

Paranormal Studies 313

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Course Introduction

Professor Grimes glanced up at the dingy clock that hung over the classroom door. That same analog clock had been there fifteen years ago when he had first started teaching. Back then he had been a history professor, teaching the lessons of the past to bored students who could barely stay awake. As time went by, years of gross mismanagement by the University's leadership led to a serious financial crisis. Rather than spending their money more wisely, however, they chose to fire dozens of teachers – as if they had been the ones who decided to build a multi-million-dollar stadium for a football team that had not had a winning season since 1936. As a result the aging professor found himself teaching twice as many classes, with no corresponding increase in salary. However, since almost no

one ever showed up for his lectures he found that his job had actually become much easier. It had been four years since he had last given any student an A. For a reason that was beyond his ability to comprehend, most students felt that they could skip every class and then rescue their grade by acing the final – despite the fact that the final only counted for 20% of their grade. He warned them in the course syllabus that if the students skipped their midterm exams and writing assignments they would be unable to pass no matter how well they did on the final, but it never made any difference.

The clock told him that it was six minutes until 10 o'clock in the morning. He had already taught two other classes that day. This was the one he had been looking forward to, as it would be the first time he had ever taught a course on this particular subject. The professor still could not figure out why a divinity school would want to offer a course on paranormal phenomena, but that decision was above his pay grade. These days he simply did as he was told. He had long ago stopped trying to reason with

people who were apparently incapable of thinking rationally.

A quick glance around the classroom showed that eleven people were present. Sixty-four people had signed up for the class, despite the fact that the room only had thirty chairs. At one time that would have motivated the professor to find a bigger classroom, but he eventually learned that only about 10% of his students ever showed up. Despite double-booking his classes every single year he had never ran out of seats. That was one thing he could count on.

In fact, he was somewhat concerned about the eleven people who were already in class. That number seemed unusually high to him. Professor Grimes got up from his desk and walked around in front of it. “Excuse me, everyone, but this is Paranormal Studies 313. Please check to make sure that you are in the right room.”

One young man quickly looked up, confused. “Um, are you sure? This is room 239, isn't it?”

Professor Grimes shook his head. “No, I am afraid not. This is room 4A, as it says

right there on the door that you used to enter this room. You do realize that this is a one-story building, don't you? There is no room 239 in the Whitaker building."

"Oh," the student replied.

"What class are you looking for?"

"I guess this one will work," the young man said vaguely. "All I know is that I'm supposed to be attending class. This is a class, isn't it?"

Professor Grimes sighed. He grabbed the class roster off of his desk and started flipping through it. "What is your name?"

"Dan," he replied.

"Dan Cervantes?"

The young man nodded.

"You are indeed signed up for my class," the professor said at last. "You are in the right place."

"Um, ok. But what's in room 239?"

Professor Grimes flipped through the sheaf of papers in his hand. "According to this, you are signed up for a music class that is held in room 239 of the Jenkins building. That class is on Mondays from 8am to noon."

"Does that mean I'm late?" Dan asked.

“No, Dan, it does not. Monday was yesterday. Today is Tuesday.”

“What do you mean?” another student piped up. “I thought today was Friday!”

“We use the Gregorian calendar in this country,” Professor Grimes said crisply. “In that calendar Monday is always followed by Tuesday. Perhaps in some alternate dimension Monday is followed by Friday. That, however, does not happen on this planet.”

Professor Grimes dropped the student roster back onto his desk. “For the purposes of this class I will assume that all of you are supposed to be here and are signed up for this course. If you are supposed to be somewhere else then that is your problem. I will take no responsibility for your class attendance. For that matter, I do not take attendance at all.”

“Yes!” a voice in the back of the room called out. “Score!”

“I do not take attendance because it is not necessary,” Professor Grimes continued. “The grade is completely determined by your performance on written papers,

midterm exams, and the final. If you can ace all of those without ever attending class then you obviously do not need to be here, and I congratulate you. However, in my fifteen years of teaching no one has ever done that. The only people who have ever passed my classes – and I assure you it is a short list – are those who have actually bothered to show up. It is a difficult chore, but that is how learning works. You cannot possibly learn what I have to tell you if you are not here to hear it."

"Can't we just read the books?" another voice asked.

"What is your name?" the professor asked.

"Lora," the girl replied.

"Well, Lora, it is true that I expect you to complete the reading assignments that are listed in your syllabus. The course textbook that you were supposed to purchase was designed to help you. However, I am not going to stand here and read the textbook to you. If the textbook told you everything that you needed to know then there would be no point in even having class. What I am going

to do is go beyond what the textbook says and give you additional information – information that, I might add, is critical to your passing this class. If you do not take notes then you will fail."

"But I don't have a pencil!" Lora complained.

"Then use a pen," Professor Grimes replied. "Incidentally, let me remind everyone of my no-cell-phone policy. When you signed up for this course you signed a document that granted me permission to confiscate your cell phone and set it on fire if I believed that it was disrupting the class. With that in mind, I expect–"

"No way!" Dan shouted. "You're crazy."

Professor Grimes sighed and once again picked up the class roster from his desk. He leafed through it for a moment, then removed a piece of paper. He then walked over to Dan and laid it on his desk. "Is that not your signature?"

"Yeah, I guess," Dan reluctantly admitted. "But I didn't know that's what I was signing!"

"This is a half-page document that is written in a 16-point font. Before my

secretary would even allow you to sign it you had to tell her that you had read the document, you fully understood the document, and you had no questions about the document. If you lied to her then that is your problem, not mine. My conscience is clear."

The professor then took the release form back to his desk and placed it into the student roster. "As I was saying, all cell phones must be off while I am teaching. If there is some dire emergency then you may have it on vibrate, but you must leave the room before you answer the phone or send a text message. Under no circumstances may you use your phone while this class is in session."

At that moment the professor heard a beeping noise. He looked around and saw a student in the back row furiously typing out a text message on his cell phone. The professor walked up to the student, who was intent on what he was typing. "And just who are you?" the professor demanded.

"Tyler," the student said without looking up.

“Tell me, Tyler. Did you hear anything that I just said?”

“Just a minute! I'm kind of busy now.”

“*TYLER!*” the professor shouted, in a voice that commanded authority. “This is your final warning. Do you see that fire pit over there?”

The student looked up, startled, and glanced in the direction that the professor was pointing. “Oh. Weird! Yeah, I see it.”

Dr. Grimes looked at Tyler coldly. “Last semester I burned eight cell phones in that pit. I will not hesitate to burn yours as well if you do not turn it off *RIGHT NOW.* Do I make myself clear?”

The young man signed. He flipped his phone closed and stuffed it back into his pocket. “You need to chill, man. You're crazy! We've got lives too, you know. Not everything is about you.”

“I will make this very simple,” Dr. Grimes replied. “I am being paid to teach this course and that is exactly what I will do. If you try to interfere with my teaching then you will face my wrath. If you do not want to be here then you are free to leave. However, as long as

you are in this room you *will* follow my rules."

"I need these credits to graduate," Tyler replied sourly. "But you seriously need to mellow out. You would be way more popular if you just let us do our thing."

"And I am sure that if I gave an automatic A to all my students I would be the toast of the school. But I refuse to do that, young man. The world around us may have stopped caring about quality, but I have not. I still have standards and I *will* enforce them. If you want a passing grade then you will have to earn it."

A chorus of groans sounded. Professor Grimes ignored it and walked back to his desk. "As I was saying earlier, this is Paranormal Studies 313. We are going to spend the semester studying the paranormal. This will include, but is not limited to, UFOs, ghosts, out-of-place artifacts, conspiracy theories, and so forth. We will expose these things to the hard light of science and see what we can learn."

"But they're all bogus!" Dan cried out.

"And how do you know that?"

“Well, they just are. Everyone knows it.”

“Is that so?” Professor Grimes replied. “Tell me, Dan. Have you examined every single UFO sighting?”

“Um, no,” Dan replied.

“Ok, then have you examined *any* UFO sightings?”

“No. But other people have. Like, the government. They say they're all just weather balloons.”

“And how do you know that they are correct? Have you examined their methodology? Have you read their reports? Have you actually examined the raw data yourself?”

“Why would I do that? I mean, look, they're the government! If they say that UFOs are a hoax then they're a hoax. Why would they lie to us?”

Dr. Grimes stared at the student, surprised. “Are you serious? You can't possibly be serious! Dan, the truth is that governments lie to us all the time. They lie about whether Social Security is solvent. They lie about global warming. They lie about the radiation that is released from

nuclear disasters. Governments all over the world have a consistent habit of lying. Why on earth would you think that they are a credible source of information?"

"What are you talking about?" Dan asked.

"Take global warming, for instance. Despite what you may have been told, 96% of all so-called global warming emissions are caused by the oceans. Of the remaining 4%, 3.44% are caused by non-human activity. That means that humans only account for 0.56% of all global warming emissions. That's one half of one percent! If we entirely eliminated all of our emissions it would not matter. Despite what governments all over the world have led you to believe, human-caused emissions are *not* warming the planet and destroying it. Our emissions are, in fact, incapable of doing so."

"That's crazy talk!" Lora exclaimed. "All scientists know that global warming is true. It's settled science! All climate-change deniers are kooks."

"It is a hoax," Professor Grimes said firmly. "95% of the greenhouse effect is

caused by water vapor. Carbon dioxide – the vast majority of which is released by nature, *not* man – accounts for a tiny percentage of any warming effect. On top of that, studies have shown that there is no statistical correlation between temperature change and carbon dioxide levels. None! Carbon dioxide is not a toxic poison; it is a requirement for life to even exist on this planet. What's more, scientists know all of these things but still persist in lying about it."

"But–" Lora said.

"There are no buts about it, young lady. If this was real science, these people wouldn't be secretly talking about was to 'hide the decline' in temperatures. They wouldn't be trying to destroy the careers of people who are exposing their hoax. They wouldn't go out of their way to hide their raw data so that no one else can see what they're doing. *Real* science is about being honest and open. Global warming is *not* science. It is a scam."

"But scientists agree!" Lora replied. "They formed a consensus. It must be true."

"That's preposterous! Science isn't done

by consensus. You might as well say that truth is defined by a committee. People don't get to decide what the truth is, nor do committees get to decide what is or is not reality. If you are forming a committee to decide what the fundamental laws of the universe are then you are doing it wrong. That is not how science works. Real science – unlike the fake science that you see so often today – is testable, repeatable, and falsifiable. It does *not* consist of outright lying, hiding your findings, and then smearing your opponents."

"But smearing people is so effective," Lora complained.

Professor Grimes nodded. "Oh yes, it's quite effective. For example, in the 1840s Dr. Ignaz Semmelweis told his colleagues that if they simply washed their hands after delivering a baby they could dramatically cut the mortality rate. At the time, however, the idea that a medical doctor should be clean and sterile was greeted with ridicule. Washing your hands was seen as utterly preposterous. Despite taking pains to actually prove that washing hands really did

save people's lives, he was still ridiculed for his theory. In fact, he was hounded so much that he was eventually forced out of his position as a doctor. Dr. Semmelweis was absolutely right, but 'consensus science' made sure he lost his job for it, and cost countless women their lives. That is *exactly* what smearing people does.

"The reality is that the truth has never been popular. It does not matter if you can prove your results. It does not matter if you are right. It does not matter if you have evidence and logic on your side. Throughout the long centuries of history science has almost always been settled by consensus, and that has had terrible consequences. Dr. Semmelweis challenged this and was duly punished for it. Others have done the same thing and met similar results. Yes, perhaps eventually the consensus does change. But those who challenge the consensus are persecuted, reviled, and destroyed. It is how science works – not by seeking the truth, but by seeking 'heretics' and burning them at the stake. In the past it attacked those who dared to suggest that doctors should wash

their hands. Today it attacks those who suggest that mankind's 0.5% contribution to greenhouse gasses is not destroying the planet. Scientists can consistently be trusted to personally attack anyone who challenges them."

"I object to that," a student in the back of the room called out. "Just because it happened in one isolated case doesn't mean anything."

"But it's not just one isolated case," Professor Grimes replied. "For example, the 2011 Nobel Prize in chemistry went to an Israeli scientist named Daniel Schechtman. He won the prize for his discovery of quasicrystals. Schechtman actually discovered them in 1982, but when he announced his findings he was met with great derision. In fact, he was actually kicked out of his research group in the United States. His brilliant discovery was not dispassionately analyzed by his peers. No, instead he was ridiculed and lost his job, despite the fact that he was right and had the facts on his side. It only took him *thirty years* to break through the 'consensus'. This

sort of thing happens all the time – in fact, don't even get me started with what evolutionists have been doing.

“The sad truth is that we are living in a time when you simply cannot believe what you are told. Your local newspaper is not going to be honest with you. The newscaster on your local TV station is going to give you a slanted version of the news. Scientific studies are often badly distorted to give a result that is designed to please whoever funded the study, or whatever the 'consensus' has already decided. Even when people are not actually trying to be dishonest there are times when they are just flat-out wrong. Doctors once lauded the health benefits of smoking, and they once believed that the way to cure diseases was by draining your blood. In fact, that was one of the contributing factors to the death of George Washington.

“Honesty is a rare thing these days. When millions or billions of dollars are at stake, and when there are personal reputations on the line, you can usually expect the truth to suffer. It is a very rare

man indeed who will sacrifice everything for the sake of honesty – especially in these days.

“What we are going to do, then, is take a hard look at a subject that few people ever bother to actually investigate. Since honesty is a rare commodity, we will investigate this ourselves and see what we can uncover. It may be that in some cases there is not enough evidence to support a conclusion, but at least we will have looked into the matter ourselves, instead of trusting a stranger who may have an agenda of his own.”

“You're awfully cynical,” Lora said accusingly.

Professor Grimes looked her in the eye. “A person can only be lied to so many times before he begins to suspect that the truth is a rarity. Perhaps one day you'll learn to look into things yourselves, instead of simply believing whatever you are told to believe.”

The professor sighed. “ Incidentally, class, be sure to read chapter 1 before Friday. You are dismissed.”

The Black Knight Satellite

“Good morning, class!” Professor Grimes said cheerfully. “It's great to see all of you here this morning. Today we're going to begin our investigations into the paranormal by–”

“Woah woah woah,” a student shouted. The professor looked around and spotted an unkempt student in the back of the room, who was wildly waving his arms. “Hold on there, professor! Don't you know that it's, like, Christmas?”

“Dan, it is most definitely *not* Christmas,” Professor Grimes replied. “It is December 23rd. Christmas is not for another two days. Besides, what possible difference does that make?”

“Why, it makes all the difference in the world! It's way too close to Christmas to be learning anything. What are you, some kind of pagan? You gotta respect the holidays!

Give us a break."

Professor Grimes was silent for a moment. He glared at the disheveled student. "Listen here, young man. This is college, not kindergarten. I am here to teach you things and you had better be here to learn them. If you find it impossible to learn then I suggest you drop my class. I am most certainly *not* going to cancel this lecture simply because a holiday is two days away. That is completely ludicrous."

"Man, that is so wrong! Where's your Christmas spirit?"

"You have a great deal of maturing to do," Grimes said icily. "Christmas has absolutely nothing to do with laziness and self-absorption. In case you did not know, Jesus Christ was not born of a virgin in Bethlehem so that you could goof off in college classes. His divine sacrifice is not honored by your brattish insistence that everything revolves around what you want. It is high time you learned to man up and take responsibility for your life."

"Whatever," Dan sighed.

Professor Grimes resisted the urge to

pick up the student and toss him through the classroom window. He instead turned to the blackboard and began writing. “As I was saying before I was rudely interrupted, today we are going to begin our investigations into the paranormal by studying a rather unusual type of UFO. Normally when one investigates unidentified flying objects one hears of flying saucers, or strange aircraft, or occasionally alien abductions. This particular UFO, however, is quite different. What we are going to study today is not an unidentified aircraft, but an unidentified satellite.

“I first heard about this rather unusual object while reading the book *Dead Men's Secrets* by Jonathan Gray. The satellite is first mentioned in the prologue, which begins on page ix. There we find this intriguing passage.”

The professor turned to his desk and picked up a well-read book. He flipped through a few pages, then cleared his throat and began reading:

> It was, I recalled, in October 1957, that man's most daring triumph – Sputnik I

– had been rocketed suddenly into orbit 584 miles above the earth. With excitement, mingled almost with disbelief, millions worldwide had scanned the night sky to glimpse that shining artificial moon skimming on its path east to west against the canopy of stars. Within four months America had followed suit.

So, after aeons of tortoise-paced development, humanity had suddenly leapt off the planet; it was startling – and we were alive to see it!

Then came a bizarre discovery. It was hushed up quickly, I recalled. ...

As tracking stations swung into action to monitor these new moons, the night sky had tossed up an awesome mystery. Another satellite was discovered already in orbit. Certainly it was neither American nor Russian – and the uncanny truth was nobody else had the technology.

French astonomer Jacques Valle of the Paris Observatory, saw it three times in 1961 and got eleven data points in forty-five seconds. It seemed to be

> orbiting in reverse at an altitude of over 22,000 miles above the earth.
>
> Experts were jolted. Who put this satellite into orbit? How long had it been there?

Professor Grimes put down the book. “I had heard many reports of UFO sightings over the years, but none of them were quite like this one. In fact, the account of the black knight satellite is so amazing that I was surprised I'd never heard of it before. Why was this story so obscure? After all, if mankind really had spotted an actual alien satellite then why wasn't this common knowledge? Why was I forced to discover it in a rather obscure book? It didn't make any sense.”

“Maybe no one cared,” Dan called out from the back of the room.

“Or maybe people forgot about it,” Lora added.

The professor shook his head. “Both of those possibilities are highly unlikely. After all, in 1961 the space race was just a few years old and there was a keen interest in

anything remotely related to outer space. Finding proof of an alien civilization would have been one of the greatest discoveries of all time. People *definitely* would have cared, and they would not have forgotten about it. There are therefore two likely possibilities. One is that the government quickly covered this up in order to keep the public from finding out. The other is that it never actually happened."

"So which is it?" Lora asked.

"Let's take this one step at a time," Grimes replied. "Before we look for corroborating accounts, let's analyze the claims in this particular story. That might give us some idea as to the veracity of this report.

"First of all, Sputnik I really was launched in October 1957. The launch occurred on the fourth day of that month. The information regarding its orbit is also more or less correct. The satellite's actual orbit was an elliptical low Earth orbit, whose height varied from 139 miles to 900 miles high. 584 miles is within that range."

"Who cares?" Lora asked. "We all know

that Sputnik I is real! Why does this even matter?"

"Because it gives us an idea of how accurate the author is with his information. Think of it this way: if he cannot accurately report real, known history, then why should we trust him on facts that we cannot verify?

"To get back to the subject at hand: there is one other claim that we can check. The author stated that Americans launched their own satellite four months after Sputnik I was launched. This is correct. The first American satellite, Explorer I, was launched on January 31, 1958, which was just shy of being exactly four months later. This means that the author's historical details are correct, which lends credence to his account. With that out of the way, we can finally take a look at his claims regarding this unidentified satellite."

"Finally," a voice called out from the back of the room.

Professor Grimes ignored it and continued. "The author claims that the unknown satellite orbited the Earth using a geosynchronous orbit, and that the satellite

was first spotted in 1961. According to history, the first satellite to ever achieve that orbit was Syncom 2, which was a communications satellite that NASA launched in 1963. In 1961 the Soviet Union launched the first human into space, but no geosynchronous satellites were launched. It would be several more years before the technology existed to launch a satellite into that particular orbit."

"Couldn't it just be an early Soviet experiment?" another student asked.

"Possible, but unlikely," Professor Grimes replied. "In 1961 the Soviet Union was devoting enormous resources to try to embarrass the United States. They went out of their way to prove that their space program was superior – not because they cared about space, but because they desperately wanted to prove that communism was superior to capitalism. Had they achieved a geosynchronous orbit before America did you can be sure that they would have bragged about it and used that success to smear the West. It is highly unlikely that they would have kept it a secret. That would

have defeated the entire point."

"So, what – are you saying it really was an alien satellite?" Lora asked.

Professor Grimes shook his head. "We have not yet arrived at that conclusion. You must not jump ahead of what we have established. So far all we know is that the author's retelling of history is correct, and if a geosynchronous satellite really was detected in 1961 then it almost certainly was not built by the Russians or the Americans."

"So it would have to be alien, then," Lora insisted.

"Not necessarily! A geosynchronous orbit – provided it is of the geostationary type – could be stable for centuries or even millennia. If the black knight satellite existed it could have been an alien satellite, or it could have been launched by an ancient, lost civilization."

The entire class burst our laughing. Dan spoke up. "Are you trying to tell me that *cave men* launched the satellite? Seriously?"

"Ancient man was a great deal more advanced than you realize," Professor Grimes replied calmly. "In fact, that will be

the subject of a future lecture. For now it is enough to say that there are two possibilities. If the satellite really did exist and if it was not built by modern man, then it either came from aliens or from ancient man. Those are the only two logical alternatives. Our next task is to find out if this satellite really did exist.

"This is where matters become difficult. If this were a science experiment then we could simply perform the experiment ourselves and see what happens. History, however, is quite different. Real science is testable, repeatable, and falsifiable. History, however, is none of these things. Since we cannot go back in time and look into this ourselves, all we can do is look for corroborating accounts."

A voice called out from the back of the room. "Is class over yet?"

The professor ignored him. "Interestingly, I was able to find several accounts of the black knight satellite – but *none* of them corroborated with Jonathan Gray's account. Plus, every single mention of Jacques Valle in association with this satellite can be traced

back to Jonathan Gray's book. It would appear that Jacques did *not* observe this mysterious object in 1961. The reality is that he did claim to see a UFO, but the date was May 1955 and the UFO was hovering over his house. It was not in orbit and it was not a satellite. What actually happened to him in 1961 was quite different from Jonathan Gray's report. The reality is that, while working on the French Space Committee, Jacques reported seeing people destroy tracking tapes that had recorded an unknown object in earth orbit. However, the object tracked on the tapes was in a retrograde orbit, not a geosynchronous orbit, and Jacques assumed it was a captured asteroid. The incident sparked his lifelong interest in UFOs, but he did not claim that the object on the destroyed tapes was an alien satellite."

Lora spoke up. "Well, but the accounts are kinda similar, aren't they?"

"In a way, but there is an important difference. It would appear that an unknown object *was* tracked in 1961, but that object was assumed to be an asteroid, *not* a man-

made satellite. That is a key difference! Since the evidence was erased there is no way to analyze it further. It must be pointed out that a passing asteroid is a much more reasonable explanation than an alien satellite."

"Well that's depressing," Dan called out.

"But that is not the end of the story. You see, there are other accounts of the black knight satellite that are completely different. For example, on March 7, 1960 Time Magazine announced the discovery of a 'dark' satellite in orbit. This unknown object caused a great deal of worry and consternation until they realized that it was simply part of a derelict Air Force Discoverer satellite. This shows how easy it was to lose track of things back then.

"Another account I came across was record by Jon Keel in *Disneyland of the Gods*. Keel said that in February 1960 the United States detected an unknown object in polar orbit. This object could not have been a passing asteroid because it was actually transmitting data – specifically, a star chart from 13,000 years ago. The satellite was

tracked for seven months, and on September 3, 1960 a tracking camera took a photograph of it. It was said to be a glowing red object that moved from east to west."

"Wow," Lora said. "That's amazing!"

"It is indeed. However, like the Jonathan Gray story, I can find no corroborating accounts, and the supposed photograph cannot be found anywhere. There are a few other reports that add additional details to the story – such as the object weighing 15 tons, and the photograph being taken at 8:51 PM – but they all appear to come from the Jon Keel book."

"So what does that mean?" Lora asked.

"It means that we have two conflicting accounts, each of which tell a very different story, and neither of which can be corroborated. That in itself is highly suspicious. As conspiracy theories go, this one is remarkably poor. It makes astounding claims but there is no solid evidence to support it. Unless additional information turns up I can only conclude that the story of the black knight satellite is a myth."

"Seriously?" Dan said. "Do you mean I

sat through this whole class just to find out that the satellite never existed? You could have just told us that at the beginning!"

Professor Grimes nodded. "Yes, I could have. It is true that you learned that an obscure, all-but-unknown paranormal story was most likely false. I am glad you were paying attention – but you must keep in mind that that is not all you learned today. You were also given a demonstration of techniques that can be used to analyze other paranormal stories, to see if there is any truth to them – and we will be applying those same techniques all semester. Some of the stories we will investigate will turn out to be true, and others will be false. Regardless, we will discover the truth through the use of logic and actual investigation. We will *not* simply assume whatever we want to believe and then go on from there. In this class the truth actually matters.

"It is vitally important to get to the truth of a matter, and not simply accept whatever you read or were told. In order to do this you must have a mechanism for determining the truth. Without that you will have no way of

knowing whether your beliefs correspond to reality."

"So what?" Dan asked. "Who cares?"

"I assure you, young man, that you *will* care. At the end of the day reality always wins. You can attempt to put it off, but the longer you ignore the real world the harder it will bite you in the end. You will be much better off if you make peace with reality while you are still young."

Professor Grimes glanced up at the clock. "That will be all for today, students. I wish you all a Merry Christmas. Don't forget to read up on chapter 2 for our next class. You are dismissed!"

Ghosts

Professor Grimes walked into the room a few minutes before his class was scheduled to start. A quick head-count revealed that only five people had shown up. Given that 64 people had signed up for the course he had hoped for a better showing, but experience had taught him that the first class after Christmas rarely attracted many students. People apparently thought that the holiday was a good excuse to take it easy – not just on Christmas itself, but also in the week before and the week after. This fact greatly irritated him when he first started teaching, but over the years he had come to accept it. As his father had told him many years ago, you might wish that the weather was different, but it is what it is and you have to live with it. And so the professor made the best of things.

"Good morning, students," Professor

Grimes said brightly. “It's good to see you here today. I trust that you all had a blessed Christmas.”

“I spent the whole day sick,” Ashley complained.

The professor looked at her, concerned. “Are you still sick?”

“I don't think so. I might be contagious, though. I don't really know.”

“Have you been to see a doctor?”

“Yeah.”

“What did he tell you?”

“That I was sick.”

Professor Grimes sighed. “I see. Well, as I was saying, I hope you all had a blessed Christmas. Today we are going to continue our research into the topic of the paranormal. Last week we studied the black knight satellite, which–”

“Which turned out to be a hoax,” a student in the back of the room called out. “And I bet today we're going to learn that ghosts are a hoax too! Why not just call this class the 'study of paranormal hoaxes' and be done with it?”

“Because this is not a study of hoaxes,

Max. It is a study of paranormal phenomena. As I said in our last class, some of the stories in the textbook are simply modern myths, but others are quite real. The whole point of this class is to investigate them, not to make snap judgments and then move on to something else."

"But ghosts aren't real! Everyone knows that. This is all bogus."

The professor shook his head. "I am afraid you are very much mistaken. This is one area where we do not have to depend on obscure accounts in little-known books. I found it remarkably easy to find firsthand accounts from reputable people. In fact, I actually know several people who experienced hauntings personally, and I know of several houses that are genuinely haunted. These are not stories of someone who knows someone who knows someone else. I have talked with people who witnessed these things first hand. Moreover, I suspect that if you ask your peers you will be able to track down other firsthand accounts. Hauntings are so widespread that this is not very difficult."

“You can't be serious,” Max scoffed. “That's crazy.”

“It's not crazy at all. In fact, if none of your friends have ever told you a ghost story then your attitude may be the reason why. If you make it known that you consider seeing a ghost a sign of insanity, then people who have seen them will go out of their way to avoid telling you about it. After all, no one wants to appear stupid. But genuine accounts of ghosts are quite common and are not hard to track down. In fact, these things even happen to well-known people.

“Therefore, in my mind, the question is not whether there are ghosts, or whether hauntings occur. In my opinion these things can be taken for granted. The question is, what is the truth behind this matter? Are ghosts simply the spirits of the dead, or are they something else? Who is actually behind these phenomena and what is really going on?”

“I still think this is all nonsense,” Max replied.

“Many people do, until it happens to them. In fact, I remember reading an

account of someone who was every bit as skeptical as you. This person was actually a member of a local skeptic's society and spent his free time debunking things like this. Then one day it started happening to him."

The professor turned around, picked up a sheaf of papers off his desk, and began leafing through it. "Oh, here we go. This person is a contributor to a well-known political blog and, to the best of my knowledge, is not religious in any way. His bias against the supernatural was quite strong until this happened. Here is his account:"

> My fiancee and I moved into our current residence in April. Spacious, private, it's right up our alley at least until we can get an apartment. Soon after moving in I began to notice some strange things. In the living room, I would turn off the light and TV when going to bed. An hour later, they would be back on. Footsteps around 3am. Cold spots during the heat of summer. Odd things, but I tried not to give them

much thought.

About a month in, my far better half started complaining she was being "woken up" by something in the night that would poke her arm. I joked it was probably me, until one night I couldn't sleep and found myself watching TV in the living room. Erinn started tossing and turning, then came into the room telling me she didn't appreciate me trying to wake her up. I told her I would turn the TV down, but she insisted "you know what I mean, poking me like that. Don't act like you've been in here the whole time."

I have spent some free time in the past year serving as a skeptic for a local paranormal group. I came to their investigations with the approach that everything has a rational explanation, and barring a few odds and ends, most of the "activity" being reported did. So now, I had the awkward situation of having this happen in my own house.

Curious, we decided to run the "flashlight test" in the bedroom. For those unfamiliar, you remove the front

part of a flashlight away from the battery just enough that a "ghost" can still make the connection and turn the bulb on, but you can't turn it on yourself by bumping or blowing on it. Our question "is there someone here who wants us to know they are" was answered by both the flashlight on the floor, and our bedroom lighting, which simultaneously brightened then dimmed. Testing my initial reaction that it was just coincidence, we asked again, and again the flashlight and our room lighting brightened and dimmed.

Erinn asked more questions, and per the tedious yes/no responses we came to find out it was simply trying to get our attention, to acknowledge it was here in our house. The poking, the footsteps, and even audible name calling were all because of that. We eventually found out from our landlord that the previous owner had fallen in the kitchen downstairs and died from her injuries shortly thereafter, so perhaps that is who has been wandering in our room.

From time to time we hear the noises,

> but it has quieted down a lot since we had "talked" with whatever or whoever it is. We like the place too much to leave and it doesn't seem to mind us now that we have settled in. I suspect most "hauntings" run along these lines, as opposed to the Hollywood bed-rattling and full-body apparitions.

A girl in the front row shivered. “That's freaky,” Ashley said.

“It is an intriguing story,” the professor replied. “There are several things that stand out about it. First of all, this happened to someone who did not believe in the paranormal, and it had the effect of converting a materialist into someone who was open to the supernatural. In fact, according to the ghost, that was the whole reason behind the hauntings. The ghost knew that this person was a skeptic and wanted to prove that the skeptic was wrong. In other words, the ghost had a specific agenda.

“Second, the ghost was far more powerful than the skeptic was willing to

admit. The ghost had the ability to operate electrical appliances, to turn lights on and off, to interact physically with people, to change the local temperature, and to even make noises and talk."

"But they didn't actually talk to the ghost," Ashley pointed out.

"That's true, and that is an excellent point. The ghost clearly had the ability to talk, because the skeptic mentioned 'audible name calling'. Therefore, the ghost *could* talk but chose to communicate through the skeptic's crude flashlight setup. The question is, why?"

Ashley shrugged. "How should I know? It's a ghost. Maybe that's just the way they do things."

The professor shook his head. "I think the ghost knew exactly what it was doing. It's clear that the ghost had real powers. It could not be seen, and yet it could physically interact with people. It could not be detected, but it could operate electrical appliances. That is actually terrifying – to know there is an unseen entity *living in your house* that you cannot control, and yet it

could kill you if it wanted to. Yet because of the way the ghost approached the situation, the skeptic came away not only believing in ghosts but believing that they were also harmless. The reality is that they are not harmless at all."

Max laughed. "Ghosts can't kill people! That's ridiculous."

"If a ghost can affect electrical machinery then it can certainly kill you. Your car, after all, is an electrical machine. So is an airplane. If a ghost can operate a switch then it could easily bring down a plane or cause your car to crash. Moreover, if a ghost can poke someone awake then I see no reason why it couldn't strangle them in their beds. The only reason the skeptic was not scared was because the ghost said it meant no harm."

"And I'm sure the ghost was being honest," Ashley replied. "After all, it was just the spirit of the dead landlady. I'm sure she didn't want to hurt anyone."

"How do you know that's who it was?" Professor Grimes asked.

"Isn't is obvious?" Ashley asked. "I mean, come on. The landlady died, and then the

ghost appeared right after that! There's got to be a connection."

"There may be a connection, but I doubt it is the one you're thinking of. One thing we can know for certain is that ghosts are *not* the departed spirits of the dead. We know this because the Bible is quite clear about what happens after death. When–"

"Objection!" Max called out. "You can't go around using the Bible to prove things. That's preposterous."

Professor Grimes looked at the student, surprised. "Young man, this is a theological seminary. The only degrees we offer are related to divinity, theological studies, and becoming a pastor. All of those degree programs rely heavily on the Bible. If you object to the Scriptures then what on earth are you doing here?"

"It's the principle of the thing. Lots of pastors don't believe the Bible."

The professor sighed. "Judging by the polling data I have seen, I must admit there is truth to that. There are a great many people in churches today – including in pulpits – who do not believe what the Bible

says. Why they chose a career teaching things that they believe are lies is something I will never understand. The fact remains, however, that the Bible is wholly true and without error. It can be trusted, and in this class I will use it as a source of infallible truth. Therefore, I will take it at its word.

"It is especially important to trust it when it comes to what happens after death. The very nature of that subject makes scientific investigation impossible. Scientists cannot perform experiments to find out what the afterlife is like. The only way to get firsthand knowledge of death is to die, and once you die you cannot come back. Therefore, all we can do is believe the account that God has given to us. Fortunately, God has revealed quite a lot about what happens after death. Those who repent and believe in Christ go on to live with Him in Heaven, and those who reject Him are taken to Hell, where they are tormented. Since this is not a theological studies class I will not elaborate on this point. It suffices to say that the dead do not have the option of coming back to Earth and

haunting people. Those who are in Hell are trapped there, and those who are in Heaven do not make field trips back to Earth – barring a few very specific exceptions, such as Moses and Elijah on the mount of Transfiguration. Moreover, no one has the option of staying here in ghost form and avoiding both Heaven and Hell."

"So ghosts aren't dead people, then?" Ashley asked.

"No, they are not. Dead people are not given the option of becoming ghosts. Therefore, if ghosts are real – and I believe they are – they must be something else."

Ashley looked puzzled. "Well, what are they?"

The professor glanced down at the notes that he was still holding in his hand. "Before I answer that question let's take a look at a few more cases. The blog post I mentioned earlier generated quite a response. Other people came forward with their own stories. I cannot vouch for the truth of any of these, but they do line up with the firsthand accounts that I've heard. These kind of hauntings are fairly typical. For example:"

I moved into my house with my ex a few years ago. Basement was a gaudy swinger/Moron pad with 4' high mirror-walls and rope lights above wood wainscoating which ran around a huge living room / party area. Wall to wall to wall.

Every time I would walk upstairs to the main floor, at the third step from the top, I would 'feel' something angry looking at the back of me. More of an impression; plus fear that something bad was behind me.

Happened every time I came up the stairs. Never mentioned it to the wife.

About a month after moving in, we were sitting upstairs talking about how much we liked the new house. I said, "I love this place, except for that one spot." She looked over and immediately asked, "The third step from the top?" "Yes! You feel it too?!"

She felt the same thing at the same spot and we had never talked about it. A few months later we remodeled the basement. From the day they took out

the mirrors, I have never felt anything on the stairs.

As they say, until it happens to you. But for me, I believe...

"That's lame," Ashley commented. "So they had a scary feeling! Boo hoo."

"Yes, but think about it," the professor urged. "Two different people, both apparently former skeptics, got a very bad feeling from the weirdest of things – walking on the third step of a staircase. There is no reason why such a trivial thing should incite a feeling of terror. Yet, some entity was able to inspire a genuine haunting emotion without ever touching the person or actually appearing. That is a remarkable ability! After all, the only way you would know if I was angry was if you saw me, or heard me, or saw something that I had done. Yet this being was able to convey anger telepathically. That is deeply troubling.

"This also points out something else: these ghosts have emotions, and they are not good ones. In this case we see anger

demonstrated. In the previous case we saw pride – the unseen ghost was being ignored, and it didn't like it at all.

"All of this brings us to the third case. This one is highly instructive:"

> I once lived in an old pre-Civil War era house. ....It was cool. The rent was cheap and it had lots of extra rooms, extra space.
>
> There was one room that was full of junk left by previous occupants. We didn't think anything about it at the time, but all the junk was piled up in the far corner of the room.....in a sort of junk mountain.
>
> We cleaned all the old junk out and didn't use that room for a while. Then, we started storing boxes of our own stuff in there.....and some odd chairs.
>
> When we went to get something in that room, we found that all of our stuff had been piled up on top of itself in the far corner.....just like the old previous junk had been.
>
> We moved it all back. Came back

later....it was back in the corner.

This went on for the entire time we lived there. Whatever was left in that room would end up piled on top of the other stuff, in that far corner. ....We never heard a sound. .....And we could never catch it happening. No matter how much we tried to catch it in the act.

"Now that's creepy," Ashley said.

"It's also very revealing. This ghost wanted to prove that it lived there, and it did so in a rather childish fashion. It, too, had rather startling powers – it was able to move physical objects, it could do so silently, and it had the ability to avoid being detected despite the intense desire of these people to catch it in the act. That could explain the failure of the ghost hunter shows on TV – if these ghosts do not want to be found then they are very capable of avoiding being detected."

"But why? I mean, why would they show themselves to some people but not to everyone? What's the point of that?"

“That is exactly the right question to ask,” Professor Grimes said. “These beings are obviously powerful. They can operate electrical machinery, they can interact physically, they can move objects, they can talk, and they can communicate emotions telepathically. They are also arrogant, childish, and proud. They go out of their way to prove to skeptics that they are real, and yet they avoid doing anything that would make the general public realize just how real and dangerous they actually are. It is as if they are playing a game, living in the shadows. They want to be feared but not understood. They want people to know they are there but they wish to remain hidden in the darkness.

“The question is, who are these beings? They are clearly not the spirits of dead people – the Bible rules that out. I also doubt that they are angels. Angels certainly have a great deal of power and may be capable of doing all these things, but angels are the servants of God, bound to do His will and His will alone. I find it impossible to believe that they spend their free time

moving around people's furniture in childish displays of ill humor. No, I believe we can rule that out. It is simply not in the character of an angel to act in this manner."

"So what are they?" Ashley asked.

Professor Grimes paused for a moment. "I believe they are demons. The Bible refers to them as familiar spirits, and strictly warns against having anything to do with them. Demons are a perfect match for the modern ghost phenomena. They are spirits, they have the power to do everything that ghosts have been documented as doing, and they are evil. Demons are quite capable of physical interaction with people, and they can most certainly talk. I have no doubt that they can operate appliances and move physical objects."

"But ghosts are harmless!" Ashley protested. "They don't go around possessing people."

"I disagree. I think that demon possession still happens today, although it is more rare than it was when Jesus walked the Earth. The problem is that modern society does not believe in evil spirits, so they simply

diagnose it as some type of severe psychological disorder. Now, let me say that there are definitely genuine psychological illnesses, and I do not want to downplay that. But I suspect some people are afflicted with something far worse than a mere psychosis and are simply being medicated.

"It is also not true that all ghost stories are harmless. The people who I have talked with in person have told me genuinely frightening stories that are far worse than the mundane accounts I've seen online. These people were physically attacked by something they could not see, or saw their children attacked. Their appliances were not merely turned on or off, but actually destroyed. Their possessions were not stacked in a corner, but picked up by an invisible force and thrown at them. Those are not things that a holy and righteous angel would be doing. No, those are demonic acts, done by deeply evil spirits."

"What are you saying?" Ashley asked.

"I am saying that this world is filled with vast numbers of enormously powerful spirit beings – beings that we cannot see, but

which have immense abilities. The book of Revelation hints that there may be hundreds of millions of them. On the one side are the angels, who worship God and fight that His will be done. On the other side are the evil spirits, who oppress, harm, lie, and destroy. You cannot see either side, but they are there and they are very real. The angels are mighty warriors who work to protect the people of God and further His agenda, and they outnumber the evil spirits two-to-one. The evil spirits, however, are desperately wicked. They will destroy your life if they can, and they are determined to do so.

"Oh, they may not appear to be all that dangerous. To some people, like the skeptic, ghosts seem pretty harmless. But there is nothing harmless about them or their aims. The Bible calls their leader the father of lies and the adversary of all believers. They are extremely deceptive, and at times they may even appear to be helpful. Even Satan can appear to be an angel of light. But there is nothing good about them or their goals."

"I don't like the sound of that," Ashley said.

“Then you are thinking clearly,” Professor Grimes remarked. “It is vital to understand that ghosts are not a harmless fantasy – they are a very evil reality, and should be avoided. The Bible strictly forbids interacting with familiar spirits. Do not go near them. Do not live where they dwell. Do not interact with them. You do not want to make friends with them. If anything, we are all called to be ghost busters. It is our job as Christians to resist them – to fight back.”

“But how can anyone possibly fight something they can't see?” Max asked.

“Why, with spiritual weapons, of course. The Apostle Paul talked about this nearly two thousand years ago, and his words are as true today as they were then. As he said in Ephesians, 'For we wrestle not against flesh and blood, but against principalities, against powers, against the rulers of the darkness of this world, against spiritual wickedness in high places. Wherefore take unto you the whole armor of God, that ye may be able to withstand in the evil day, and having done all, to stand.'”

Ashley looked confused. “What does that

even mean?"

"It means that we're at war – not with mere communists or terrorists, but with the rulers of darkness and with spiritual wickedness in high places. There is a battle going on around you and evil is doing all it can to utterly destroy you. Your only hope for survival is to hide yourself in God and use His power to fight back. Ephesians 6 lays out the battle plan for fighting these beings. It can be done. As Christians, the forces of darkness have no power over us because Jesus Christ is within us and He has overcome the world. He who is in us is greater than the evil spirits that are in the world.

"Now, exorcism is another topic entirely and it is well outside the scope of this class. That is one of many subjects that the modern Church does not teach on, and so many believers are ill-equipped to fight. If this is something that interests you then I highly suggest doing some additional research, as I assure you your enemy is well-equipped and highly focused. If you resist the devil then he will flee from you, but if

you don't resist then he will 'sift you as wheat', as Jesus said."

"I don't get it," Ashley said.

Max spoke up. "It means he's going to mop the floor with you."

"Oh."

The professor glanced up at the clock. "Students, it looks like that's all we have time for today, so I'm going to let you go. Be sure to read the next chapter in your book before the next lecture. Class dismissed!"

The Great Pyramid of Giza

“This will be our last class of the year,” Professor Grimes announced. “Our next lecture will be in January. I hope all of you have a very blessed New Year's Eve.”

“Like that's going to happen,” Lora grumbled. “New Year's Eve falls on a Saturday this year. A Saturday! We never have classes on Saturday. What fun is having a holiday on a day that we already have off? It's a total waste!”

Professor Grimes sighed. “Holidays were not created to provide you with an excuse for skipping class. They are days that are set aside so we can celebrate something that is worth celebrating. For example, Christmas is a day to celebrate the birth of Christ. Easter is a day to celebrate the resurrection of Christ. New Year's is a day to celebrate the start of a new year that is full of possibilities and hope.”

“Does that mean you're going to let us out early today?” Dan asked hopefully.

“Absolutely not!” Grimes replied. “Why would I do that? After all, you are paying $15,000 a semester to attend this university. You are taking four classes, which means this class is costing you $3750. Each of our semesters has 15 weeks and this class meets twice a week, so there will only be 30 classes. That means each class is costing you $125. If I let you go home now, without teaching you anything, I would essentially be taking your money and providing you nothing in return. That hardly seems fair.”

“It's not *my* money,” Lola commented. “My parents are paying for all this.”

“And I am sure that they appreciate your regular attendance to these classes,” the professor remarked. “What truly disturbs me are the 56 people who decided to not attend today. It makes very little sense to pay so much money for a course and then not bother to show up.”

Dan spoke up. “It makes a whole lot of sense to me. Not attending class is way easier than getting out of bed and

everything. I mean, really, we just want our degrees. A passing grade is just as good as an A in my book."

"Are your peers really that delusional? Do they not realize that if they regularly skip classes they will fail the course, and that in turn will damage their efforts to graduate? But I am getting off topic. In this session, as you will know if you did your assigned reading, we are going to discuss the Great Pyramid of Giza."

Ashley spoke up. "I thought we were discussing crop circles today!"

"Crop circles? Good heavens, no! That lecture is weeks away. Today is the pyramid."

"What's so special about it?" Max asked. "It's a big piles of stones out in the middle of nowhere. Who cares?"

"It is *not* in the middle of nowhere. The Great Pyramid is actually on the edge of Cairo. The pictures you've seen on TV have been carefully cropped to hide the fact that the pyramid is on the outskirts of a very large city. If you actually go there in person you'll see what I mean. Most pictures of the Great Pyramid are not very honest.

Photographers have used all kinds of tricks to hide the buildings, roads, cars, and bustle that surrounds it. They want you think that it's a pristine monument out in the middle of an empty desert, but it's really not.

“More importantly, however, the Great Pyramid is not simply a big pile of stones. It is a remarkable feat of engineering. In fact, it is so remarkable that we would be hard-pressed to reproduce it today, even with space-age technology at our disposal. I would even venture to say that if the Great Pyramid had been destroyed long ago and only existed in legends, archaeologists would reject it out-of-hand as being a ridiculous fairy tale. No one would believe that an ancient race could have built such a staggering structure. The only reason people believe it today is because it's too big to hide. You can't just sweep one of the largest buildings ever built under a rug – especially when it's part of the skyline of a large city.”

“But what's paranormal about it?” Max asked. “Is it haunted with ghosts or something?”

“That is what you're going to find out,”

Professor Grimes said cheerfully. He turned to his desk, picked up a notepad, and began flipping through its pages. “Let's start out by going over a few basic facts. The pyramid was built about four thousand years ago. No one really knows when it was built, but people have estimated all kinds of dates. Some say it was built around 2560 BC, while others put it in the 22nd century BC. According to my own calculations, the Great Flood occurred in approximately 2348 BC. Since I do not believe any structure could have survived the Flood, I think the 22nd century BC date is much more likely.”

Max called out from the back of the room. “What makes you think that's when the Flood happened?”

The professor looked up from his notes. “That is an excellent question, but unfortunately the answer is outside the scope of this lecture. I do discuss that in my Biblical History class, however, so if you are truly interested I would suggest signing up for that course.

“As I was saying, the Great Pyramid was built about four thousand years ago by the

ancient Egyptians. It is important to emphasize that there is plenty of evidence that the ancient Egyptians really did build it. If that fact was not so well-established it would be quite natural to assume that aliens were responsible. The structure really is that impressive."

"But there are lots of pyramids in Egypt," Lora commented. "It's not like they only built one!"

"That is not quite true. There are indeed other pyramids, but none of the others are anything like the Great Pyramid of Giza. It would be more accurate to say that this was the first pyramid that was built and the others were all crude copies. The Great Pyramid was built of stone; all other pyramids were built of brick. The Great Pyramid has passages inside; all other pyramids are solid. Most importantly, the other pyramids were build as tombs – or, to be precise, as tombstones, as the actual tomb part was located *beneath* the pyramid. The Great Pyramid, however, was *not* a tomb."

"Wait just a minute!" Max called out. "I

thought it was built by Khufu to serve as his tomb."

The professor shook his head. "That is incorrect. Not only was it not a tomb, but the pyramid was probably not built by Khufu at all. The only reason it was attributed to him is because in the 19th century Colonel Howard Vyse discovered a hieroglyph inside the Great Pyramid that bore Khufu's name. However, it has been shown that the hieroglyph is almost certainly a forgery, put there by Colonel Vyse himself as a ploy to secure funding. In other words, the one hieroglyph in the entire pyramid is probably a hoax – and although archaeologists hate to admit it, the Khufu story is a hoax as well.

"That issue aside, the pyramid itself bears no indication that it was ever intended to be a tomb. Royal Egyptian tombs are filled with frescoes, hieroglyphs, and artifacts. This pyramid, despite the astonishing energy and precision that was poured into its design, is devoid of all of these things. Moreover, when the pyramid was entered for the first time in 820 AD the diggers discovered that the pyramid's original entrance was sealed.

No one had ever entered the pyramid before them, and yet it was found empty. So we are not dealing with a pyramid that was looted. This pyramid was found intact, but contained no artifacts, body, or writing. There is also the point that what is commonly called the 'granite sarcophagus' is actually far too small to house an embalmed, decorated Egyptian corpse."

"So why is it there?" Ashley asked.

Lora spoke up. "I heard it was the same size as the Ark of the Covenant."

Professor Grimes shook his head. "I have heard that as well, but that information is incorrect. According to the Bible the Ark of the Covenant measured 45" long by 27" wide by 27" tall. The granite sarcophagus, when measured from the inside, is 78" long by 27" wide by 34" high. Not only are they different sizes, but they are different shapes as well."

"Oh," Lora replied. "But what about their volumes? Are they the same?"

"They're not even close, I'm afraid. The Ark was 32,805 cubic inches. The sarcophagus is 71,604 cubic inches. There is

no actual similarity between the two. The Ark would technically fit inside the sarcophagus, but there would be a great deal of space left over."

"So if it's not a tomb then what was it?" Ashley asked.

"That is an excellent question, and it has puzzled scholars for centuries. The ancient Jewish historian Josephus, who lived about two thousand years ago, stated that it was built to record the knowledge of the heavens. We'll get to that a little later, however.

"As I was saying, the Great Pyramid is a remarkable building. Before its exterior casing stones were stolen (which is a topic for another lecture) the pyramid was 480.6 feet high. It contains approximately 2.3 million blocks of stone, which vary in weight from 2.5 metric tonnes to more than 70 metric tonnes. The pyramid held the record for being the tallest building in the world until 1311 AD, when the Lincoln Cathedral in England surpassed it by 45 feet. The mass of the pyramid is estimated to be 5.9 million metric tonnes, and its volume is a little over

88 million cubic feet. By way of comparison, the Empire State Building weighs only 331,000 metric tonnes and has a volume of just 37 million cubic feet."

"So it's big," Max commented. "I get that."

"It is a great deal more than just *big*. Let's stop and think about its construction for a minute. Modern historians claim that the pyramid was built over the course of 20 years by laborers who worked on it during the three months of the year when the Nile was flooding. Three months a year for twenty years comes out to a mere 60 months. If we estimate using 30-day months, that means the pyramid was built in 1800 days. In order to lay 2.3 million blocks of stone in 1800 days you would have to lay 1,278 block per day. If they worked during the daylight hours that would give then 10 hours a day to work, which means they would have to lay 128 blocks per hour, or roughly 2 per minute. Even using modern technology it would be enormously difficult to move a new multi-tonne stone into position every 30 seconds – to say nothing of

doing it with the ancient Egyptian's incredible precision and accuracy.

“And the ancient Egyptians knew a great deal about precision. The multi-tonne casing stones that once covered the pyramid were joined together with seams that were less than 1/50th of an inch, and the stones themselves were within one one-hundredth of an inch of being perfectly straight. Those are incredibly fine tolerances! The 13-acre base of the pyramid is less than one inch away from being perfectly level. The Great Pyramid has been called the most accurately constructed building in the world. I think that is an understatement. It is not just an accurately-constructed building, nor is it simply an impossibly massive building. It is a building that shows tremendous insight into the world at large.

“The faces of the pyramid line up to the points of the compass (pointing to truth north, not magnetic north), with an incredibly small error of three minutes of a degree. It's possible that even that error is due to the land itself shifting. The pyramid sits on the center of the earth's land mass,

meaning whoever built it had to have an accurate map of the entire globe. If you multiply the mass of the pyramid by 1000 trillion you get the mass of the Earth, which is estimated to be 6.0×10^{24} kilograms."

"How did they figure that out?" Ashley asked.

"Simple Newtonian physics," the professor explained. "The equation isn't that difficult. If you know the gravitational constant and the radius of the Earth you can just plug in the numbers and solve."

"But how did the Egyptians know about Newtonian physics?"

"That is an excellent question! Apparently whoever built the pyramid was aware of the radius of the Earth, had an accurate map of the planet, knew the gravitational constant, and had a good grasp of Newtonian physics. It also appears they knew a great deal more than that. If you take the circumference of the pyramid and divide that by twice its height, you get 3.14159 – a value of pi that is accurate to six places. That's quite remarkable when you stop and realize that that level of accuracy was not

surpassed until the 15th century. Even the Greeks were only able to arrive at a value of 3.1416."

"That's pretty close," Ashley said.

"Yes it is – but it took nearly 1300 years to get a more accurate number than that. Yet the ancient Egyptians had a more precise approximation of pi long before the Greek civilization even existed."

Max spoke up. "So let me get this straight. You're saying that the ancient Egyptians were more advanced than the ancient Greeks?"

"I think that is a fair statement. The Greeks were quite brilliant but they never produced anything nearly as massive or impressive as the Great Pyramid. When you add in the fact that the ancient Egyptians built something that lasted for four millennia, it becomes even more impressive."

"I still don't see what this has to do with the paranormal, though."

Professor Grimes put his notes back on his desk. "Let's lay aside for the moment all of the evidence that demonstrates that the

ancient Egyptians were not actually primitive at all. We'll set aside their amazing knowledge of physics, topography, mathematics, and so forth, and concentrate on just one thing: the mind-boggling feat of stacking 2.3 million *really large* blocks in a very short amount of time. That is something we would be hard-pressed to do today, even using space-age technology! How did these people manage to position one new stone every thirty seconds? If you assume that the pyramid was built in just 3 to 5 years instead of 20 then the problems become much worse. Even if the pyramid showed absolutely *zero* knowledge of pi, physics, or anything else, you are still faced with the question of how they managed to build it in the first place."

Ashley spoke up. "I still don't get why it was built. If it's not a tomb then why did they bother?"

"Quite so! But, as I was saying, the question of *how* the pyramid was constructed has been a very difficult one to solve. The standard answer is that they just used a lot of slave labor – which is really not

an answer at all. You simply cannot move a 100,000 pound block of stone by hand, and even if you could you *certainly* can't move them into place at a rate of two per minute. That is so silly that it's laughable. The modern idea that the Great Pyramid was built by a bunch of slaves who pushed giant stones the size of houses up ramps is impractical, bogus, and entirely wrong.

"From there the theories get even more bizarre. Some people have suggested that sound waves were used to magically levitate the stones into place. Others have said that perhaps aliens were involved."

Max spoke up. "Is this where the paranormal stuff comes in?"

Professor Grimes smiled. "For many people, yes. They claim that the Great Pyramid must have a paranormal explanation, for there is simply no other way to explain its construction. I am here to tell you that this is not the case. The secret behind the pyramid's construction is actually quite simple: the stones were poured."

"They were what?" Ashley asked.

"They were poured, like concrete. The

stones are artificial, just like the sidewalks outside. Oh, they weren't all poured. Some of them really were quarried. But quite a lot of them aren't real. This fact came to light when Jospeh Davidovits used x-ray diffraction to analyze the stones and found air bubbles in them. Real stones – stones taken from the same quarry the ancient Egyptians used – don't have air bubbles. The Egyptians didn't carve stones, float them down river for miles, and then drag them up the side of the pyramid. They just poured them.

"Interestingly, history records that ancient Egypt did have the technology to do this. Pliny the Elder reported that they used this ability to make artificial stone vases."

Lora spoke up. "Seriously? That's not nearly as impressive. I mean, c'mon, *we* could do that. How is that paranormal?"

"It's not paranormal at all. As I said in our very first session, this class is an investigation into paranormal claims. Some claims will be found true, while others will be found false. As interesting as it would be for the pyramids to have been built by space aliens,

I am afraid that's simply not how it was done. The reality is that the secret to their construction is rather mundane. Now, I do not want put down the ancient Egyptians in any way. What they did was brilliant, and the Great Pyramid is still a magnificent achievement. But it is not a paranormal one.

"Does that mean we're done?" Dan asked.

"No, not quite. There is one other paranormal aspect to the Great Pyramid that I'd like to investigate. We've explored how the pyramid was built and demonstrated that, while its construction is impressive, it was not done using magic. Now it's time to turn to another subject: *why* was the pyramid built? As I said earlier, despite what people may try to tell you, it was definitely not a tomb.

"If you think about it, it's rather amazing that we have to ask this question at all! Here we have one of the most massive buildings on Earth, and yet we don't know why it was built. You would think this would be an easy question to answer, but it's not. I've heard many theories over the years, but all of them

have problems. For example, it's quite possible that Josephus was right, and the Great Pyramid was simply Egypt's way of demonstrating that they were a world power. They may have built the pyramid to show off their advanced technology, and perhaps they encoded within it their extensive knowledge of physics, geography, and mathematics just to show off. This may be all the pyramid was meant to be. It's worth noting that before the finishing stones were stolen from it the pyramid could be seen from a great many miles away – it was that good at reflecting the sun. If they wanted to build something that said 'Look how amazing we are!' then the Great Pyramid does a pretty spectacular job.

“The problem I have with that theory is that it doesn't explain the interior of the pyramid. If the Great Pyramid was just a vanity project then there's no need to even have an interior. All of the other pyramids in Egypt are solid; there's no reason why this one couldn't have been solid as well. Yet it is not solid, and there are chambers inside it. Besides, if the Egyptians just wanted to brag

about their knowledge they could have covered its interior with hieroglyphics, just as they did in tombs – but they didn't. They could have buried someone inside it, or stored amazing artifacts of antiquity and wonder – but they chose not to. Nor are there any signs that the pyramid was left half-finished or was somehow interrupted before it was completed. The exterior of the pyramid was designed with incredible precision and accuracy, which makes it extremely likely that the pyramid's interior was shown that same level of care. It must have meant something. Take the so-called 'sarcophagus', for example – it's too large to fit through any of the corridors, so it must have been placed there while the pyramid was still being built. Someone wanted it to be there and planned accordingly. But why? What purpose does it serve?"

"Is this where the paranormal stuff comes in?" Ashley asked.

Professor Grimes smiled. "For some people, yes. Since there is no natural explanation – or, at least, not one that anyone has discovered – some begin to look

for supernatural explanations. There is one theory in particular that seems to be spreading rapidly, and I'd like to take a moment to address it.

“There is only one way to enter the Great Pyramid, and that is through a passageway on the north-facing side. On one day in history that passageway lined up with the north star. That happened in 2141 BC, and it will not happen again for another 26,000 years. The reason people care about this is because they've discovered that if they take the dimensions of the interior of the pyramid and convert them into Pyramid Inches (which are said to be 1/25th of a cubit, or 1.00106 British inches), then they find something interesting.”

“Hold on,” Max said. “Where does the Pyramid Inch come from?”

“It was actually derived from the pyramid itself,” Professor Grimes explained. “Someone discovered that if you analyze the pyramid's dimensions using that particular unit then all the numbers become round numbers. They therefore speculate that that was the unit that was used to build the

pyramid. As far as I've been able to determine, no past civilization has ever actually used that unit of measurement.

“Anyway, the theory is that pyramid inches inside the pyramid correspond to years. For example, if you walk into the pyramid and keep going down until you reach the ascending passage, you will have traveled 688 pyramid inches. 688 years after 2141 BC is 1453 BC, which is the approximate date of the Exodus. If you take the ascending passage and keep going up until you reach the grand galley, you will have traveled another 1485 inches. 1485 years after 1453 BC is 33 AD, which is the approximate date of the Crucifixion. If you then keep on going through the galley until you reach its end, you will have traveled another 1881 inches. 1881 years after 33 AD is 1914 AD, the start of World War I.”

“That's amazing!” Ashley said.

“Yes, it certainly is. If you stop there then it would appear that we have our answer. The exterior of the pyramid was built to demonstrate the Egyptian's knowledge of the Earth, and the interior showed their

mastery over time. They knew all about the great moments of history long before they ever happened, and they encoded this knowledge within the pyramid."

Max spoke up. "That's preposterous!"

"But the math works," Lora protested.

"I don't care. It's still crazy! There's no way they could have known all those things."

Professor Grimes nodded. "You're quite right – it is preposterous. It's true that *if you stop there* the theory looks pretty convincing. However, if you keep on going then the theory falls apart. The interior of the pyramid does not stop at the end of the grand galley. You can keep going up and down the passages, but the rest of the dates appear to be random. For example, if you go *down* the passageway instead of going up to the grand galley, you will eventually reach a lower level. That date corresponds to 1521. Martin Luther was excommunicated by the Pope that year, but that's about it. Some have claimed that that's when Luther wrote his 95 theses, but that's incorrect. He actually nailed them to the door of the Castle Church of Whittenberg on October 31,

1517.

“If you don't enter the grand galley and instead walk off to the Queen's Chamber, its entrance corresponds to 1979. Nothing of any great historical significance happened that year – certainly nothing on par with the start of World War I. The end of the Queen's Chamber corresponds to 2979, making the room 1000 years wide. Needless to say, the millennial reign of Christ did not begin in 1979.”

“This theory is sounding pretty busted,” Max commented.

“You are absolutely right, and there's an important lesson here. When examining a case it is very important to not stop too soon. If we had only looked at the initial results of the date hypothesis it would have been easy to conclude that it was correct. However, by testing it further we demonstrated that it had very serious problems. It is *vital* to press on in your analysis until every last piece of ground has been covered. Stopping too soon could leave critical facts hidden – facts that might change your outlook on a story.

“What this means is that we simply don't know why the Great Pyramid was built. Sadly, it is entirely possible that we will never know. History has a way of obscuring the truth, and after enough time has passed even well-known facts can be entirely lost. It is possible to regain scientific knowledge, but once historical facts are gone they are usually gone for good.”

“Unless someone builds a time machine,” Lora commented.

Professor Grimes smiled. “That is a possibility that we may explore in a future class. For now it looks like our time is up, so I will let you go. I hope you have a great weekend and a very blessed New Year!”

The B-2 Antigravity Bomber

Professor Grimes walked into the classroom precisely five minutes before ten o'clock. Through the classroom's frosted windows he could see the blanket of snow that covered the campus. The first snow of the year fell on New Year's Day, and temperatures had been cold enough since then to allow that thin blanket of snow to survive. As much as the professor loved the snow, he knew that the afternoon sun was going to make short work of that winter wonderland. He missed the regular snowstorms of his home state, but living in a warmer climate had its advantages. For one thing, scraping the ice off his aging car was rarely an issue anymore.

The professor was surprised to see that there were nine students in the classroom. Given that New Year's Day was just two days ago he had expected to see just a handful of students. *Attendance is actually fairly strong*

this year, he thought. *This is even better than the turnout for my eschatology lectures.*

When the analog clock over the classroom door reached precisely ten o'clock the professor stood up and walked to the front of the room. “Today's lesson is going to be a little off the beaten path. So far in this class, with one exception, we've covered some rather well-known topics. This subject, however, is quite obscure. We're going to take a look at–”

“Crop circles!” Ashley said.

“No, I'm afraid not. Crop circles are actually quite famous. It's–”

“UFOs!”

“No, that's not it either – not exactly, anyway, although we *are* going to be studying a flying object. This particular flying object, however, is quite famous. We are going to take a close look at the Northrop Grumman B-2 Spirit – or, as it's more commonly known, the B-2 Stealth Bomber.”

“The B-2 Bomber?” Max repeated. “Why would we do that? I mean, seriously, I'm pretty sure it's a real airplane. I even saw

one at an air show once! I can personally vouch for its authenticity. It's not a myth."

Professor Grimes smiled. "I do not doubt its existence. This particular legend – if that is what we are going to call it – took me completely by surprise. I came across it while reading *The Puzzle of Ancient Man* by Dr. Donald E. Chittick. This is what he says on page 141:"

> Electrogravitic (antigravity) technology, under development in U.S. Air Force black R&D programs since late 1954, may now have been put to practical use in the B-2 Advanced Technology Bomber to provide an exotic auxiliary mode of propulsion. This inference is based on the recent disclosure that the B-2 charges both its wing leading edge and jet exhaust stream to a high voltage. Positive ions emitted from its wing leading edge would produce a positively charged parabolic ion sheath ahead of the craft, while negative ions injected into its exhaust stream would set up a trailing negative space charge with a potential difference in excess of 15 million volts.

> According to electrogravitic research carried out by physicist T. Townsend Brown, such a differential space charge would set up an artificial gravity field that would induce a reactionless force on the aircraft in the direction of the positive pole. An electrogravitic drive of this sort could allow the B-2 to function with over-unity propulsion efficiency when cruising at supersonic velocities...

Lora spoke up. “Huh? I don't get all that physics stuff. What does all that even mean?”

“It means that the B-2 Bomber may have an antigravity propulsion system,” the professor explained.

Max shook his head. “That's crazy! It's just a normal airplane. The stealth part is cool and all but, seriously – antigravity? There are so many problems with that that I don't even know where to start!”

Ashley spoke up. “That would be kinda weird, though, if it was true. But it can't really be true, though. Right?”

Professor Grimes smiled. “That is what

we are going to investigate today. The claim is certainly quite extraordinary, and it is not common knowledge – even in paranormal circles. As you all know, antigravity has been a mainstay of science fiction for a very long time. If it is true that antigravity *has* been achieved, and if the technology really does date back to the 1950s, then that would be rather startling. We have quite a lot of work ahead of us, however. Just because Dr. Chittick makes this claim does not mean that it is so. As we've seen in the past, many paranormal claims simply do not hold up to scrutiny. What we must do is break this story into discrete parts, then test each part and see where the evidence takes us."

Lora spoke up. "This is going to be another hoax, isn't it? They always end up being hoaxes or something. It's so disappointing."

"Life is often full of disappointments," Professor Grimes agreed. "Even so, we are on a search for the truth, and as such we will refrain from coming to a conclusion before we have examined the claims. It is entirely possible – in fact, it is quite likely – that most

paranormal claims are simply ridiculous nonsense. But there are some that are not nonsense at all. I assure you that finding the true claims will outweigh all the disappointment that comes from the hoaxes."

"But how could you possibly prove something like this?" Ashley asked. "It's not like you can just call up the government and ask them! I mean, even if they said no – and I guess they probably would – you wouldn't have learned anything. They're not going to tell you the stuff they're keeping secret."

"Exactly! I am glad to see that you are learning to think for yourself. We cannot establish the truth by simply asking the government to tell us their secrets. This means we will need to approach this from an entirely different angle. Therefore we are going to start by taking a closer look at T. Townsend Brown."

Max spoke up. "Why do we care about him?"

"Because he is supposedly the inventor of antigravity," Professor Grimes explained. "The story claims that the B-2 Spirit employs

antigravity technology invented by Brown. Therefore, the existence and research of Brown is of key importance. Did he really exist? Was he an inventor at all? What does history record about him, if anything?

"First of all, T. Townsend Brown was a real person. His actual name was Thomas Townsend Brown, and he was born on March 18, 1905 in Zanesville, Ohio. He died on October 22, 1985. In 1930 he joined the US Navy to conduct research in electromagnetism and gravity. He also worked for the National Defense Research Committee, the Office of Scientific Research and Development, and was a consultant for Lockheed – a rather well-known builder of top-secret military aircraft."

Ashley spoke up. "So he was a real person, then."

Professor Grimes nodded. "Oh yes, he was real. He actually was a physicist, he actually did study antigravity, and he actually was employed by the United States government to apply what he knew to their aircraft. This is not widely known but it is all true. What's particularly relevant to this

story is that in 1921 – and this is all part of the historical record – he discovered what came to be called the Biefeld-Brown effect. Basically, while searching for a link between electricity and gravity, he noticed that a heavily charged electrical capacitor moved toward its positive pole when suspended in a gravitational field. He was even able to reproduce this effect in a vacuum. I am a historian, not a physicist, but essentially he believed that he could alter the force of gravity by using heavily charged electrical fields.

"An article in the January 2000 issue of Air International, written by Bill Gunston, states that in 1953 T. Townsend Brown demonstrated his techniques to the United States Air Force, which quickly classified them. Despite the classifications, articles about Brown's antigravity research were published in 1956 by Aviation Studies International."

"So?" Max asked.

The professor looked up from his notes. "This is all highly significant! I am surprised you do not see that. Not only was Brown a

real person, but he conducted real research into antigravity – research that attracted the attention of the government. The government actually was pouring money into antigravity systems in the 1950s, exactly as the story states, and they actually were attempting to modify the force of gravity using charged electrical fields. All of that may not be widely known, but it is documented."

"Wait just a minute," Max replied. "If all that's true and they've been working on antigravity since the 50s, then why don't we all have flying cars? Sure, I get that they studied it and everything, but apparently nothing came of it. There's a conspicuous lack of antigravity stuff out there."

Professor Grimes shook his head. "That is not quite true. This is still an area of study, and there are even a number of recent patents that incorporate Brown's theories of electrogravity. For example, patent 5,142,861, which was filed on September first, 1992, is entitled *Nonlinear Electromagnetic Propulsion System and Method*. It employs the technique Brown

developed to propel a vehicle by means of electrogravity. Another one is patent number 6,775,123, which was filed on August 10, 2004 under the mundane name *Cylindrical Asymmetrical Capacitor Devices for Space Applications*. It envisions a sort of space-based engine which works in a vacuum and propels a craft using Brown's artificial gravity fields. Those are all very real patents."

Max shrugged. "People patent all kinds of weird, impractical nonsense. If Brown's theories were actually true then why don't we see these patented antigravity-powered spaceships flying around?"

"Which brings us right back to the B-2 Spirit. It is quite well-established that T. Townsend Brown did exist and did study the relationship between electromagnetism and gravity. The public record also records that he claimed to have found a way to manipulate gravity by using electromagnetic fields, that the United States government was interested, and that papers were published in the 1950s that discussed ways to apply Brown's electrogravity techniques to aircraft. All of that brings us back to the

key question: were these techniques built into the B-2 Spirit? Also, if they really did work, why have we not seen them employed anywhere else?

“Since, as Ashley pointed out, we cannot simply call up the government and ask them these questions, we will have to do the best we can with the information that we have. A good starting point is to take a look at the B-2 Spirit itself. It has several unusual features, quite aside from its remarkable stealth abilities. First of all, unlike other military aircraft, the B-2 does not leave a contrail. Contrails are trails of water vapor that are created by the combustion of jet fuel in the aircraft's jets. Ordinarily they are harmless, but they become a serious problem once you realize that they are easy to spot on radar. If your rather slow-moving stealth aircraft leaves a contrail then it is not stealthy at all – an enemy could simply spot the contrail and then use that to figure out exactly where your plane is. It is really quite astonishing that the B-2 leaves no contrail. The military has been asked to explain this and in return has given a conflicting series of

absurd lies."

Max spoke up. "So they're basically just not telling."

"Quite so. That is, of course, understandable. The ability to create a jet-powered aircraft that leaves no contrail is a remarkable achievement, and I am sure they want to keep that knowledge to themselves. I completely understand that. Still, this is highly relevant. An antigravity aircraft would not leave a contrail because it isn't powered by jets at all, and that is precisely what we see in the B-2. This is not conclusive, of course, but it is interesting that the B-2 has one of the unique characteristics of actual antigravity aircraft.

"Another odd thing about the B-2 is its astonishingly low thrust-to-weight ratio. The loaded weight of a B-2 is 336,500 pounds, but its four engines only produced a combined thrust of 69,200 lbf – meaning its thrust-to-weight ratio is a measly 0.205. By comparison, the thrust-to-weight ratio for the F-16 is 1.095, for the F-22 is 1.09, and for the F-35 is 0.87. Admittedly those aircraft are all fighters, not bombers, but even

among modern bombers 0.205 is shockingly low. Compared to the mass of the aircraft, the B-2's engines provide a pitiful amount of thrust.

“All of that, in itself, does not mean a great deal. Perhaps an engineer found a clever way of masking the B-2's contrail, or even preventing it from forming one altogether. Perhaps a ratio of 0.205 was considered quite acceptable given the mission of the plane. After all, it is a stealth aircraft. If no one can see it then perhaps matters of thrust simply aren't that important.”

“Totally right,” Max agreed.

“But what *is* quite striking is that the March 1992 issue of Aviation Week & Space Technology revealed that the B-2's leading edge was charged to many millions of volts, and its jet engines blew out a corresponding negative charge. This, also, is apparently not disputed. Eyewitnesses have actually seen a bright violet glow around the aircraft, indicating the presence of a high-voltage corona. What this means is that, as the quote I read at the beginning of class

claimed, the B-2 appears to have been designed with Brown's theories in mind. It does seem that someone figured out how to put his theories into practice, and did so in the B-2.

“If that was the case, it would explain quite a lot. It would explain why the B-2 leaves no contrail – contrails are the product of jet fuel combustion, and an electrogravity field would leave no such trail. The B-2's engines can operate as normal turbofans, but they can also switch modes and become flame-jet generators, pumping out gas that is charged to millions of volts negative. If the B-2 is an antigravity craft then that ability would be extremely important. It would also explain why the aircraft's thrust-to-weight ratio is so astonishingly low; the real thrust comes not from the engines but from the antigravity effect. Finally, it would explain why they bother to electrically charge the edge and exhaust of the aircraft.”

Max spoke up. “That still seems a bit far-fetched. If the B-2 had an antigravity switch inside, don't you think that someone would have leaked that by now? That's the sort of

thing that would be hard to keep secret."

"Perhaps," Professor Grimes said. "But keep in mind that governments *can* keep secrets. During World War II the government built a massive city in Oak Ridge, Tennessee and tasked them with designing and building an atomic bomb. The secrecy around the project was so tight that even the Vice President was unaware of what was going on. An entire city managed to keep a secret! Besides, keep in mind the basic premise that we are dealing with here. If you go up to someone and tell them that the B-2 Spirit is an antigravity aircraft they will laugh at you. Antigravity is seen as so far-fetched that the entire concept is laughable. Why bother to leak something if no one will believe you anyway?

"But there is something else to think about. It is entirely possible that the antigravity abilities of the aircraft are entirely passive – that is, it is something the aircraft does without the pilot even knowing about it. From the pilot's perspective he may just power up the plane and take to the skies, and the aircraft itself does the rest. Just

because the design of the plane incorporates antigravity elements does not mean that the pilot knows this. Knowing how to fly a plane and knowing how the plane flies are two entirely different things – after all, just because you can drive a car does not mean you understand how its engine works.

“There is even a precedent for this exact situation. During World War II the North American P-15 Mustang fighter demonstrated truly outstanding performance. When people asked about this they were told that it was due to 'laminar flow' wing technology. Many years later the truth was revealed: the Mustang's under-fuselage duct was shaped internally in such a way that the radiator's heat was converted into a low-temperature ramjet. This information was kept classified, and not even the mechanics who worked on the planes (much less the pilots!) realized what was actually going on. Everyone was fed a believable lie, and only the engineer who built it knew the truth.”

Ashley spoke up. “So you're saying that this one is real? The B-2 is a real antigravity

aircraft?”

Professor Grimes paused a moment before replying. “I am saying that it may well be true. In a situation like this it is impossible to arrive at a definitive answer, because the only people who know the truth have a tremendous incentive to lie about it. At the very least I think it is possible to make a plausible case for it. This legend is tremendously more plausible than, say, the idea that space aliens built the pyramids. If it is a hoax it is really a remarkably good one.”

Max spoke up. “But that still doesn't make sense. Look – suppose that you're right. Why does this amazing antigravity magic only exist in the B-2? Why hasn't antigravity taken the rest of the world by a storm? Am I supposed to believe that in the past 50 years no one else has ever thought of this?”

The professor shook his head. “Not at all. I think there may be a simple answer for this. Did you know that the B-2 cannot fly in the rain?”

“What?” Lora asked. “Seriously?”

“Oh yes – it's quite true! This was first

reported in the New York Times on August 23, 1997. Rain gives the B-2 Spirit serious problems. Supposedly it leads to the 'deterioration of the aircraft', but you can be sure that the Air Force is not going to reveal the whole story. If you think about it, this story is a huge red flag that something very strange is going on. After all, rain is not a new phenomenon. The field of aviation is a century old, and rain has not caused any aircraft serious problems for a very, very long time. The idea that a mundane thing like *rain* can jeopardize the integrity of a billion-dollar high-performance space-age aircraft is so ludicrous that it is hard to fathom. How could rain possibly make the slightest bit of difference? I am sure that the engineers who designed the B-2 were not dummies. Yet we are told that *rain* can ruin one of the most advanced aircraft ever built. That is truly remarkable!

"If the B-2 is merely a normal airplane then this fact is completely incomprehensible. It makes no sense at all. Are we to believe that its engineers forgot that their plane might get wet? But if the

plane has an antigravity component then it's quite different. Brown's electrogravity theories relied on manipulating gravity by the use of electromagnetic fields. It may be that introducing rain or humidity does something to compromise or interfere with either the effect, or with the fields themselves. This may have been entirely unforeseen – a bizarre problem that happened because they were using rather exotic technology. I find that much more believable than the idea that the B-2 is a normal plane that has an allergy to water.

"You see, we naturally assume that when antigravity finally appears it will be infinitely better than conventional jets. It may be that it is not nearly as good as conventional aircraft propulsion, and the only reason it was incorporated into the B-2 was because conventional propulsion was just not stealthy enough. If antigravity has some serious drawbacks and only works under tightly controlled conditions then it may be almost useless. Suppose that Boeing researched electrogravity and found out that it was real, but it stopped working in the rain

and cost a billion dollars per plane. Would it really be that surprising if they dropped the project and went back to their jets? After all, what airline wants to be saddled with ridiculously overpriced planes that only work in the desert? It may be that those who have looked into this have discovered the technology's drawbacks and have moved to more practical solutions."

Max spoke up. "So you're saying that antigravity technology might exist, but if it does it's probably terrible."

"That would be my guess," Professor Grimes agreed. "The rumor that the B-2 Spirit incorporates antigravity may well be true. As implausible as it sounds, the theory does have a basis in reality, and there are enough oddities about the plane itself to make a person wonder. If the rumor is true then that would strongly imply that antigravity is not nearly as good as science fiction reports. It is simply another technique that, while amazing, is simply not practical."

"Wow," Ashley said. "I thought for sure you were going to disprove it."

"As I said, follow the evidence!

Sometimes it may surprise you. Incidentally, speaking of evidence, be sure to read the next chapter in your books before our next class. You are dismissed!”

The Lost Planet Vulcan

After glancing up at the clock, Professor Grimes picked up the student roster, looked around the room, and drew a checkmark beside six names. As he set the roster back down on his desk a voice called out from the back of the room. “Hey there! What just happened?”

The professor looked up. “Well, Henry, I just took attendance, as I do before every class – which is something you would know if you had attended any of my past lectures. I find that–”

Henry interrupted him. “Attendance! Since when do you take attendance?”

“As I just said, I have *always* taken attendance. I started the practice on my very first day of teaching, and it has served me well. But you needn't act so surprised about it. The fact that I take attendance is duly noted in your syllabus. You should seriously

consider reading it. I assure you that I did not create it out of a mad desire to destroy as many trees as possible. It contains very valuable information."

"But that's totally not fair! This is the first time I've been here. You're not going to penalize me, are you? And what about all those other people who weren't able to make it – are you going to ding them too? This whole attendance tracking thing can really mess up a person's GPA!"

Professor Grimes looked at him coldly. "The syllabus *clearly* states that attendance counts for 20% of your grade. On top of that, the mere act of missing classes will have a very negative effect on your ability to pass my exams – such as the exam that I handed out in our last class, which you missed entirely and therefore failed. At this point, Henry, if you want to have even a chance at passing this course you will have to have perfect attendance *and* ace every single assignment. Your prospects are quite bleak."

"That is so unfair," Henry grumbled.

"I am afraid I have very little sympathy for you. The rules are clearly spelled out in

the syllabus, and you agreed to them when you signed up for this course. It is not my problem if you have failed to pay attention to what is going on. In fact, the ability to pay attention in life is absolutely critical. Even when you pay very close attention it is possible to miss things that are not there – or to lose track of something that you were certain once existed. That, in fact, is what our class today is about."

Lora spoke up. "Are you, like, serious? You're going to talk about people who forgot to come to class?"

The professor smiled. "No, young lady, I am not. Instead, I am going to talk about the fact that the scientific community managed to lose an entire planet. Did you know that in the latter part of the 19th century it was common knowledge that there was a planet between the Sun and Mercury?"

Max spoke up. "Yeah, I heard that, but that was all bogus. Scientists were upset about some anomaly of some kind with Mercury's orbit, so they made up a planet that wasn't there. Then Einstein came along and showed that relativity solved the

problem, so the planet wasn't needed anymore. They just didn't understand physics. It was a math error, basically."

Professor Grimes shook his head. "That may be the way the story is told today, but it is entirely incorrect. It is true that scientists of that era realized that there were certain characteristics of Mercury's orbit that they could not explain. However, the reason they postulated the existence of an intramercurial planet was because they actually found one."

"Huh?" Ashley asked. "But Mercury's the planet closest to the sun, right? There's not a closer one. How could they find something that isn't there?"

"That is what we are going to explore today," the professor replied. "You might call it the mystery of the missing planet. A world that was once known to exist is now gone. Scientists spotted it, calculated its orbit and size, and tracked it across the sky – but today no one can find it. It's a fascinating story that has been all-but-forgotten.

"The first mention I came across of this now-forgotten planet comes from an 1878

issue of *Popular Science*. The magazine records that the planet's existence was verified on June 29, 1878, during a total eclipse of the sun. Its discovery was heralded because it solved a scientific riddle. Astronomers of that day simply could not figure out why perihelion of Mercury's orbit processed around the sun at an excess of 43 arcseconds per century."

Ashley spoke up. "What on earth does that even mean?"

"It's actually quite simple," the professor said. "All planets have a point in their orbit where they are the closest to the sun. That point is called the *perihelion*. The perihelion moves over time, and the way it moves can be explained by Newtonian physics – that is, for all planets except for Mercury. That one planet had a procession that was off just a little bit – not a lot, but enough to be a problem. It was a sign that there was something wrong. Einstein later explained the problem using his General Theory of Relativity, but at the time it was a genuine scientific mystery.

"Since Einstein did not publish his theory

until 1916, scientists in 1878 were looking for other solutions. One possibility was that there was an intramercurial planet that was responsible for the anomaly. That's why they were so excited to spot the planet during that total eclipse.

“Now, keep in mind that this was not the first time the planet had been spotted; instead, this was when the sighting was publicly verified and proven beyond doubt. The first recorded sighing actually happened on March 26, 1859, when an amateur astronomer named Dr. Lescarbault watched a dark circular spot cross the sun's disk. He suspected it was an intramercurial planet and decided to contact Leverrier – a famous French mathematician who specialized in celestial mechanics and who played a role in discovering the planet Neptune back in 1846. In fact, Leverrier was actually person who discovered the anomaly in Mercury's orbit.”

“So the math guy wasn't a crank, is what you're saying,” Ashley said.

The professor nodded. “Leverrier was indeed a highly respected man. Dr.

Lescarbault contacted him hoping that he would either confirm or rebut his discovery. As it turned out, Leverrier confirmed his findings and publicly announced the newly-discovered planet. The new world orbited the sun every 19 days 17 hours, had a mean distance from the sun of 13 million miles, and had an orbital inclination of 12 degrees 10 minutes. The newly-discovered planet was tentatively named Vulcan."

"You mean like Star Trek?" Lora asked. "Isn't that where Spock is from?"

"This was many, many years before Star Trek," Professor Grimes replied testily. "I assure you it was not named in his honor. The word comes from Roman mythology. Vulcan, as you may or may not know, was the Roman god of fire and metalworking. It made perfect sense to name a planet so close to the sun after the mythological god of fire. Any intramercurial planets would be scorching hot – hotter than Mercury."

Max spoke up. "Hold on! This is all crazy talk. There is no such planet. It doesn't exist!"

"One step at a time," the professor

replied. “What I am saying is that an amateur astronomer found an intramercurial object of significant size, and the discovery was confirmed by one of the co-discoverers of the planet Neptune. This newly-found world was given a name and announced to the rest of the scientific community. Leverrier was hoping that when other astronomers heard the news they would check it out for themselves, and either find the planet or come back and say that his readings were mistaken. What do you think happened?”

“It vanished,” Ashley said.

The professor shook his head. “Nope. In fact, quite the opposite happened! Other people began reporting sightings as well. On March 20, 1862 a Mr. Lummis from Manchester, England observed the planet Vulcan. The planet was also seen on July 29, 1878 by Professor James C. Watson, director of the Ann Arbor Observatory – a man who discovered more than twenty asteroids. Nor were these the only sightings. According to the 1864 *Astronomical Register*, the planet Vulcan was also seen years *earlier* by a host

of different people. Gruithuisen saw it on June 26, 1819. Pastorff saw it once in 1922, twice in 1823, six times in 1834, twice in 1836, and once in 1837. The issue of *Nature* that was published on October 5, 1876 states that observers saw the planet on January 29, 1860, and the November 25, 1876 issue of *Scientific American* also records a sighting that same year."

Max spoke up. "But that doesn't make any sense! How could all those people have seen something that doesn't exist? There isn't really a planet Vulcan, is there?"

"But what about all the sightings?" Ashley replied. "It's not like it was seen by just one crazy person!"

Professor Grimes nodded. "That is exactly my point. Whenever people talk about the planet Vulcan they act as if the 19th century scientific community was populated exclusively by morons. Nearly every modern retelling of the story states that when people noticed a problem with Mercury's orbit they invented an entire planet out of nowhere, gave it a name, and assumed it was real. That is not at all what

happened! The reality is that people gave it a name *because they actually saw it*, and they saw it repeatedly over the course of decades. They were *not* naming a mythical world that didn't actually exist – they were naming something that many knowledgeable and reputable people saw through their telescopes. Vulcan was seen by people in different countries, on different dates, and across a period of decades. From the 19th century point of view there was a great deal of evidence to support this planet's existence – and that evidence did *not* rest solely on eccentricities in Mercury's orbit."

"But there is no planet Vulcan!" Max repeated. "There are, like, thousands and thousands of people out there with telescopes. If there was a planet closer to the sun than Mercury then people would know all about it. It's not like you can hide a planet! I mean, for crying out loud, the government can't even hide its own spy satellites – amateurs see them all the time. Are you trying to tell me that there's some kind of giant planet-hiding conspiracy going on? Is Vulcan home to space aliens with

advanced cloaking technology or something?"

Professor Grimes smiled. "Now we are getting to the heart of the matter. In the 19th century many scientists – very reputable people who were experts in their field – observed the planet Vulcan and claimed that it existed. However, as you so eloquently pointed out, the planet does *not* exist. It is simply not possible to hide a planet in the 21st century – especially one that is supposed to be a mere 80 million miles away. Therefore, we are left with a couple choices. One option is that it really is home to advanced space aliens who realized that we had spotted their world and decided to hide it. However, given the total absence of evidence to support this theory, I think we can safely discount it.

"Another theory is that every single last sighting was completely mistaken. The amateurs, the experts, the mathematician who discovered Neptune – they were all entirely wrong. However, given the sheer number of people who actually reported seeing something, along with the detailed

nature of those sightings, it seems rather unlikely that all of them were lying or that all of them were grossly incompetent. Some of these people actually ran observatories for a living. They were *not* morons."

"But what else is there?" Ashley asked. "Did the planet used to exist and then disappear? Did it, like, fall into the sun or something?"

"Not exactly," Professor Grimes replied. "Let's suppose that a number of the sightings were mistaken, and were simply sightings of stars or other known planets or something of that nature. That still leaves some that were genuine. Is it not possible that those who really *did* see something simply did not understand what they were seeing? What if, instead of a planet, they were instead looking at transient intramercurial asteroids? Perhaps they were simply space rocks. After all, not a single person was able to track the planet over the course of years and make daily readings. In each case they saw something one day and then lost sight of it for months or even years. It is quite possible that people were simply

seeing entirely different objects.

“We know that there are a great many asteroids between Mars and Jupiter. However, the Solar System has countless other rocks as well, in various bizarre orbits. Some of these get quite close to Earth, while others are quite far away and are almost impossible to see. I don't think it's unreasonable to assume that some of these asteroids occasionally get close to the Sun.

“People back then were looking for an intramercurial planet because they thought Newtonian physics guaranteed that there really was one. If they had seen a space rock drifting by the sun – or had seen a space rock near Earth and mistakenly assumed it was close to the sun – it would have been quite natural for them to assume that it was their looked-for planet. This doesn't mean they saw a mirage; it only means that their biases distorted their view of what they were looking at. Since they were looking for a planet, and they thought the math proved that there *had* to be a planet there, they interpreted their sightings as being a planet. It wasn't until Einstein came along with a

different theory that they could take a step back and see things for what they really were."

"So there is no intramercurial planet," Max commented. "I was totally right."

"Perhaps," Professor Grimes said. "That being said, I would not be surprised to learn that there were intramercurial asteroids, or perhaps even asteroids whose orbit occasionally takes them close to the sun. But there is no planet Vulcan."

"Well that's disappointing," Ashley said. "I was hoping that there was a big conspiracy or something."

Professor Grimes smiled. "I am afraid that is not the case. There is a lesson to be learned here, however. Our personal beliefs and assumptions can easily taint the way we process evidence. In this case, the widespread belief that there had to be an intramercurial planet led the scientific community to erroneously interpret their data. The data they collected was quite real, but their biases led them to the wrong conclusion. The same thing happens today all the time. Evidence does not speak for

itself; it must be interpreted. If your assumptions are wrong then the chances are high you will end up misinterpreting the evidence and arriving at a erroneous conclusion. Just because you have evidence does *not* mean that you are correct! Leverrier had copious evidence that Vulcan was real, and yet it was not real at all. You must be exceedingly careful.

"For that matter, just because the scientific community agrees on something does not make it true either. It was quite well-established in the 19th century that the planet Vulcan was real – but we know today that there is no such world. It is quite possible – and, in fact, quite easy – for the entire scientific community to be blinded by their own errors. Consensus does not determine the truth. Everyone may agree, but as we have seen here, that does not mean they are right."

"I so called this one," Max commented.

The professor ignored him. "Be sure to read chapter 8 in your book before our next lecture. Also, I have finished grading your exams, and you may pick them up on my

desk as you leave the room. Class dismissed!”

Quetzalcoatl

“Good morning, class,” Professor Grimes announced cheerfully.

“What's so good about it?” a voice grumbled from the back of the room. The professor looked up from his notes and saw that the complaint had come from Dan. He was sitting in the back of the room with his head down on his desk. The professor then noticed that of the nine students who had attended class that day, six of them were seated on the back row.

“You know, that's really quite remarkable,” he commented. “The very same people who will pay top dollar for front-row tickets to a football game will go out of their way to seat in the back row of a classroom. I fail to see what that choice is gaining you, young man. Given the trivial number of people who attend class you can hardly expect me to overlook you. The back

row is simply not an effective hiding spot."

"Whatever," Dan grumbled. "It's still a terrible day. I hate the rain. Especially in January. It should never rain in January. It's just not right."

"Would you prefer ice, perhaps? Rain is not all bad. In fact, life on this planet would become rather challenging if it stopped raining altogether. The ecosystem rather depends on a steady supply of precipitation."

"I guess. But it's still a pain. I think the guy who said 'rain, rain, go away' had it right. Cold and wet is just a miserable combination."

"Then I suppose it is very fortunate for you that you are neither cold nor wet! As it so happens you are seated in a heated room, and no water is leaking from the classroom ceiling. Barring a catastrophe the elements will not be entering this place and troubling you. Speaking of catastrophes, today we are going to talk–"

"About crop circles," Ashley replied.

"Goodness no!" the professor exclaimed. "As I was about to say, today we are going to talk about a man who really *did* go away –

and whose promise to return led to the demise of an entire civilization. We are going to discuss–"

"King Arthur!" Lora exclaimed.

"Quetzalcoatl," the professor finished.

"Who?" Lora asked.

Max spoke up. "Oh, he's some old Aztec dude. He was a legendary white guy who founded Mexico or something and then vanished, promising to return. When the Spanish arrived the natives thought they were Quetzalcoatl, and so the Spanish basically impersonated him so they could wipe out the Aztecs."

The professor shook his head. "I am afraid your knowledge if history is quite flawed, young man. While it is true that the Aztecs were the ones in power when Cortez landed in 1519, Quetzalcoatl actually interacted with an earlier civilization – the Toltecs, who disappeared about five hundred years before the Spaniards arrived. Nor did he found the Toltecs; he merely influenced them in some very interesting ways. The legend itself is quite fascinating. According to the Aztecs, many centuries earlier a white

man with a beard had come to Mexico from across the sea in a boat like the one the Spanish had used. This man spent many years with the Toltecs and instructed them in religion, governance, and the arts. He was such a virtuous, pious, and wise man that he won the Toltecs' esteem, and his wisdom ushered in a golden age."

"I still say he has a weird name," Lora commented.

"It only seems weird because we are not familiar with their language. Quetzalcoatl actually means 'green serpent'. In that culture the color green denoted something that was rare and precious."

"Hold on," Max interrupted. "I thought his name meant 'feathered serpent'."

The professor nodded. "That is actually an interesting point. Technically, Quetzalcoatl was the feathered green serpent. Over time we've dropped the word 'green', even though Quetzalcoatl was consistently depicted as being green – for the reason I mentioned earlier. Historians have come to emphasize the unimportant part – the feathers – and missed what

actually mattered. What the Toltecs were trying to convey was that this man was someone who was rare and precious to them."

"So they drew him as a feathered snake?" Lora asked. "Why would they do that?"

The professor shrugged. "I'm really not sure. To us a snake symbolizes deception and cunning, but the Toltecs may have interpreted them differently. After all, different cultures throughout the ages have assigned completely different meanings to animals, colors, and even gestures. We tend to think that the way we see things is the way that things have always been seen, but that is not the case.

"As I was saying, Quetzalcoatl led the Toltecs into a golden age. For a long time all was well, but then a malign influence forced him to leave. His followers were heartbroken at his departure but he assured them that one day he would return from his home across the ocean. He then made a ship out of serpents' skins and sailed to the northeast, to the holy island of Hapallan."

Lora spoke up. “Hapallan? Is that, like, a country or something?”

“Who knows,” Max replied. “It could be anything! It's just an old legend, like our stories about the Headless Horseman. Nobody in the 10th century actually built snakeskin boats and crossed the Atlantic with them. Even Christopher Columbus didn't cross the Atlantic until 1492! This is all just a myth.”

“Really?” the professor asked. “I am afraid your information is out of date. There is actually extensive evidence that many other cultures discovered America long before Columbus. There were the Vikings, the Chinese, and perhaps even the Romans, as Roman coins have been found buried on this continent. In fact, it's possible that even the Egyptians were aware of this hemisphere. One day we will discuss these pre-Colombus expeditions in greater detail, but the point is that people were crossing the Atlantic long before the 15th century. The idea that someone else had done it hundreds of years earlier is not out of the question.”

“Then why didn't they become famous? Why did Columbus have to discover it all over again centuries later?”

“There could be any number of reasons. For example, perhaps the earlier discoverers failed to find a way to monetize their discovery. The Spanish were quite interested in overseas exploration because they were looking for a route to the Indies. What they actually discovered was not a new route but a civilization that had an unbelievable amount of gold. For the Spanish crossing the ocean was a way to obtain great wealth, power, and prestige. However, it's entirely possible that those who discovered America centuries earlier found only danger, expenses, and loss of life. A modern analogy would be Neil Armstrong's landing on the moon. It was certainly an impressive feat, but it was incredibly costly and highly dangerous. We no longer make trips to the moon because they simply aren't worth the expense. Being able to go somewhere means very little if there are no economic incentives to make the trip.”

Max shrugged. “Ok, whatever. So maybe

other people made it their first. How do you know this Quetzal guy was ever real? All you've got are a bunch of old stories from a dead civilization. That's hardly conclusive."

The professor smiled. "Most of history can be described as 'old stories from a dead civilization'. That, after all, is the very nature of history! In this case, however, we do have less information than we would like. Usually historians have some sort of written document that they can analyze, but in this case much of what we have here are oral traditions that the Spanish invaders recorded. That is unfortunate, but that does not mean it is all over. We *do* have those traditions, after all. Most importantly, the Aztecs passionately believed them."

"So what? Millions of children passionately believe in Santa Claus. That doesn't mean he's real."

"The reason that matters is because the story of Quetzalcoatl came from the Toltecs, *not* the Aztecs. He was not an Aztec legend and no Aztec ever saw him. Yet when Cortez arrived they instantly believed he was Quetzalcoatl in the flesh – despite the fact

that the prophecy of his return was more than five hundred years old and came from a long-gone civilization!"

"Well, sure. But keep in mind that the Spanish were white people who had beards and boats. The Aztecs didn't have any of those things. When Cortez arrived they just looked back into their history and said, hey, these guys match the legend of that serpent god. They just put it together and came to the wrong conclusion."

"But where did that legend come from?" the professor asked. "How did the Aztecs know about white men when they had never seen a white man? None of them had beards, so how did they know about *bearded* white men? And how did they know that the land on the other side of the ocean was filled with bearded white men who were completely different from them? Isn't it rather remarkable than when Cortez landed the Aztecs already knew what Europeans looked like?

"And there is a great deal more. The Toltecs recorded more about Quetzalcoatl's appearance than just 'bearded white man'.

He was said to be old and tall, with a broad forehead and black hair. He wore a long garment that had a mantle marked with crosses. He was chaste and temperate, fasted often, and inflicted penances upon himself. As if that was not peculiar enough, what is really remarkable are the religious teachings that he left behind.

"You see, Quetzalcoatl taught the Toltecs that there was a supreme God, who was the ruler of the universe and the creator of all good things. Opposed to this God was a wicked being who was the father of all evil. Mankind had a common mother named Cicacoatl, which means the 'serpant woman', and it was said that by her sin entered into the world. Cicacoatl was said to have had twin children, who were depicted as quarreling; the Vatican actually has an Aztec picture that depicts this. Quetzalcoatl taught them that there was a great flood that destroyed everyone in the world except for one family. After the flood a race of giants arose who built a pyramid to Heaven in order to reach the sky, but the gods stepped in and destroyed it."

“The Tower of Babel was built by giants?” Lora asked.

“It's quite possible that some of these teachings were corrupted over the centuries,” the professor replied. “After all, Cain and Abel did fight each other and they were brothers, but they were not twins. What *is* remarkable is how much theology the Toltecs actually knew. For example, there is a picture that shows a king presenting an infant to a Latin-style cross. Crosses were objects of veneration to the Aztecs, and they actually dotted the landscape – despite the fact that the Aztecs did not practice crucifixion. The Aztecs told the Spanish invaders that the reason they venerated the cross was because a man more glorious than the sun had died upon one – and this came from people who *worshiped* the sun god! They even believed in original sin and baptized infants, praying that the water would wash away the child's sin. Nor is that all. They also believed in confession to priests, in priestly absolution, and in penance. They even had a form of communion.”

“So they were, like, Catholics?”

“Good heavens, no! The Aztecs were unspeakably violent and bloody. In that civilization priests regularly sacrificed live human beings – and not just one or two, but thousands a time. These people would actually rip the still-beating heart out of a man's chest so they could present it to their evil god. They were unbelievably violent, bloody, and savage – but they remembered the teachings the Toltecs had passed down, and they remembered that Quetzalcoatl was the one who had given them wisdom. They may have mixed his piety with their bloody savagery, but his piety was not forgotten.”

“That is so weird,” Ashley said. “It's like Quetzalcoatl was a missionary or something.”

“He does indeed sound like a Catholic missionary,” Professor Grimes agreed. “The religion he left sounds a great deal like Catholicism – confessions, penances, veneration of crosses, infant baptism. Somehow the Toltecs heard some form of Catholic doctrine, which was corrupted through the centuries and handed down to

the Aztecs. The likelihood that they came up with something so similar to Catholicism entirely on their own – up to an including the fact that it was taught to them by a bearded white man from across the ocean – is quite remote. It's worth noting that the Spanish themselves thought that Quetzalcoatl must have been some missionary from ancient times."

Max spoke up. "I get what you're saying but I'm still not buying it. You just can't build a boat out of snakeskins and cross the Atlantic with it! That's not how it works."

"That's actually an interesting point," the professor replied. "When Cortez landed he had his men burn their boats. He did this as a rather extreme form of motivation. By burning the boats behind them he made it clear that the only way his men would ever get home is if they conquered the Aztecs and forced them to rebuild their ships. The natives knew nothing about shipbuilding, but the Spanish did and that was enough. In other words, it *was* possible for someone who knew how to build a ship to guide the natives into building one. Cortez did it and

managed to get home successfully, so it's not out of the question that Quetzalcoatl may have done it as well.

“But as far as the snakeskin part goes, it's worth noting that when the Toltecs and the Aztecs were around there were no large beasts of burden in that part of the world. Neither of those civilizations had cows, horses, or oxen, and they were also unfamiliar with tar or pitch. Instead of leather they used snakeskin, simply because that was all they had. Since Quetzalcoatl did not have access to tar to make his ship watertight, perhaps he used the skins of snakes and alligators instead. Boats of that type were not unheard-of at that time in history. At the very least, it's possible.”

Max spoke up. “So let's say that maybe all of that happened. Maybe a white Catholic missionary guy did cross the ocean a long time ago and brought Catholicism to Mexico, and maybe he got the natives to build him a ship so he could go back home. That still doesn't explain this whole 'I'll be back one day' prophecy. That sounds more like a legend to me.”

“But what if he *did* plan on coming back?” the professor asked. “What if he did not mean 'I will be back centuries from now', but instead 'I will return in a couple years?' What if he was simply prevented from returning, and the Toltecs had such a high opinion of him that they assumed he *would* come back no matter how many centuries had passed?”

“That just seems like a lot of what-ifs,” Max replied. “How could you possibly know that's what happened?”

Professor Grimes smiled. “Because we have a good idea of exactly who Quetzalcoatl actually was. Now, keep in mind that the information I am about to give you is recorded in eleven different manuscripts that date from the 11th to 14th centuries. This is not based on a single crazy account that was recorded by an inept lunatic. As historical events go, this is actually well-documented.

“Around 550 AD there was an Irish bishop named St. Brendan the Navigator, who founded a monastery in Cloufert and was the head of an order of 3,000 monks.

One day he looked across the ocean and realized that there might be people on the other side who had never head of God. With this in mind he decided to embark on a missionary journey. After building his boat, making ready for a long voyage, and assembling his crew he left from Tralee Bay and headed southwest. After many weeks of travel he eventually found land, and he spent seven years in the country he discovered, teaching them Catholic doctrine and customs. At the end of that time he left and promised to return. St. Brendan arrived home safely, and after a period of years he tried to go back. However, the winds and currents were contrary and he was forced to return to Ireland, where he died in 575 at the age of 94.

"Now, keep in mind that the earliest surviving manuscripts that discuss his voyage date to the 11th century – a full five hundred years *before* Cortez landed and heard the legend of Quetzalcoatl. The story of St. Brendan was not made up after-the-fact. The man himself bears a striking resemblance to Quetzalcoatl – both were tall

bearded white men, well advanced in years, and whose home was across the ocean. Moreover, the Toltec civilization did exist in the 6th century and survived for centuries after."

Lora spoke up. "So are you saying that, like, Quetzalcoatl was actually an Irish bishop named St. Brendan?"

"I am saying that that is a distinct possibility," the professor replied. "The timing is right, it fits the facts, and the historical records of his voyage predate Cortez by a wide margin. It is impossible to say for certain, but it is quite plausible."

"So let' say that all this is true," Max said. "What's the point? How does it change anything?"

The professor paused before replying. "In our own time it is quite common for historians to dismiss much of the past as mere myths and legends. Ancient peoples recorded a great many amazing things; the story of Quetzalcoatl is but one example. There are also records of giants, and dragons, and countless other extraordinary phenomena. Yet today, despite ample

records and documentation, we dismiss these accounts as pure fantasy. *We* do not believe in such things, so, therefore, they *must* be false. We believe that ancient people were petty liars at worst, or unbelievably stupid half-wits at best. We simply do not take them seriously.

"What we must do is open our minds to the possibility that perhaps, just perhaps, they were actually telling the truth. What if Quetzalcoatl really was a real person? What if there really were dragons? What other things have our ancestors told us about the past that we've missed because we've refused to listen? We assume that we know it all, even though they were eyewitnesses and we were not. I think our own arrogance has blinded us to all sorts of things."

The professor glanced up at the clock. "And it looks like that's all the time we have today. Be sure to read chapter 9 for next week, and don't forget about your writing assignment that's due. Class dismissed!"

The Legend of *Beowulf*

Professor Grimes was standing behind his desk, sorting a rather imposing stack of documents. As he leafed through the pages of a rather lengthy research paper he heard a voice in the back of the room mumble something. Looking up, he saw that Dan was furiously typing a text message into his smartphone.

"Dan!" the professor called out sharply. "Do I have to remind you of my very strict policies against cell phone usage in this class?"

"I've still got four minutes left," the student replied. "The class hasn't started yet."

"You are still walking a very fine line, young man! So far I have not had to destroy any cell phones in this class, but I assure you that I will not hesitate to do so. I will simply not abide any interruptions by those infernal

devices. You are free to ask questions but you are *not* free to ruin the learning experience for others by using your phone while class is in session. My rules on that are quite firm and are non-negotiable."

"Fine," Dan grumbled. He turned off his phone and slipped it into his pocket. "It just seems so lame. I mean, look. We're well into the semester and I'm just not seeing much in the way of paranormal freaky stuff. I mean, the last class was about a dead Catholic missionary for crying out loud. What's paranormal about that? I was expecting us to talk about ghosts and stuff."

"We have talked about ghosts. In fact, that was one of our very first lectures. Moreover, while you may believe that the story of Quetzalcoatl is not as gripping as whatever games you may have on your phone, I assure you that we definitely entered the realm of the paranormal. According to the dictionary the word 'paranormal' refers to things that lie outside normal scientific explanations. Every topic we have studied lies well outside mainstream science. The idea that the

pyramids were made of artificial stone is definitely a fringe idea, even though the support for it is quite significant. The same goes for the idea that Quetzalcoatl was a Catholic bishop. We are taking a serious and careful look at stories that fall outside the accepted boundaries of knowledge to determine if there is any truth to them. As it turns out, sometimes there is and sometimes there is not. But the point is that we are investing claims that most have chosen to ignore. That is precisely what this class is all about."

"I guess," Dan replied. "I was just hoping for more weird stuff. Like telekinesis and aliens and ESP."

"And crop circles," Ashley added.

The professor glanced up at the clock, put down his notes, and walked in front of his desk. "Crop circles are certainly an interesting phenomenon that are worthy of investigation. There is certainly no doubt that crop circles actually exist; the question is whether they are all hoaxes or if some of them have a supernatural explanation. One day we may look into that. Your other

examples, however, are not as compelling. I am unaware of any reputable examples of telekinesis or ESP. It has been my observation that people who claim to have ESP or psychic abilities are either mentally disturbed or deeply involved with the occult. That being said, the apostle Paul did run into a young woman who could foretell the future due to a demon that possessed her, so such things are certainly possible. I suspect that if one were to find a real psychic – and I assure you that, if any do exist, they are quite rare – one would find a demon behind it. Since we have already discussed demonic activity in an earlier class I see no compelling reason to revisit the subject. Therefore, we are moving on to talk about another dead white guy: Beowulf."

Lora spoke up. "Wasn't that some ancient poem, or something?"

"Pretty much," Max replied. "It's some boring legend about a guy who killed some kind of giant troll. I glanced at the poem once. I don't know how anyone could survive reading it. It looked pretty tedious."

"That is because your reading

comprehension level is appallingly low," the professor replied acidly. "There was a time when it was common for mere high school students to have a mastery of Greek and Latin, and who found classic literature not only understandable but enjoyable. Sadly, today we have a generation of young people who can do little more than read poorly-written text messages. These are truly dark times.

"Hey, I resent that," Dan called out.

"Said by the man who expresses himself through 'lol' and 'brb'," Professor Grimes replied, shaking his head. "If you truly want to see how far education has declined, pick up an unrevised copy of Treasure Island and try to read it. That book was written as an exciting pirate story for children. Today I daresay few college students could wade through it. Literacy is simply not what it used to be."

The professor glanced at his desk and picked up his notes. "As I was saying earlier, today we are going to be studying the epic poem *Beowulf*. Despite its fame in the modern world, it's actually something of a

miracle that the poem has managed to survive the ages. All of our copies of it can be traced back to a single manuscript that dates to approximately 1000 AD, and that manuscript was created centuries after the poem was written. Had that one manuscript been burned – as so many ancient manuscripts were – the poem would have been lost to us forever."

Max spoke up. "I don't get it. I mean, look, I know the poem is famous and all, but why are we talking about it? It's not like people say the poem doesn't exist! I'm pretty sure everyone agrees it's real. I'm not seeing the paranormal part of this."

"The problem is with the interpretation of the poem," the professor replied. "Scholars typically assume that it is some sort of early Christian allegory. I think that is entirely wrong. In my opinion, *Beowulf* is history, not legend. It is talking about something that actually happened. In other words, *Beowulf* is a true story.

"First of all, there are tremendous problems with the commonly-accepted allegorical interpretation. Unlike other

Anglo-Saxon Christian poems, *Beowulf* does not mention any New Testament event, person, or teaching. There are references to the Old Testament but they are confined to things that, at the time, were generally accepted as historical realities. This may be difficult for modern people to believe, but for many centuries it was generally accepted by everyone that Adam and Eve, Cain and Abel, the Flood, the Tower of Babel, and all the other events in the Old Testament actually happened. People used to have genealogies on their walls that showed how they, or their kings, had descended from Adam. Those only went out fashion in recent times when evolution poisoned people's minds. Back in the Middle Ages, referring to Cain and Abel was like referring to World War II – it was commonly-accepted history. There was nothing particularly religious about it.

"What this means is that this supposedly Christian poem doesn't actually have any notably Christian elements – unlike other Christian poems from that period, which are filled with theological statements, references

to the New Testament, and Bible quotations. *Beowulf* simply does not fit that pattern. In fact, the poem is actually quite pagan. It extols the virtues of vengeance, the glories of accumulating plunder, and boasts of the reliance on human strength – none of which even remotely conforms to the teachings of Jesus. The poem also alludes to pagan oaths, pagan sacrifices, and pagan forms of burial. It takes a tremendous amount of imagination to take a pagan poem that is full of pagan philosophy and turn it into a Christian epic. That is simply reading into the text something it does not say."

Lora spoke up. "Um, I haven't actually read the poem. Is this going to be on the test?"

The professor sighed. "The poem was part of your reading assignments in your syllabus, young lady. Did you not see what today's class was going to be about? How did you expect to intelligently discuss *Beowulf* if you've never read it?"

Professor Grimes looked around and saw the blank looks on everyone's face. "Has anyone in this room read the poem?

Anyone? Did anyone actually bother to complete their reading assignments?" When no one spoke up he sighed. "Very well, then. I will have to adjust the content of this lecture to account for the fact that none of you know what I am talking about. That being said, I do strongly suggest reading it. The state of education in schools today is simply appalling. But I suppose that is to be expected in these dark times.

"As I was saying, Beowulf is not a Christian poem, even though some people desperately wish that it were. This wish to Christianize it actually tends to hide the fact that the people in the poem are real historical figures. Beowulf was a real person, who was born in 495 AD. He was the son of a man named Ecgtheow. In 502 AD he was brought to the court of Hrethel, his grandfather, who was the king of Geatingas – a tribe that inhabited what is now southern Sweden. In 515 AD he traveled to Denmark to visit Hrothgar, the king of the Danes. That is also when he slew the Grendel, which was *not* a troll but was a type of animal that is now extinct. Beowulf became king in 533 AD

and died in 583 AD at the age of 88. History has a great deal more to say about him, but the point I wish to emphasize is that Beowulf was a real person.

“Moreover, despite what many people claim, the poem is historically accurate. Since none of you have ever read the poem itself I will spare you the details – although they're quite fascinating – but the characters in the poem are real, their relationships with each other are accurate, and the details regarding who they are and what they did with their lives are true and match recorded history. Whoever wrote this poem went to great lengths to keep everything accurate.”

“Now wait just a minute,” Max exclaimed. “Wasn't the whole point of the poem the slaying of that monster? Gretal, or something like that. Are you saying that trolls really existed?”

“It was Grendel, not Gretal, and it was not a troll,” the professor replied. “Grendel was not its name; it was the type of creature. Throughout history people have hunted elephants or bears or tigers; Beowulf hunted Grendels. Translating the creature as

a 'troll' is a gross disservice to humanity. That word does not even appear in the poem! A Grendel was its own type of creature."

"But there aren't Grendels anymore," Lora said.

"You are exactly right. I suspect that men such as Beowulf hunted them to extinction, for reasons you would understand if you had read the poem. Grendels were nasty, dangerous creatures. This particular one terrorized the populace for twelve years."

Max spoke up. "How do you know they existed? I mean, just because the Greeks said that Hercules fought Cyclops doesn't mean there was a real Cyclops."

The professor sighed. "Hercules was a *Roman* god, not a Greek one. Although he was apparently adapted from the Greek god Heracles. But there are actually a number of reasons to think that Grendels used to roam the countryside. In 931 AD King Athelstan of Wessex issued a charter in which a nearby lake in Wiltshire, England was called a "grendles mere". Interestingly, the Grendel in Beowulf lived in a mere. There were

numerous places in the Middle Ages that were named after Grendels; if you read through old charters you will find references to “Grindles bec” and “Grendeles pyt” and “Grendelwood” and so forth. People of that era believed that Grendels were real creatures, who went on real killing sprees, and posed a real danger.

“Nor is Beowulf the only account we have of people fighting Grendels. If you had read the poem you would know that the Danes spent twelve years trying to kill Grendel with conventional weapons, and they utterly failed. Their arsenal simply could not penetrate the creature's hide. The way Beowulf killed it was by going up to the creature and tearing off one of its arms. The mortally-wounded creature then returned to its lair and bled to death.

“The reason this is important is because there is a depiction of a creature that looks very much like a Grendel on a Babylonian cylinder seal. The seal depicts a man fighting this creature by *tearing off one of its weak forearms*. That cylinder happens to be in the British Museum.”

“Is there, like, a picture of it somewhere?” Lora asked.

“There is in your textbook,” the professor replied. “If you had done your assigned reading you would have seen it. I do not give you reading assignments simply to torment you and ruin your social life. There is a reason I had you purchase that textbook, and it was not so you could kill spiders with it.”

Max spoke up. “So if all this is true then why isn't it included in the introduction of every edition of Beowulf? Isn't this the sort of thing that scholars would naturally find out? I mean, you can't possibly be the first person to bring this stuff up. Are you saying there's some kind of conspiracy going on? What would be the point of that?”

“You're quite right – I am not the first person to discover this. Despite what you will see printed in copies of Beowulf, the information I have presented to you is quite well-known in the field. Klaeber, for example, has extensively documented the historical reliability of the details in *Beowulf*. What is fascinating is that even though

scholars will admit that the information in the poem is accurate, they still insist that it is just a myth.

"This is all because of the monster Grendel. Grendels no longer roam the countryside, so modern scholars assume that they *never* roamed the countryside. Since they are therefore mythical creatures, *Beowulf*'s account of fighting one must also be mythical. This is despite the fact that every part of the poem that we can verify *has* been verified and found accurate. One would think on the basis of that alone that, since everything else checks out, the Grendel must be real as well, but that idea is rejected out-of-hand – despite the fact that the existence of Grendels is affirmed in other period documents.

"By way of an analogy, suppose that the buffalo had been hunted to extinction in the 19th century, and a future archaeologist had said 'Well, buffaloes don't exist today, so they must never have existed; all these stories of hunting them must, therefore, be myths.' The evidence for their existence is dismissed as myth, and then the resulting

lack of evidence is sighted as proof that they were not real."

"Can we go home now?" Dan asked.

The professor ignored him. "When studying history it is vital to remember that historians do not have an open mind. People approach the field with countless preconceived ideas – that ancient man was primitive; that dragons never existed; that Beowulf was a myth; and so on. They then use those erroneous ideas to interpret everything they see, and they use their interpretations as proof that they are right. Grendels never existed; therefore Beowulf is a myth. Since Grendels were mythical, any other references to them must be mythical as well. Their presuppositions blind them to reality."

"It still seems rather weak to me," Max replied.

"Look at it this way. If you have a historical document and you can check the accuracy of all of it except for one part, it is not unreasonable to assume that the one part you can't check is probably accurate as well. After all, in history we rarely have all of

the facts. Sometimes we can only check a portion of a historical account, and sometimes we cannot verify any of it at all. A document that has proven to be reliable where we *can* check it is probably also reliable in its other areas. It's really not any more complicated than that."

"But you could still be wrong," Max replied.

The professor paused before replying. "One thing you will eventually discover is that science is a constant search for the truth, and scientific theories – and historical theories, for that matter – are simply the best approximations of the truth that we can formulate at the time. The laws of motion that Newton laid down were quite good, but they were not perfect, and Einstein improved upon them. Newton got us closer to the truth than we had ever been before, and Einstein got us still closer. One day someone may improve upon Einstein and get us closer still. That is how science works – by constantly coming up with the best approximation it can.

"History is quite similar. We do not have

all the information that we would like to have; a great deal has been lost or deliberately destroyed. Therefore, we must make do with what we do have. It may be that a hundred years from now some new information will come to light that will get us closer to the truth than we are now. We may learn more about the events recorded in Beowulf that will expand our understanding – much the same way Einstein expanded upon Newton. However, since we do not have access to information from the future, all we can do is make the most of the information that we have right now. The day may come when we will have a perfect knowledge of history and will no longer need mere approximations; I do not know. But for now we are limited to the clues that we possess. What is important is that we *do* use them, so that others may build upon our work, just as Einstein built upon Newton. To sit back and do nothing simply because we are not all-knowing is insanity."

Professor Grimes glanced up at the clock. "It looks like that is all we have time for today. You are dismissed."

“What, no reading assignment?” Lora asked, as the class filed out the door.

The professor looked up at her as he gathered up his notes. “Would you actually do the reading if I gave it to you?”

“Probably not,” Lora replied.

“Then what is the point of giving the assignment? You are free to go.”

Professor Grimes then walked out the door and down the hallway.

Crop Circles

Professor Grimes walked into the classroom precisely five minutes before his lecture was scheduled to begin. He picked up the student roster off his desk, glanced around the room, and placed a checkmark beside six names. He then sat down in the chair behind his desk and waited. The students in the room chatted with each other in low tones. Surprisingly, there were no cell phones in sight. *My students are finally starting to catch on*, the professor thought with satisfaction.

At precisely ten o'clock he got up and walked in front of his desk. “Good morning, class,” he said cheerfully. “This morning we are going to talk about–”

“Crop circles!” Ashley called out.

“Yes. That is correct, young lady. Today we are going to talk about crop circles.”

“We are?” she asked, confused. “I mean

– what? Like, seriously?”

“Of course I am serious. Did you not see today's topic listed in your syllabus? The topic of each lecture was set down long in advance and has not changed. If you would simply read the papers that I handed to you on the first day of class you would know everything that we're going to discuss this semester, along with when we're going to discuss it.”

Dan spoke up. “Hey, you know, speaking of that, what's up with our semesters? This class started in December and has gone over into the next year. What's up with that?”

“This is a paranormal class, young man,” the professor replied. “Why are you surprised that it has a paranormal schedule? Is that not to be expected?”

“It's just so wrong,” he grumbled. “It doesn't make any sense.”

The professor shrugged. “It makes a great deal of sense to me. If you did not like the schedule then you did not have to enroll. It was entirely your own choice. But, as I was saying earlier, today we are going to talk about crop circles.”

“That is just so weird,” Ashley commented. “I mean, you know, I kind of thought you were going to skip it. Crop circles are, like, kind of freaky.”

“The whole point of this class is to take a look at matters that are 'kind of freaky' and attempt to make sense of them. I will admit that when I first began my investigation into this topic I had grave concerns about it. It did not look promising.”

“Of course not,” Max replied. “Aren't they all a hoax? I thought two guys came forward and said they were behind them all. It was a Dan somebody, I think. This has all been debunked, hasn't it?”

“I believe you are referring to Doug Bower and Dave Chorley. It is true that in 1991 they came forward and claimed to be responsible for hundreds of crop circles that appeared between 1978 and 1991, including virtually all of the ones that were made before 1987. Ordinarily that would be enough to dismiss the phenomenon altogether. Then I discovered something rather intriguing: while there are many fake crop circles, there are a number of real ones

as well."

Max spoke up. "I don't get it. A crop circle is a crop circle, right?"

"Not at all. In fake or hoax crop circles, people use boards to flatten the crops to the ground and create the designs. This breaks the stems of the plants and kills them. In some crop circles, however, the stems are bent, not broken, and the plants remain alive and continue to grow. This bending was caused by an intense burst of heat, which softened the stems and caused them to bend under their own weight. The heat also altered the plant's crystalline structure. In fact, the difference in the plant's chromosomes was so striking that in blind tests researchers were able to differentiate normal plants from crop circle plants."

"Blind tests?" Max asked.

"That is correct. Despite what you may have been told, scientists have conducted serious research into crop circles, and research papers like *Anatomical Anomalies in Crop Formation Plants* have been published in peer-reviewed journals. Analysis has been conducted by trained

biophysicists who worked in nationally-recognized laboratories. For example, the Signalysis laboratory in Stroud, England analyzed some samples and discovered some fascinating things. One example of a serious crop circle scientist is Dr. W. C. Levengood, who has spent years looking into the phenomenon and has performed laboratory trials to determine the differences between normal plants and crop circle plants.

"The results are quite interesting. In genuine crop circles – unlike the hoaxes – the chemical composition of the soil beneath the crop circle shows a significant change. The local water table in the vicinity is depleted, and the crystalline structure of the soil is altered as well – as if it had been subjected to tremendous heat for a short period of time. Not only is the soil baked, but short-lived radioactive isotopes have also been found. Moreover, the nodes of crop circle plants were enlarged and expanded, as if the water inside the plants had boiled and the steam had forced its way out of the plant, causing trauma. This could

even be seen on a cellular level, where cell walls had been ruptured as if internal liquid had heated and forced out. Hoax circles had none of these characteristics and, in fact, have not been able to duplicate them."

Lora spoke up. "I don't really get all that biology stuff. This is, like, a history course, right? No one said that I would have to know biology."

The professor sighed. "Then I suppose I need to simplify this discussion. Since the internal cellular structure of the plant itself had been altered in a repeatable and statistically significant manner, scientists were able to create a test to determine if a crop circle was genuine or a hoax. Roughly speaking, plants in hoax crop circles were crushed to the ground by boards, whereas plants in genuine crop circles appear to have been superheated by microwave radiation operating in the infrasound range – somewhere around 20 hertz. The radiation damaged the cellular structure of the plants and caused them to bend *without* killing the plant. In fact, in some cases the change was beneficial and the plants actually grew more

rapidly than they had before. These changes have been confirmed by multiple groups in blind tests."

Max started to say something, but the professor cut him off. "I am quite serious about all of this. If the work of Dr. Levengood is not enough for you then you may find the X-Ray Diffraction Study that was done by the BLT Research Team interesting. It was reported in The Providence Journal, among other places. These results are documented and reproducible. It is true that there are a great many hoax circles – but there are also many real circles as well, and science can actually tell the difference between them using objective tests."

"So are we done?" Dan asked.

"We have only just begun!" Professor Grimes said enthusiastically. Dan sighed and slumped in his chair. The professor ignored him. "Now that we have established the existence of genuine crop circles, we can begin to explore the subject. Contrary to what the infamous Doug and Dave would have you believe, crop circles are not a new phenomenon. Accounts of crop circles date

back to the late 17th century, and 200 cases were reported before 1970 – well before Doug and Dave claimed to have began the hoax. One odd thing about crop circles is that while they have appeared in 29 countries, 90% of them appear in southern England."

"Which is where Doug and Dave live," Max pointed out.

The professor sighed. "There are a great many problems with the stories of those two men. First of all, Doug and Dave were elderly men, not young men. If you have ever seen a crop circle show on television you may have seen people demonstrate how the hoaxed circles are made. It takes many hours of difficult work to produce even a simple design. The idea that these two elderly gentlemen ran all over southern England, making hundreds of complex formations in the dead of night all by themselves, is rather difficult to believe. It takes a dedicated team of people, working under well-lit conditions, quite a few hours to produce even a simple design. The manpower that would have been required to produce even one of the

more intricate designs – let alone all of them! – is staggering. And that is setting aside the proven differences between the hoax circles and the real ones.

"The larger problem with their story is that, despite what the news media may have told you, they did *not* claim to make all crop circles everywhere. What they claimed was that they had made all of the ones within Hampshire County, England. However, when questioned, they could not tell people which of the Hampshire circles they had created or how they had made them. In fact, when asked about the crop circles outside Hampshire – and most circles did occur *outside* that county, not within it – the two men admitted that they had nothing to do with them. So, at the end of the day, these two elderly gentlemen claimed to have made some of the crop circles within a specific county in England, but they could provide no corroborating details and denied knowledge of the countless circles that appeared elsewhere."

"But they did make some of them," Max said.

“Oh, there are certainly countless hoax crop circles – of that there is no doubt. However, as I said earlier, there is a scientific way to differentiate genuine circles from hoax circles. No one has ever stepped forward and demonstrated how to make a genuine crop circle. However, people *have* reported seeing genuine crop circles suddenly come into existence. Eighty different eyewitnesses, scattered all over the world, have reported seeing shafts of light descend onto a field, flatten the crop, and create the design in less than thirty seconds. Pictures have even been taken of this, which are included in your textbook.

“In fact, one of the key pieces of evidence in favor of 'real' crop circles is the amount of time it takes to make them. Beside the dozens of eyewitness accounts, airplanes have photographed fields that were perfectly normal one moment but had an elaborate crop circle in them just fifteen minutes later. It is simply not possible for a team of hoaxers to produce a complex crop circle that quickly. Every year timed contests are held in which people race to make

amazing man-made crop circles, but no one can even come close to making one that quickly."

"So where do they come from?" Lora asked.

Max spoke up. "Probably freak weather conditions or something. I would guess ground lightning."

Professor Grimes laughed. "Have you actually seen pictures of modern crop circles? The complexity of them is simply staggering – and there is actually an interesting story in that. Up to the end of the 1970s crop circle designs were just that – circles. They were very basic and rather boring shapes. In the 1980s the designs became more complicated, forming pictograms and petroglyphs. In the 1990s they increased in complexity again, and began depicting complex fractals, patterns from higher mathematics, and even patterns reflecting fourth-dimensional patters from quantum physics. The patterns were so incredibly intricate that scientists actually discovered five new mathematical theorems from looking at these complex crop circles.

These are not simply round shapes. If you had actually done your assigned reading you would see what I mean – the pictures are all there in your textbook."

"Fourth dimensional quantum physics?" Max asked. "Is there such a thing? What are the patterns now – fifth dimensional designs?"

"That is the interesting part," the professor replied. "Over the past few years genuine crop circles have pretty much disappeared altogether. There are countless hoaxes, of course, but the hoaxes are easy to spot. Very few new circles appear, and the ones that do appear are quite basic. The crop circle phenomenon has pretty much stopped."

"Really?" Ashley asked. "But why?"

The professor paused a moment, thinking. "Before we can answer that we must determine where the crop circles are coming from. As I said earlier, there are hoax crop circles and there are genuine crop circles. The hoax circles are done by teams of hoaxers and can be dismissed. We also know that the genuine ones are made by a

complex microwave process that has never been successfully duplicated. The genuine ones are, therefore, not man-made."

"So they're naturally-occurring, then," Max replied.

"That seems unlikely. When the designs were simple circles that was easy enough to believe. However, once the designs began reflecting principles of higher mathematics, including entirely new mathematical theorems, that explanation became unlikely. Look at it this way. If a pool of water on the ground forms a circle, well, that is easy enough to believe. But if it spells out the letters HELLO THERE LORA then I would begin looking for an intelligent designer."

"But crop circles don't actually talk to us," Max said.

Professor Grimes shook his head. "That is where you are wrong. That very point is actually what piqued my interest in crop circles in the first place. In August 1991 an American named Erik Beckjord decided that some intelligence must be behind crop circles, and decided to try to communicate with it. He tramped the words 'TALK TO US'

in a wheat field and waited. A week later a new crop circle appeared in the area – a design composed of *letters*. However, there was a problem: no one could recognize the script or read what it said. If you take a look at your textbook you'll see why they were so confused – the font is rather cryptic.

"An effort was launched to decipher what came to be called the Milk Hill script. The letters resembled Hebrew but the language was eventually determined to be a form of Latin. The message was APPONO ASTOS, which means 'We are opposed to cunning and deceit.'"

"What?" Ashley asked. "I don't get it."

"It does seem odd, until you think about it," Professor Grimes replied. "Here is how one researcher put it:"

> One of the most interesting recent developments involving crop circles is that they have begun responding to what is being said about them in the press! When it was hypothesized that the patterns were being done by pranksters in balloons, the patterns subsequently appeared directly under

high-tension power lines, where balloons could not operate. When it was surmised that the strange geometric patterns on hillsides were the result of freak winds, the patterns moved again to flat fields.

When it was supposed that the patterns could be the result of some kind of refraction of microwaves, the patterns moved to areas where no microwave relay towers existed. When it was suggested that the patterns were the result of hoaxes perpetrated by humans, and some individuals actually claimed responsibility, the patterns were done in fields of canola, which is extremely brittle and difficult to bend.

(Bob and Suzanne Hamrick, *Ufos – Demonic Deception*, chapter 16)

"In other words, the crop circles responded to what was being said about them – which no natural process would ever do. Rain clouds will not move elsewhere if you write scathing letters to the editor about them, but that is precisely what happened

here. When the circles first appeared people derided them as hoaxes, and so subsequent crop circles appeared in places designed to refute the hoax allegations. It was very much as if there was some intelligence behind them who didn't like the fact that his work was not being recognized. APPONO ASTOS simply meant that he was tired of not getting the credit he deserved. There he was, doing something beyond human ability, and people simply did not believe it."

"You think aliens were doing it?" Max asked incredulously.

"No, I do not," the professor replied. "I find it difficult to believe that an advanced alien civilization, capable of traveling thousands of light-years across space, chose to reveal themselves to us by drawing pictures in wheat fields, and then became upset when people thought the designs were just hoaxes by bored teenagers. They would have to be utter morons to decide that that would be the best way to communicate with us, and if they were utter morons they never could have reached us in the first place. No, I do not think aliens are

responsible. Nor do I believe it is some secret government conspiracy. I think there is a much simpler explanation. In my opinion, after carefully examining the evidence, I think it is quite likely that demons are responsible."

"Demons again?" Max asked doubtfully. "I thought you said that ghosts were demons."

"And I stand by that claim," Professor Grimes replied. "The question we must ask is this: where does the evidence lead? We have established that men cannot make them, and it is highly unlikely that aliens or natural processes are responsible. If all natural explanations are ruled out then we are left with supernatural explanations, which takes us directly to angels and demons. Personally, I find it hard to believe that angels spend their free time flattening people's wheat fields. When they have a message to deliver they deliver it in person and then leave. They do not play hide-and-seek games while destroying thousands of dollars of valuable plants that represents a farmer's livelihood. Angels are very serious

beings that are not to be trifled with. They do not play games.

“This does fit comfortably within the realm of the demonic, however. It's worth noting that some crop circles do contain occultic and Satanic designs. On top of that, the language that was used in the Milk Hill script is quite noteworthy. If the intelligence behind crop circles was able to understand 'TALK TO US' then it was certainly capable of replying in English – but it did not do so. Despite the fact that the question was asked in English, by an English-speaking person, in an English-speaking country, the response was written in an obscure script and language that is only used in modern times *in the occult world*.

“It is probably impossible to know with certainty exactly why demons bother to create crop circles, but it's quite possible that they were intended as a form of mass advertising, to get people interested in the occult. When people mocked them as hoaxes the demons ramped up production, spawning them in difficult locations and creating designs that reflected principles of

higher physics. When even those were ignored they eventually gave up, realizing it was a lost cause. Western Civilization is so entrenched in its materialistic beliefs that even overt demonic activity such as this cannot break through our denial shields."

"So crop circles are evil?" Lora asked doubtfully.

"That's an interesting question," the professor replied. "Think of it this way. Suppose that you were a farmer and you woke up one morning to find that your crop had been smashed flat by some unknown entity, and what little hadn't been smashed was trampled into the ground by a crowd of onlookers. Wouldn't that seem rather evil to you? Does that really strike you as a way God would communicate with people?

"You see, we already have a message from God – it's called the Bible. It contains the complete, infallible, and perfect words of God, and it needs no further additions. It has everything we need to equip us to do all good works. Other cults may look for additional revelation, but Christians have no such need. God has already spoken to us and

His message has been completed. The next time He speaks to us again it will not be through crop circles, but through His Son, telling us it is time to go home."

The professor glanced up at the clock. "Dan, you can wake up now – you're free to go. I will see all of you next week! Class dismissed."

UFOs

Professor Grimes never ceased to be amazed at the sheer number of people who skipped his lectures. He knew that college students led busy lives and he could understand if five, ten, or even fifteen percent of his students were not able to attend class on a particular day. What puzzled him was when sixty-four people signed up for a course and only six people actually attended it. Their absence alone guaranteed them a failing grade. Why would 90% of his students sign up for a guaranteed F when they could simply not take his class at all and preserve their GPA? Each semester the professor took pains to explain in his syllabus that it was impossible to pass his class without attending it, and urged students to drop out if they would not be able to attend regularly. Still, year after year, people signed up, never came, and failed the

course. Even though it was entirely predictable the aging professor never got used to it.

So once again Professor Grimes placed checkmarks beside seven names on the student roster, then shook his head and placed the roster back on his desk. To the best of his knowledge only four students had ever uttered a word in that semester's class. The rest either slept through his lectures or stared out into space. He wondered if they were drunk but decided it would be impertinent to ask. So he just soldiered on.

“Good morning, class,” he announced cheerfully. “I hope you're enjoying the wet, soggy, cold, and overcast weather outside. It's positively delightful!”

“Are you for real?” Dan asked.

“Oh, absolutely. The magnificent weather that I see out the classroom window is full of atmosphere and possibilities! It's also quite inspiring.”

“And totally uncomfortable,” Dan replied.

“It is entirely possible to be too comfortable, you know. That is what's wrong with the younger generation – all they care

about are their creature comforts. America was not discovered by people sitting in recliners watching TV shows! You people need to leave your cell phones and video games and go outside and actually live life for a change. Your desire to be a couch potato is going to give you heart disease."

Lora spoke up. "But I hate snakes! Snakes are evil. Don't they have snakes in the jungle?"

"Oh yes, they certainly do! Huge, enormous snakes that could probably swallow you whole. There are all sorts of other horrifying things as well – but there are also lost cities, hidden treasures, forgotten knowledge, and fantastic discoveries. The cost is great, but the potential rewards are great as well. If you want to make great discoveries then you must take great risks.

"Speaking of discoveries, today we are going to talk about a phenomenon that has captured the imagination of millions and has spawned countless movies. We are going to talk about–"

"Zombies!" Ashley shouted.

“What?” the professor asked incredulously. “No, we're not going to talk about zombies. In fact, we are *never* going to talk about zombies. Nor are we going to discuss werewolves, or mermaids, or Godzilla. We are going to talk about unidentified flying objects.”

“The answer is demons,” Max said sarcastically. “It's always demons, isn't it? Ghosts are demons. Crop circles are demons. Toasters are demons. You have the same answer for everything.”

“My toaster and I get alone quite well, thank you,” the professor replied. “It is one of the few devices inside my home that does not insist on connecting to the internet, or being computerized, or trying to sell me ringtones. I wish more of my appliances had the simplicity and elegance of my toaster. They're marvelous devices.

“But to answer your point – what you must realize is that we have a responsibility for hunting down the truth and following where it leads. The reason I believe that ghosts are probably demonic is because that is what the evidence shows. The same can

be said for crop circles. In neither case did we start out by assuming there was a sinister explanation. We simply examined each phenomenon, looked at the evidence, and then eliminated everything that did not make sense. We are going to do precisely the same thing with UFOs. Moreover, we are going to wait until the *end* to draw any conclusions. Drawing your conclusions first and then coming up with a case to support it is madness, not science."

Ashley spoke up. "UFOs are, like, just a hoax. I mean, that's what they say, anyway. The people that believe in them are crazy."

"A great many UFOs are indeed nothing special," the professor agreed. "Virtually all cases can be shown to be weather balloons, or secret military aircraft, or meteors, or other natural phenomena. There are also countless hoaxes. In this day and age it is especially easy to fake a UFO. Technology has come a long way in the past few decades. Things are to such a point now that it is very difficult to tell a genuine photograph from one that has been altered.

"Since that is the case, I am going to take

a slightly different approach than I have for other subjects. As you might imagine, there are many stories of seeing a UFO that cannot be corroborated or disproved, and there are even pictures and video evidence. However, since these sightings cannot be corroborated they therefore cannot be tested or falsified, which places them outside the realm of scientific investigation.

“This poses something of a problem. With crop circles there was hard evidence that you could take to a lab and analyze. It was actually possible to design a series of tests that could distinguish real crop circles from hoaxes. With UFOs that is simply not possible. The only pictures and videos that are available are blurry and rather poor, and thus easily faked. Stories can be faked as well or simply mistaken. Also, despite decades of study, there is not one piece of physical evidence that can be examined. This puts us in a difficult position, because all we can really do is examine claims and we have no way to verify the truth of those claims.”

Max spoke up. “Then doesn't the whole subject become impossible?”

“Not quite,” Professor Grimes replied. “We still have the stories, after all, and they can be analyzed. UFO researchers have divided these accounts into five different groups. Close encounters of the first kind involve people who simply saw a UFO. Close encounters of the second kind involve UFO sightings that left some sort of evidence, such as a broken tree branch.”

“Hold on,” Max interrupted. “I thought you just said there was never any evidence to analyze.”

The professor sighed. “A broken tree branch is hardly conclusive evidence. There are a great many things that can break tree branches, and I must say that 'Aliens did it!' is not very high on the list of likely culprits. With crop circles one could identify specific anomalies that differentiated real crop circles from hoaxes. A broken branch, however, is just a broken branch. No one has ever recovered pieces of a warp drive or other alien technology, or even anything that was actually interesting. It would be quite fascinating if such a thing were ever to surface, but it has not.

“As I was saying, close encounters of the third kind include the sighting of actual aliens. Close encounters of the fourth kind are alien abduction stories. Finally, close encounters of the fifth kind are cases where the people involved in the sighting are injured or killed.”

Ashley spoke up. “People get killed in UFO sightings?”

“Apparently, but it is quite rare. By far the most common encounters are mere UFO sightings, which are not all that interesting. In such cases all we really know is that someone saw something in the sky; perhaps it was a real UFO and perhaps it was not. However, stories of alien abductions are quite different. There we are given much more information than 'I saw a flying saucer over my house!'. Once we start analyzing alien abduction stories we can see some fascinating trends.

“First of all, people from all walks of life, all ages, and all religions have reported being abducted. However, there is one group of people that has never been abducted, and that is sincere born-again Christians. It is

true that some people who have been abducted claimed to be Christians, but when interviewed it became obvious that they were Christian-in-name-only. There is not one case of a passionate believer in Jesus ever being abducted by aliens, despite years of searching all over the world."

"Well, that's kind of weird," Lora said.

"Indeed it is. Second, when people are abducted many report being taken against their will, and those who are taken are often subjected to all manner of horrifying medical experiments. After years of study and interviewing, researchers have found just one technique that was able to stop an abduction that was in progress and set people free. This was when people called on the name of Jesus to help them."

Max spoke up. "You've got to be kidding!"

Professor Grimes shook his head. "I am not kidding at all. After years of searching that is the only technique that has been found to work. There are actually many documented cases of people getting abducted, panicking, calling on Jesus, and

instantly being freed. The name of Jesus seems to panic the abductors. They do not care for it. If you read UFO abduction stories – and your textbook includes numerous examples – you will see many accounts of this. It's really quite incredible.

"A third fascinating point is that people who see UFOs or who become abducted are quite often involved in some way with the occult. People who have been involved in satanism, or who have split personalities, or children whose parents engage in occultic activity appear to be prime candidates for abduction. Somehow dabbling in witchcraft makes it much more likely that you will see a UFO."

"Another common thread in abduction stories is that the aliens have a united religious message. Christianity, they say, is a plague upon mankind and is holding us back. They claim there is no such thing as sin. There was also nothing special about Jesus Christ – he was just another alien like them and deserves no special attention. Lucifer, however, is a wonderful person who mankind has simply misunderstood.

“The aliens tell us that the reason they have come is to help us evolve to a higher form of being. If we will just listen to them and accept their teachings then all of our problems will go away. The Bible hiders us; we must eliminate it. We must find divinity within ourselves and accept their leadership. The main thing that is holding us back are all these religious fundamentalists who insist that Jesus is the only way. If that group can be eliminated then the world will become filled with peace and happiness.”

“That's preposterous!” Max replied. “You can't possibly expect me to believe that aliens from the stars have traveled light-years to get here just to tell us to give up our Bibles. That's insane.”

Professor Grimes smiled. “You don't have to take my word for it. You are welcome to read the accounts of abductions yourself. There are a great many of them, and their religious message is not hard to find. This is not being done in a corner somewhere. The specific anti-Jesus agenda that is present in these abductions is quire remarkable.

“Nor is that all. I'm sure I don't have to

tell you that alien abductions are not pleasant things. People commonly report all sorts of horrifying experiments, gruesome torture, and other fiendish things that I will not repeat here. Those who are abducted sometimes end up with horrible, unknown diseases or die at a young age. Abductees are frequently terrified, experimented on against their will, and tormented. For whatever reason, aliens seem to enjoy extracting as much terror as they possibly can from those they abduct."

"Aliens sound, like, really bad," Ashley said. "I don't think I want to meet them."

"Nor do I. But do you see the common threads in this picture? The aliens will not touch genuine Christians but enjoy torturing everyone else. They are afraid of the name of Jesus, to the point where they run when they hear it, but they defend Lucifer. The message they deliver is that we must abandon what Jesus has told us and embrace a new, unbiblical faith. If I were to paint a picture of demonic activity it would be hard to get any closer than this. The way UFO researchers describe aliens is precisely

the way the Bible describes demons."

"But that's ridiculous!" Max exclaimed. "Are you telling me that demons are flying spaceships around?"

"Not exactly," Professor Grimes replied. "Here is something to think about. During the Middle Ages people were warned not to go into the Black Forest because gnomes, fairies, and little people would kidnap you and drag you away to dark places, where you would be tortured. Eventually people stopped believing in such things and the abductions stopped. Then in the 19th century, before flight was developed, people began seeing giant airships in the sky that pulled up the unwary and kidnapped them. In the 1950s people began seeing flying saucers instead of airships, and inside these saucers were magnetic tape drives, giant computers, and aliens who tormented them. Today the saucers contain LCD monitors, modern computers, and lasers – along with aliens who torment people. It's quite interesting that the supposed spacecrafts, along with their interiors, has always reflected whatever people at the time

thought was cutting-edge science. It makes you wonder if the spaceships are actually real at all, or are simply some kind of sophisticated illusion.

“It's also interesting that the home planet of the supposed aliens has changed over time. In the 1950s abductees were told that the aliens were from Venus and Mars. Then after mankind sent probes to Mars the message changed, and the aliens began claiming that they were from Jupiter and Saturn. Once mankind sent probes to the outer planets the message changed again, and now the aliens claim to be from the stars or from distant galaxies. The lie has always been adjusted to be plausible at the time – but each time it was proven to be a lie the story changed.”

Max shook his head. “I just find it all a bit hard to believe. I mean, seriously. Demons are using fake UFOs to kidnap and torture people? Isn't that a bit loony?”

“Consider the alternative for a moment. The other possibility is that UFOs are genuine spaceships manned by real aliens who are terrified of Jesus, run at the very

mention of His name, and will not touch genuine believers. These same aliens hate Jesus with a passion, peddle a false gospel, discredit the Bible, and defend the reputation of Lucifer. They also like to torture people against their will, cause as much terror as possible, and prefer to show themselves to people deeply enmeshed in the occult. Oh – and they also keep redesigning their spaceships to reflect whatever technology you can find at your local electronics store. It's no wonder that even secular researchers have come to conclude that whatever UFOs are, they are not aliens from another world."

"But why would they bother?" Max asked. "What's the point of all this? Just to torment people?"

"That is quite possible, but there may be more to it than that. Consider this. Part of the message of these beings is that Bible-believing Christians are holding mankind back from reaching the pinnacle of their evolution. However, the aliens assure everyone not to worry. One day real soon the Christians will all be beamed up to the

sky and go on to a better place. Then, with all those backward Christians gone, the aliens can come and fix society and usher mankind into a new era."

Laura gasped. "Oh my goodness! Are they really saying that?"

"Yes, young lady, they are. I always wondered how the forces of darkness would explain the Rapture. What lie could possibly hide the truth of the Lord's return for His Church? Now we may know the answer to that. Recent movies like *Skyline* have conditioned people to the idea that aliens may come and beam people up into their motherships. There is an entire community of people – millions strong – who not only believe that aliens and UFOs are real, but also that the aliens are beneficial beings who wish to help mankind. This is just pure conjecture, but suppose that after the Rapture a whole fleet of UFOs appeared in the sky and the aliens announced that the source of mankind's problems had just been removed and the aliens had all the answers. Would the world – which, at that point, would be entirely composed of non-

believers – listen and accept the message? I greatly fear that they would."

"So you think it's all a plot, then," Ashley said.

"I think that's a strong possibility. The increasing UFO activity – and the activity is increasing, as even the news media attests – may simply be demonic preparation for the Rapture. I doubt they know exactly when it will occur, but I suspect that they know, as we do, that the hour of the Lord's return is drawing closer. My fear is that when it does occur the forces of darkness will be ready. God did promise to send a strong delusion to those who refused to believe the truth; I wonder if this could be part of that."

The professor glanced up at the clock. "It looks like that is all we have time for today. Class, you are dismissed. There is no class again until next week. Don't forget to do your reading assignments. I hope that all of you have a good weekend!"

Ancient Aircraft

Professor Grimes knew something was wrong the moment he set foot inside Corliss Hall. Even though it was not yet ten o'clock, it was now early spring and the weather outside was noticeably warm and humid. Inside the building the air was even warmer. *The building's heating and air unit has gone out*, he realized. *Just like it did last year. Maybe they'll finally replace it this time, instead of patching it up and hoping for the best.*

The professor made his way to his classroom and opened the door. A blast of hot, stuffy air hit him. He quickly set his papers down on his desk, then walked over to the windows and opened them. A burst of cool air wafted into the room. He knew that the air wasn't actually cool, but it was so hot inside the room that it seemed cool by comparison. A quick glance at the ceiling

revealed a total lack of ceiling fans. *They'll just have to make do with an open window*, he thought.

Having done everything he could to make the classroom more tolerable, the professor settled down into the chair behind his desk and waited. To his surprise, when the class started ten minutes later he had six students present. True, the students were complaining about the heat. But they were still there. He found it remarkable that the suffocating heat had no effect on how many people attended class. That told him that the attendance issues were not caused by the room's outdated fixtures or somewhat uncomfortable chairs, but by a general sense of apathy. People simply did not want to come to class. He suspected that the only way to increase attendance would be to relocate to a different planet – one where young people were more interested in learning, and less interested in partying all night and sleeping in the next day.

“Good morning, class,” the professor said cheerfully.

Dan spoke up. “It's way too hot to be a

good morning. I am roasting in here."

"As are we all, young man. Consider it an opportunity to build character. After all, air conditioning is a rather recent development. The electrical air conditioner was not developed until 1902. By way of comparison, the Wright brothers did not make their inaugural flight until 1903. In terms of human history, air conditioning is a very recent development. For pretty much everyone who has ever lived, summer was simply a time when people were hot, sticky, and uncomfortable."

"I still don't like it," Dan complained. "I demand the right to be comfortable at all times. This suffering thing is for the birds."

The professor sighed. "Sadly, the modern educational establishment is committed to keeping you comfortable and unchallenged, even at the expense of your education. I shudder to think what would happen if civilization ever collapsed and people were forced to live as their ancestors once did. It would not be pretty."

Max spoke up. "Wait a minute. Are you saying that air conditioning actually predates

flight? I thought air conditioning was a lot newer than that. It might have been invented in 1902, but I bet it wasn't until decades later that most people had air conditioners. It couldn't have been very common back then."

"For that matter, air conditioning is not common *today*," the professor replied. "At least not on a global basis. Only first-world nations are that pampered. The rest of the world is actually cold in the winter and hot in the summer. They experience something called 'seasons'. But, to get back to something else you said, air conditioning does *not* predate flight. I only said that it predated the Wright brothers' flight. There is a difference."

"No there's not," Max said. "Oh, sure, other people claimed to have invented airplanes a few years before the Wright brothers, but they're not able to prove it. There simply aren't any other documented claims of earlier flights. Saying 'I did it first, but I did it privately with no witnesses because that's just how I roll' doesn't cut it. The Wright brothers had the first powered,

controlled, heavier-than-air flight, and that's all that there is to it."

Professor Grimes smiled. "I will agree that, as far as we have been able to determine, the Wright brothers were the first ones in modern history to successfully achieve controlled, repeatable, heavier-than-air flight. However, modern man is *not* the inventor of flight. Ancient cultures were building aircraft thousands of years ago – and that's what we're going to talk about today.

"One thing historians are often guilty of is glossing over or ignoring evidence that does not fit the current paradigm. For example, people today believe that the Wright brothers invented heavier-than-air flight, so when historians read ancient accounts of powered aircraft they dismiss them out-of-hand. Since they've already decided that aircraft couldn't possibly have existed back then, they ignore everything to the contrary and become blind to the copious evidence that actually exists. For example, the ancient Babylonians had a set of laws called the *Halkatha*. One of the

things these laws say is this: 'To operate a flying machine is a great privilege. Knowledge of flying is most ancient, a gift of the gods of old for saving lives.'"

"So?" Max said. "Big deal! I can go out on the internet and find entire papers written on the ethics of time travel. That doesn't mean we have time machines."

"It actually *is* a big deal. Note that the Babylonians did not view flight as a purely hypothetical thing, which is the way we view time travel. In the statement I just read they claimed that flying machines exist; that operating them is a privilege; and that the technology actually predated the Babylonians and came from a much older culture."

"*And* they said it was a gift from the gods," Max pointed out.

"That's an interesting point," the professor agreed. "Throughout history, primitive cultures have tended to describe more advanced cultures in godlike terms. The gap between societies is occasionally so great that the less-advanced tribe assumes it is dealing with some type of superior being.

What the Babylonians were really saying was that the society that invented flight was far more advanced than they were. Interestingly, it is common for ancient cultures to describe those who lived before the Flood as gods, but I'm getting ahead of myself.

“To get back to the subject matter: this is not the only evidence we have that the Babylonians knew something about flight. The Babylonian 'Epic of Etana' actually has a description of flight, and accurately describes what the Earth looks like at different altitudes. Even though the story dates back to 2400 BC, we were not able to confirm its description of what the Earth looked like at very high altitudes until the 1950s.”

“Did the epic actually describe how the airplane worked?” Max asked.

“Unfortunately, no. According to the story the flight was made on an eagle. That would normally discredit the entire episode if it was not for the astonishing accuracy of the story's descriptions. Whoever wrote it really did know how the view of the Earth

changed at different altitudes, including extremely high altitudes that brushed against the edge of space itself."

"Yeah, but – an eagle?" Max said doubtfully. "Seriously? You really think they referred to their supposed aircraft as an eagle?"

"I don't see why not," the professor replied. "After all, the United States named the craft that landed on the Moon the *Eagle*. But this is not the only example we have. The Chaldeans actually did describe how their aircraft worked. The *Sifr' ala* has a lot to say about the construction and operation of aircraft. It even discusses topics such as wind resistance, gliding, stability, and the perils of flight in the winter. Sadly, only fragments of the text have survived, and we don't have enough information to reconstruct the machine that is described in the text. But it was clearly meant to be a treatise on how to build an operate an actual flying machine."

Lora spoke up. "Who were the Chaldeans?"

The professor looked at her, puzzled. "Surely you've heard of King

Nebuchadnezzar, haven't you? He was a Chaldean. They ruled over Babylon in the 6th century BC."

"So they were Babylonians?"

"Yes and no. They did not found Babylon, but they did conquer it and rule over it."

"What's the difference?"

"Suppose that the Chinese army invaded and conquered the United States. Would that make them Americans?"

Lora thought for a moment. "Um, I guess not."

"Quite so. Now–"

"Hold on just a minute," Max said. "How did the Chaldean aircraft work?"

"It's impossible to tell, I'm afraid. Not enough of the manuscript survived. Given that the fragments are about four thousand years old that really isn't too surprising. There is another factor here that is working against us: ancient civilizations viewed flight as a dangerous secret whose knowledge should be suppressed. According to historical records, in 1766 BC the Chinese Emperor Cheng Tang ordered Ki-Kung-Shi to build an airplane. The account tells us that

he succeeded and was able to fly from one province to another, but after he built it the Emperor was so worried that the knowledge might fall into the wrong hands that he had the aircraft destroyed."

"So the secret was lost, then," Lora said.

Professor Grimes shook his head. "Apparently not. In the 3rd century BC the Chinese poet Chu Yun wrote about his experiences flying a jade-colored aircraft over the Gobi Desert. He apparently made an aerial survey of the area. Also, in the 4th century AD the Chinese writer Ko-Hung spoke of a flying machine made of wood that had rotating blades that propelled the vehicle through the air."

"Like a helicopter?" Lora asked.

"Or a propeller-driven plane," the professor replied. "Those also use rotating blades to drive the craft forward. Nor were the Chinese the only ones who reported using heavier-than-air machines. In the same century that Ko-Hung took to the air, the Buddhist monk Gunarvarman flew from Ceylon to the island of Java – a distance of 2,300 miles. A rather remarkable

achievement."

Max spoke up. "This is all crazy! Look. In order to build a heavier-than-air machine you have to have some kind of engine. Building an engine that is light enough to put on a plane, but powerful enough to get it into the air, is not an easy task. The Wright brothers could do it because they were building on the work of the Industrial Revolution. You can't just invent planes from nowhere – you need an industrial civilization first. You can't tell me that the Babylonians and the Chaldeans and the Chinese had industrial civilizations."

"No, you're quite right," the professor agreed. "But I am not claiming that they *invented* the airplane; I am only saying that they *had* them. By way of analogy, the American Indians had guns and rifles, but they didn't invent them – they got them from a far more advanced civilization. The main reason the Indians lost is because they had no manufacturing base. They ultimately depended upon Westerners for their weapons, and when you find yourself depending on your enemy in order to get the

weapons you need to fight them, well, I'm afraid you are doomed. Likewise, I believe that these ancient cultures got the technology for powered flight from someone else.

“In fact, the historical records itself hints at this. There is a manuscript from Nepal that dates back to the 12th century. The manuscript has the gripping name *Budhasvamin Brihat Katha Shlokasamgraha* and is apparently a written record of a story that is much, much older. In this account there is a king who wishes to build an airplane. The court designers attempt to build one, but fail. They tell their king that the only people who can build such things are the 'Yavanas'.”

“Aliens?” Lora asked.

Professor Grimes smiled. “No, I'm afraid not. Yavana is the Sanskrit name for the lighter-skinned people who lived in the eastern part of the Mediterranean. The term itself comes from the name *Javan*, who was one of Noah's grandsons. The descendents of Javan populated Greece and the Mediterranean islands in the centuries after

the Flood. Apparently they were the only ones who knew how to build aircraft. In the story the king managed to get one of the Yavanas to build him a plane. While he did get it, he was never told how it worked. The Yavans kept the plane's inner workings a secret."

"That's sure convenient," Max commented.

"It's actually quite revealing. It would seem that in the ancient world there was a conscious effort to control heavier-than-air technology, much like modern nations try to control nuclear technology. The societies that had that knowledge kept it under tight control and were not interested in sharing it. In fact, it was so tightly controlled that apparently even having a working airplane was considered an unreasonable security risk."

Max shook his head. "Isn't that just a fancy way of saying that we have a lot of hearsay evidence, and that's it? Are we just supposed to take these people's word for it?"

The professor shook his head. "Not at all.

In fact, we actually do have physical evidence. While we have not found any actual working aircraft, we *have* found scale models. For example, in 1898 an odd artifact was discovered in a tomb near Saqqara, Egypt. The artifact dated to around 200 BC. When archaeologists dug it up no one could tell what it was, so they just filed it away and forgot about it. It wasn't until 1969 that someone ran across it again. Dr. Kalil Messiha was cleaning out the museum's basement when he ran across it again, and he immediately realized that it looked very much like a model airplane. There's a picture of it in your textbook, for those who care about such things.

"A research committee was formed to investigate it, and they began their work on December 12, 1971. What they found was quite remarkable. The model's wings are aerodynamically shaped, the model's body is tapered and terminates in a vertical tail fin, and there is a separate slotted piece on the tail – precisely like the back stabilizer of a modern airplane. According to the aerodynamic engineers on the panel the

artifact was designed for flight. Besides its aerodynamic shape, the wing itself was counter-dihedral, which provided a great deal of lift at low speeds. The artifact was apparently a scale model of a cargo plane, and was designed to carry large amounts of cargo while requiring very little power. Unfortunately, we don't know what powered it. The lower part of the tail is jagged, so it's possible there was once something there that was broken off."

"So they found a model," Max said. "Big deal."

The professor shook his head. "They have not found *a* model. So far they have found a total of *14* models in various tombs throughout Egypt. This means more than you think. As you may recall, Egyptian tombs were filled with models of things that existed in real life. If they placed *models* of aircraft in their tombs, one is left with the very real possibility that the Egyptians had *actual life-sized aircraft as well*. It should be noted that the model was very well designed; the experts who investigated it remarked that a lot of thought and knowledge had been put

into it, and it was obviously the result of a great deal of experimental work. Whoever built it knew what they were doing and had built other aircraft before."

Max shrugged. "It's impressive, I'll admit, but not that impressive. Didn't you say it was designed to fly at low speeds?"

"About 60 MPH," Professor Grimes replied.

"Exactly. So we're not talking about high-performance supersonic aircraft. The average car can go faster than that."

"In the case of the Egyptians, you are correct. But other artifacts have been found as well. For example, a small artifact was discovered in northern Columbia and is attributed to the Sinu civilization – a pre-Inca culture that lived between 500 AD and 800 AD. Once again, there is a picture of it in your textbook. As you can see, the artifact looks very much like an aircraft. This aircraft, though, was apparently a tail-engine jet, designed to fly at supersonic speeds. It has deltoid wings with straight edges, the wings are at the rear of the craft, and the wings tilt downward slightly – a feature specific to

high-powered, high-performance aircraft. Another fascinating detail is that on the tail of the plane is an insignia that is on the left face of the rudder – precisely where you can find identification marks on many modern aircraft. What's especially remarkable about the insignia is that the letter on the tail was not Columbian, but the Hebrew letter 'beth' – indicating that the plane was not built in Columbia, but in the Middle East. It's also worth noting that *six* of these models have been found, with the same aerodynamically designed fuselage, wings, and triangular rudder."

"But that doesn't make sense!" Max complained. "Even *today* there are many countries that can't make high-performance supersonic aircraft. You can't tell me that back in 500 AD there was some guy in the jungle cranking out jet engines. That's preposterous! Now, I can buy the Egyptian plane story. If the Wright brothers were able to build a dinky little engine in their bicycle shop then maybe somebody else, somewhere else, could do the same thing. All the Egyptians had was some low-

powered plane that didn't go very fast. But a supersonic jet is a whole other story. *Nobody* had that capability before the 1940s. If they did they could have ruled the world."

"And yet the Sinu artifact still exists," the professor pointed out. "Keep in mind that these artifacts are not forgeries. Aside from a total lack of evidence of fraud, there is the rather telling fact that the artifacts were discovered *before we knew how to make those kind of planes*. The Egyptian artifact wasn't even recognized until decades later because when it was found heavier-than-air flight didn't exist! Yet, you do have a point. Whoever built the Sinu model was clearly familiar with high-performance aircraft. Since it is *highly* unlikely that the Sinu people could have built it themselves, the only other alternative is that they came into contact with a civilization that could.

"I would also like to challenge the idea that supersonic technology was too difficult for ancient civilizations to master. It is true that they most likely couldn't have built jets *the way we build them today*. A modern jet engine is a remarkably complex thing. But

why are we assuming that they solved the problem the same way we did? The historical accounts we've discovered that describe how ancient aircraft work reveals a completely different technique."

"Hold on," Max said. "There are *more* ancient accounts of aircraft?"

"Actually, yes. In–"

"So not only have many ancient cultures claimed to have built aircraft, and not only do accurate models of ancient aircraft exist, but we even have their manufacturing documents? Why haven't I heard about this before?"

"Isn't it obvious?" Professor Grimes asked. "We've talked about this before. The idea that ancient cultures had aircraft goes against the prevailing paradigm, so of course all information that supports it is buried and ignored. There is likewise copious evidence that dinosaurs and man lived together, that pterodactyls were common in Medieval Europe, and that ancient Colombian cultures actually tamed some dinosaurs and used them as beasts of burden. I even wrote a book on that very subject. Yet you will never

see any of this evidence on TV or in the papers. The powers that be have decided that man and dinosaur did *not* live together and so, therefore, any and all evidence to the contrary can be simply dismissed. All evidence that goes against their theory is rejected, on the grounds that if it disagrees with their theory it *must* somehow be wrong, phony, or fraudulent."

The professor sighed. "People today have no idea how science works. What *should* happen is that if evidence is found that disproves the theory, the *theory* should be thrown out. Instead it is the *evidence* that gets rejected. It is utter and total insanity, but it is the way things are today. People do this just as often in the hard sciences of biology and physics as they do in history and economics.

"But to get back to my point. There is an ancient Hindu text called the *Samaranga Sutradhara*. The text dates back to the 11th century, but it's apparently a compilation of documents that are far older than that. One of the things the text contains is information regarding flight. It actually goes into a great

amount of detail, covering everything from how the flying machine was powered, to the type of clothing pilots should wear, to what pilots should be fed. The text discussed aircraft design, function, and performance. The details are quite fascinating; you can read them in your textbook. The part that I want to focus on is the source of power for these aircraft. According to the text, the airplane was powered by 'the energy latent in mercury'."

"Mercury?" Max asked. "As in, the atomic element mercury? *What* energy latent in mercury?"

"That is another excellent question! As it turns out, ancient alchemists thought very highly of mercury. Isaac Newton believed that it was an element of immense power. He once said this: 'Because of the way by which mercury may be impregnated, it has been thought fit to be concealed by others that have known it, and therefore may possibly be an inlet to something more noble, not to be communicated without immense danger to the world.'"

"Mercury may be impregnated?" Lora

asked, puzzled.

“In this context 'impregnated' means that mercury may be filled with energy. Either that, or something can be done to mercury to extract energy from it. Newton saw mercury as a tremendous source of energy and power. In fact, Newton thought that mercury immensely dangerous – so dangerous that the world itself would be in danger if anyone ever found its secret. Apparently he did a good job of hiding it because no one in the modern world has any idea how mercury could be used to power anything.”

Max spoke up. “Now hold on. If we can't do it, doesn't that mean it probably can't be done?”

“Why would you think that?” the professor asked. “Do you believe that we know all there is to know?”

“C'mon, professor! There are, like, 7 billion people in the world today. If it could have been done someone would have done it by now. I find it really hard to believe that mercury could have some amazing properties that no one has ever discovered.”

“Really? Did you know that when superconductivity was first discovered, no one had any idea why it worked? In fact, even though the phenomenon was discovered in 1911, no one was able to explain why it worked until 1950. Even the theory that they finally came up with only explains some aspects of it, and there are some types of superconductivity that cannot be explained *today*. We know it works and we can demonstrate it, but we don't really know why it works – and that's despite all of our technology, and despite the fact that it has been studied by some of the most brilliant minds in the world. People are *still* earning Nobel prizes over this.

“By comparison, how many people are trying to use mercury as a power source? In the ancient world the answer was 'a lot'; in the modern world the answer is 'pretty much zero'. Since Newton didn't record how the process worked, we dismiss the entire thing as a hoax – even though Newton is possibly one of the top five most brilliant men of all time. He was no fool. Just because we can't do it doesn't mean it can't be done.

It's quite possible that the reason we can't do it is because we're not trying."

"Ok, fine," Max said. "But there's a bigger issue here. You say that the Egyptian airplane was the product of a lot of earlier design work. I'm sure that applies even more to the Sinu one. After all, nobody starts out by building a supersonic aircraft. But you can't tell me that the Egyptians and the Colombians invented airplanes. Where did the technology come from? From the mysterious Yavanas?"

Professor Grimes shook his head. "I think it's a bit older than that. You were quite right when you pointed out that an invention as complex as powered flight requires an advanced civilization. I think that all of this technology originally came from the pre-Flood world. When the Flood happened Noah probably preserved as much technology as he could. It's worth noting that all of the animals he took with him would have taken up only 1/3rd of the Ark. That leaves plenty of room for lots of other things. I doubt he had enough room take an actual aircraft, but he certainly could have

taken blueprints, documents, books, and so forth."

"Are you serious?" Max asked.

"I am perfectly serious. It makes sense. Ancient cultures attributed their knowledge to the Yavanas, who were descendents of Noah. If the Yavanas did not invent flight themselves then they must have got it from an earlier civilization. That points directly to the pre-Flood world. It's worth noting that 16 centuries passed between Adam and the Flood. Those people were not dummies. Genesis 4 tells us that in the lifetime of Adam they developed farming, animal husbandry, music, and could work brass and iron. In the space of less than 9 centuries they went from absolutely nothing to the Iron Age. The Bible doesn't tell us what they did with the next 7 centuries, but it's worth noting that it only took the West about 4 centuries to go from the Medieval period to what we have today. Given the immense lifespans that people had back then, the pre-Flood world could easily have surpassed ours. It's impossible to know exactly how far they got, but the few pre-Flood artifacts

we've found are intriguing. They indicate a rather sophisticated degree of technology."

"What pre-Flood artifacts?"

"Well, take the Coso artifact, for example. It was discovered on February 13, 1961 by a man named Mikesell in California. He was out hunting for rocks one day, and when he cracked open one of his finds he found a curious metal object inside the rock. When the artifact was examined people realized that it looked a lot like a spark plug. There's a picture of it in your book, for those who are curious. Conventional dating techniques claim that the artifact is about a half-million years old, which is preposterous. But it could easily have come from the pre-Flood world. If that ancient civilization did have spark plugs then that says a great deal about their technological capabilities. There have been a number of other fascinating items, found encased in rocks and coal deposits, that offer glimpses at that lost world. It is entirely possible that it was as advanced as our own. That, however, is a topic for another time."

"As advanced as our own?" Max asked.

“Isn't that going a little too far?”

“Do you not remember what Solomon wrote in the book of Ecclesiastes? 'The thing that hath been, it is that which shall be; and that which is done is that which shall be done: and there is no new thing under the sun. Is there any thing whereof it may be said, See, this is new? it hath been already of old time, which was before us.'”

“Yeah, but he was speaking metaphorically,” Max replied. “I mean, come on. You can't tell me that Noah had an iPhone and watched basketball games on his 73” HDTV.”

The professor shook his head. “You are confusing the implementation of an idea with an idea itself. The ancients may not have had an iPhone, but they might have had an effective method of long-distance communication. Very little survived the Flood, so all we can do is look at the technological capabilities of the civilizations that immediately followed it. What we find is remarkable. We've spent today's class discussing airplanes, but there is a great deal more. There is quite a lot of evidence that

ancient civilizations had mastered nuclear power and even possessed nuclear weapons. It is possible that they were able to create plutonium. That, however, is a topic we will explore later.

"Modern man thinks a great deal of itself. We assume that we are the very pinnacle of knowledge and wisdom, and that all those who came before us were savages. We ignore the very real evidence that we are not the first ones to travel down this path. There was another civilization that came long ago – the first civilization. They, too, dominated the world. They, too, had tremendous knowledge and power. However, they were utterly corrupt and evil, and the Lord came and destroyed them. Their great technology did them no good when the Lord God reigned down judgment upon them.

"History is about to repeat itself. For the second time mankind has created a high-technology civilization. For the second time mankind has dominated the entire globe. And also, for the second time, mankind has become utterly corrupt and evil. We will

soon be at the point that Genesis 6 describes, when 'the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually'."

"So?" Max asked.

"As Jesus said, 'But as the days of Noah were, so shall also the coming of the Son of man be.' We are rapidly approaching the point when mankind has returned to what it was like in the days of Noah – if we are not already there. According to history, and according to the words of Jesus Himself, the next thing that happens is the return of an angry God who judges the world for its transgressions and wipes out the prevailing civilization. I fear that we are rapidly approaching that point. Mankind has achieved great heights before and was thrown down to the ground for its wickedness. Do not think that it cannot happen again."

The professor looked up at the clock. "I see that's all the time we have for today. Class, you are dismissed! Don't forget your reading assignments. See you next week!"

Ancient Nuclear Warfare

Professor Grimes walked into the classroom precisely ten minutes before his lecture was scheduled to begin. The room was hot and stuffy, but over the past few days he had grown used to the heat. He did notice that whoever had taught the previous class had taken the liberty of opening the windows. Sadly, the small amount of air that was coming in from outside was not nearly enough to make any noticeable difference. It was hot inside and it was hot outside, and until the school fixed the heating and air unit nothing was going to change.

This time, however, the professor was prepared. After placing his papers on his desk he walked back into the hallway and wheeled in a large, rotating fan. He pushed it across the classroom and then plugged it into the wall. The fan immediately came to life and began circulating the hot air

throughout the room.

“Is that really going to help?” Dan called out.

“Yes and no,” the professor replied. “The fan is unable to actually reduce the ambient air temperature. However, by circulating the air, the fan will make it appear cooler than it actually is. The result should be a net improvement, albeit a marginal one.”

“Well, it's better than nothing, I guess. But when are they going to have the air conditioner fixed?”

“I talked to the Dean about it yesterday. Apparently they are having to replace the entire unit, which is a significant undertaking. They are supposed to have a new unit in place sometime on Friday, but we will see how that goes. Regardless, the situation should be resolved by Monday.”

“Monday! What do you mean, Monday? I can't wait until Monday! This unbearable heat is killing me. It's cruel and unusual punishment.”

“It is 82 degrees outside,” the professor replied. “If it was 130 then I might have some sympathy for you. If you find the heat

uncomfortable then I suggest you take your mind off the weather by doing your assigned reading. If you start completing your assignments you just might have a chance at passing this class."

Dan grumbled, but didn't say anything else. The professor settled down into his chair and waited. At precisely ten o'clock he stood up to begin speaking. He noticed that five students had shown up. The class was down one person from last time, but it was still within the accepted average.

"Welcome to Paranormal Studies 313," the professor announced. "My name is Grimes, and I have been teaching this course for the past several months. We have embarked on a exploration of topics that are outside the generally accepted wisdom, and are covering subjects that rarely get covered – or, at least, are rarely covered in an intelligent manner. Today we are–"

"Hold on," Ashley interrupted. "I'm lost. You already said all that stuff weeks ago! Are we starting over or something?"

"No, we are not. This class still has a number of weeks left before the finals."

“Then, like, why are you welcoming us all over again?”

“Because I think the entire class has forgotten that they are actually taking this class. In our last session everyone's midterm essay was due, but not a single person turned it in. I thought I would take a moment to remind everyone that yes, I am your professor, and yes, you are in my class.”

“Oh,” Ashley said, startled. “I guess I kinda missed it.”

The professor nodded. “Yes, I guess you did! Given that the essay was 30% of the final grade, I am not sure how any of you are going to avoid total and abject failure. But I suppose that is your concern, and not mine. I am just staggered at how easy it is for people to overlook things that they do not wish to see. Things of enormous importance, with staggering consequences, can be easily missed if it is something that people do not want to think about.”

“I just kinda forgot about it,” Ashley replied.

“So it would seem! And you somehow also overlooked the email I sent to you, and

the message I posted on my blog, and the voicemail I left on your phone, and the post I added to your Facebook wall, and the warning in your syllabus that the essay was due. I have to say that I am impressed! It must have taken a great deal of effort to somehow overlook all of that evidence.

"But I'm actually not talking about forgotten essays today. What really astonishes me is how mankind has managed to overlook a global nuclear war."

"Well, I don't actually watch the news very much," Dan said vaguely. "I probably miss a lot of things."

"I'm not talking about a *modern* nuclear war," the professor replied sharply. "I'm fairly certain that if the Russians nuked this nation into oblivion even *you* would notice. The lack of electrical power, the disappearance of cities, and the fact that the radiation fallout killed all the survivors just might tip you off. I probably wouldn't even have to send you a text message about it. No, I'm talking about an *ancient* nuclear war – one that was fought long ago."

"In the 1940s, right?" Ashley asked.

“Wasn't there some big war with Germany or something? I think maybe Hitler was involved.”

The professor sighed. “In World War II the United States dropped two atomic bombs on *Japan*, not Germany. Hitler had his own nuclear program but the Allies successfully sabotaged it and he was unable to make any progress. The United States might have dropped the bomb on Germany as well but their part of the war ended before it was ready – which was probably a good thing, because the country only had two atomic bombs and it dropped both of them on Japan. If those had not been enough to end World War II there would have been big, big problems because there was no quick way to make more. But no, that's not the war I'm talking about. I'm referring to a much older nuclear war – one that was fought more than a thousand years before Christ was born in Bethlehem. That is going to be the topic of today's lecture.”

Max spoke up. “Look, professor. I've been here long enough to know how this works. You walk into class, say something

completely bizarre, and then somehow dig up enough evidence to make your case. But do you have any idea how crazy you're making us look?"

Professor Grimes looked up from his notes, startled. "What on earth are you talking about?"

"Think about it for a minute. In our last class you told us that the ancient Egyptians had airplanes. Remember? Well, do you have any idea what other people say when you walk up to them and tell them that? It does *not* go over well. Nobody believes that they had airplanes back then. I don't care how convincing you are when you're in this room – out there, in the real world, people think that you're nuts."

"And this comes as a surprise to you?" the professor asked. "Really, Max, I expected more of you. Did you really not know how people would respond? Did you honestly believe that you could just walk up to someone, drop a bombshell like that on them, and not get laughed at? The world doesn't work that way. In fact, the world has *never* worked that way. The things that

we've been discussing in this class are a direct challenge to people's preconceptions. If you really want to change someone's mind you have to take them through the chain of evidence. You can't start at the end; you have to start at the beginning. You have to hold their hand and take them step by step, guiding them from one fact to the next until they arrive at the conclusion all on their own. You *cannot* just dump a conclusion on them and expect them to believe it."

"And that will work?" Max asked. "If I do it that way people will believe me?"

"Goodness, no. That approach only works on *rational* people – that is, people who are capable of reason. People like that are in very short supply. You're far more likely to run into people who don't really care about reality and who form their beliefs based on emotions and peer pressure. Your only hope of persuading them is to get to them before anyone else does. If you run into someone who has never thought about crop circles before, then the chances are good that they'll accept whatever you tell them. People tend to believe the first thing

they're told, and then they hold onto that opinion no matter what. However, if someone else got to them first then it's hopeless. You can't reason with insanity.

“But as I was saying, today we are going to talk about global nuclear war. Now, before I begin I need to qualify that statement. There is a great deal of evidence that ancient cultures attacked each other with nuclear weapons. However, we don't know the exact timing of these attacks. It is possible that the ancient world powers wiped each other out in a single, massive war. It is also possible that there was a series of isolated nuclear conflicts over a longer period of time. What we do know is that nuclear weapons were used in war, they were used all over the world, and apparently quite a few of them were deployed.”

“See, that's what I'm talking about,” Max said. “Do you know what other people are going to say when I repeat that?”

“Then don't repeat it,” the professor said. “Cast not your pearls before swine, young man. I never claimed that you would be able to take what you've learned in class

and discuss it at dinner with your friends. I only claimed that I would lead you to the truth, and that the truth would be uncomfortable and unsettling. But I have to say you're acting a bit strangely. Aren't you supposed to be objecting to my outlandish claims?"

Max shrugged. "Why bother? It never does any good. I mean, it's not like you're going to say 'Oh, wow, I guess I was wrong. Sorry about that. Class dismissed.'"

The professor smiled slightly. "Quite so. So you *do* believe that ancient cultures used nuclear weapons?"

Dan spoke up. "If we all say yes, will you let us leave class now?"

"Good heavens, no! This isn't about your agreeing with whatever I have to tell you. The whole point of this class is for you to see the evidence and then draw your own conclusions. How can you draw conclusions if you haven't seen the evidence?"

"Isn't it all our textbook?" Ashley asked.

"Have you read actually read your textbook?"

"Um, not exactly."

“Then, clearly, it is up to me to present the material. We will start, as we typically do, with a look at the historical documents. There is an ancient Hindu poem named the *Mahabharata*, which dates back to 500 BC. However, the events described in the poem actually took place one or two millennia before than that. For what it is worth, the poem is extremely long, and the section I am interested in is a small part of the overall poem.”

“What's that got to do with anything?” Max asked.

“It is just something to keep in mind,” the professor replied. “I tend to place more weight on something that is part of a larger text, and less weight on something that is all by itself. Being part of a larger document gives it more context. Anyway, the poem describes an 18-day war between the Kauravas and the Pandavas, who once inhabited the portion of India that is north of the Ganges river. One part of the war was described as follows:”

The valiant Adwattan, remaining

steadfast in his Vimana [an “aerial chariot with sides of iron, clad with wings”], landed upon the water and from there unleashed the Agneya weapon, incapable of being resisted by the very gods. Taking careful aim against his foes, the preceptor's son let loose the blazing missile of smokeless fire with tremendous force. Dense arrows of flame, like a great shower, issued forth upon creation, encompassing the enemy. Meteors flashed down from the sky. A thick gloom swiftly settled down upon the Pandava hosts. All points of the compass were lost in darkness. Fierce winds began to blow. Clouds roared upward, showing dust and grave. Birds croaked madly, and beasts shuddered from the destruction. The very elements seemed disturbed. The sun seemed to waver in the heavens. The earth shook, scorched by the terrible violent heat of this weapon. Elephants burst into flame and ran to and fro in a frenzy, seeking protection from the terror. Over a vast area, other animals residing therein also died. From all points of the compass the arrows of

> flame rained continuously and fiercely. The missile of Adwattan burst with the power of thunder, and the hostile warriors collapsed like trees burnt in a raging fire. Thousands of war vehicles fell down on all sides.

The professor then glanced up from his notes. “There are several striking things about this passage. First, note the presence of the 'vimana' – a vehicle that strongly resembles modern airplanes. Since we just spent an entire class discussing ancient aircraft I will move on. Second, note the tremendous power of the 'blazing missile of smokeless fire'. That one missile caused tremendous damage: the earth shook, animals burst into flame, and 'hostile warriors collapsed like trees'. Notice, also, that the passage mentions the weapon's 'terrible violent heat'. A single missile caused tremendous devastation over a large area and was characterized by violent heat. That sounds remarkably like a nuclear missile.”

“Or it could just be a myth,” Max commented. “How do we know any of this

actually happened?"

"I'll get to that in a minute – we're not quite done with the written evidence yet. What I just read was only one account. After this particular war there was a second one, fought against the Vrishnis and the Andhakas. This is the account of that battle:"

> Gurkha, flying in his swift and powerful Vimana, hurled against the three cities of the Vrishnis and Andhakas a single projectile charged with all the power of the universe. An incandescent column of smoke and fire, as brilliant as ten thousand suns, rose in all its splendor. It was the unknown weapon, the iron thunderbolt, a gigantic messenger of death which reduced to ashes the entire race of the Vrishnis and Andhakas. The corpses were so burnt that they were no longer recognizable. Hair and nails fell out. Pottery broke without cause. Birds, disturbed, circled in the air and were turned white. Foodstuffs were poisoned. To escape, the warriors threw themselves into streams to wash themselves and their equipment. With

> the destruction ended, the Kuru king, Yudistthira, was informed of the power of the iron thunderbolt and the slaughter of the Vrishnis.

The professor looked up at the class. “Need I point out the remarkable similarities between the effects of this weapon and the effects of an atomic blast? It's all there, right down to hair falling out.”

Max shook his head. “It's actually *too* similar, if you ask me. How do you know this manuscript isn't some kind of modern forgery?”

“Because European scholars began studying the manuscript in the *nineteenth* century, long before the effects of radiation were known. At that time the manuscript was classified as a myth because no one believed that flying machines were possible. At the dawn of the 20th century, however, opinions began to change. This is what physicist Frederick Soddy had to say about the poem in 1909:”

> Can we not read in them some

> justification for the belief that some former forgotten race of men attained not only to the knowledge we have so recently won, but also to the power that is not yet ours? … I believe that there have been civilizations in the past that were familiar with atomic energy, and that by misusing it they were totally destroyed.

"It was easy to see why he believed this," Professor Grimes continued. "The poem accurately depicted not only flying machines and modern warfare, but – as was later proven – the effects of radiation and the power of an atomic bomb. Whoever wrote this knew exactly what sort of devastation nuclear weapons wrought, knew exactly what an atomic detonation looked like, and knew it *thousands of years* before modern science. I don't think this is a myth or a lucky guess. I believe the author was describing something that actually happened."

"But how do we *know* that it happened?" Max asked.

"Well, there are a few interesting bits of

evidence. First of all, ancient Sanskrit books have some odd units of measurement. There is the *kalpa*, which is used to denote a period of 4.32 billion years. There is also the *kashta*, which is equal to 0.00000003 seconds. I find it fascinating that a civilization that existed thousands of years ago, and which lived in the same part of the world that recorded a nuclear war, found it necessary to invent words for those units of time. There aren't a whole lot of things that you can measure with those units, but the half-lives of isotopes just happens to be one of those things. It's the sort of unit that would only be useful if you're studying nuclear physics.

"But, of course, there is more. As you may recall, the excerpts I read earlier discussed a war that took place in northern India. As it turns out, there are actually extensive ruins in that very area. These ruins are quite old and are curiously charred. Some kind of intense heat actually melted the ruins and fused the very stones together. Further to the south one finds more vitrified ruins. The walls, buildings, and even the

stone furniture have been melted and then crystallized. According to the Russian researcher Gorbovsky, a human skeleton was discovered in that area whose radiation level was 50 times greater than normal.

“In other words, in the precise region of India where ancient records said a nuclear war was once fought, we find evidence of precisely that. Nor is this the only part of the world where we find such things. Not far from where Babylon once stood are the ruins of an ancient ziggurat. This is how researcher Erich von Fange described it: 'It appeared that fire had struck the tower and split it down to the very foundation... In different parts of the ruins, immense brown and black masses of brickwork had [been] changed to a vitrified state... subjected to some kind of fierce heat, and completely molten. The whole ruin has the appearance of a burnt mountain.'”

Max spoke up. “So, what, someone nuked a ziggurat? Why would they bother?”

“They didn't just nuke a random ziggurat. Apparently nations in the ancient world nuked everything in sight. In 1952

archaeologists in Israel found a layer of fused green glass that was a quarter of an inch thick and covered several hundred square feet. It looked exactly like the layers of vitrified sand that were left behind by the Nevada nuclear tests of the 1950s. Another layer of glass was found in the 1940s in southern Iraq – not far from Babylon, and not far from that ziggurat. The layer was below the Babylonian, Sumerian, and Neolithic cultural levels, meaning it predated them all. And there is more. In the western Arabian desert there is an area strewn with black rocks that appear to have been subjugated to intense radiation. There is not one, or two, but *28* of these fields, and they cover an area of *seven thousand square miles*. Another expanse of green glass was found in the Sahara Desert and in the Gobi Desert. Plus, prehistoric forts in Europe–"

"All right, all right, we get the picture," Max interrupted. "So there's lots of green glass everywhere. We get it."

"Do you?" the professor asked. "It may mean nothing to you, but it had a rather profound impact on others. When Dr.

Oppenheimer, one of the men in charge of the Manhattan Project, was asked if the Alamogordo nuclear test was the first atomic bomb to ever be detonated, he said, 'Well, yes, in modern history.' When Albion Hart was assigned to an engineering project in Africa, he was surprised to find a great expanse of fused green glass out in the desert. He had no idea what it was – until years later, when he went to the White Sands atomic testing grounds. There he saw the same type of curiously fused sand that he had seen in Africa."

The professor looked around the class. "I really want you to understand the scope of all this. We've already mentioned the evidence for nuclear conflict in ancient India, in upper Africa, in the Middle East, and in Europe. But that is not all. The same type of fused sand, and the same type of vitrification, has also been found in China, in Scotland, in Peru, in Brazil, and even in the American Southwest. Evidence has been found in Southern California, in Arizona, and in Colorado. The American Indians recorded it in their oral traditions, just as the Hindus

recorded it in their writings. In other words, there is evidence that nuclear weapons were used *all over the world*, and were used to destroy *numerous* ancient civilizations."

Max spoke up. "So you think it was a global nuclear war?"

"I don't know. As I said earlier, it's possible that all of these civilizations attacked each other, but it's also possible that we're dealing with a large number of small, local wars. Not enough work has been done to pinpoint the exact time these long-extinct civilizations disappeared. Four thousand years have come and gone since then. At this late point in history it's simply hard to say with any certainty."

"So where did all of these nuclear weapons come from?" Max asked. "I mean, isn't it kind of hard to build a nuclear weapon? As in, *really* hard? I can maybe, just maybe, believe that an ancient culture could figure out how to build a supersonic airplane. It's a pretty big leap, but maybe they had some clever way to do it. You've got to admit that nuclear weapons are *way* harder to build than jets. Refining uranium is

one of the hardest things in the world to do."

"Technically, you don't refine it. The term is 'enrichment', and yes, it is quite challenging. At least, it's challenging if you do it the way *we* do it. Modern man has developed a rather idiotic brute-force approach. There is evidence that ancient man had a much better way of doing it."

Max spoke up. "Let me guess – you found more fragmentary manuscript evidence that provides hints while saying nothing of consequence?"

"Goodness, no," the professor replied. "We've found the actual nuclear reactor that they used to produce their fissionable materials. It was discovered–"

"Wait a minute," Max interrupted. "Hold on. You did what?"

"Well, I didn't discover it personally. It was actually discovered by the French. You see–"

"But they found an actual nuclear reactor built by a long-lost civilization? I mean, seriously? That is, like, a thousand times cooler than finding an ancient airplane! This is big – really, really big. Why

haven't I heard about it?”

“Because it was discovered forty years ago,” the professor replied. “It was found west Africa back in 1972. That would put the discovery well before you were born. I assure you that when it was discovered it was very big news indeed. There's actually an interesting story behind it. You see, one day a French analyst was processing some uranium and noticed that the ore's ratio between uranium 235 and uranium 238 was wrong.”

“So?” Ashley asked. “What's the difference?”

“The difference is quite large. Uranium 238 is by far the most common isotope, but it's not particularly useful. Uranium 235 is what you need in order to produce a weapon. There is very, very little uranium 235 in nature. In a given sample more than 99% of it will be U-238, and less than 1% will be U-235. That is why people have to go to such lengths to enrich it. Anyway, the Frenchmen noticed there was far less U-235 than there should have been. Something, somehow, had consumed most of the U-235

out of the sample. They eventually traced the problem back to the Oklo uranium mine in Gabon. It turns out that a very long time ago, someone had turned the entire mine into a giant nuclear reactor – and not just any kind of reactor, but a *breeder* reactor. The reaction was moderated by water and produced plutonium. Unlike modern reactors, however, this one used rock layers and the surrounding geology to do all the work. No fancy equipment or electronics were needed. The reactor was several miles in length and was more than 100 feet wide."

"Hey, now that you mention it I think I heard about that," Max commented. "Didn't scientists decide that it was just a naturally occurring reactor?"

"That is precisely what the scientific establishment said, and it is complete and utter nonsense. Nations all over the world have spent vast fortunes trying to create fissionable material. It took some of the brightest minds in the world to figure out how to create and control the first nuclear chain reaction. Yet we're supposed to believe that this highly advanced reactor,

which is actually better designed and far larger than anything we have today, is just a happy accident of nature? This may come as a shock to you, but Nature does *not* have happy accidents that produce *plutonium* or that result in *carefully moderated and controlled nuclear reactions*. Fissionable material is extremely difficult and expensive to create. No, this reactor was *designed* – created thousands of years ago by ancient man, for the express purpose of producing fissionable material. That material was later used to create atomic weapons, devastate the globe, and wipe out civilization. It has taken us four millennia to rediscover what they knew.

"Modern man is convinced that the only way to do something is the way we're currently doing it. When we enrich uranium we use expensive equipment, computers, and high-tech gadgets. The ancients used layers of rocks and water – and operated on a vastly larger scale. When we build buildings we use wood, bricks, or steel. The ancients used giant blocks of stone weighing dozens or, in some cases, hundreds of *tons* –

rocks so large that it is all but impossible for us to move them even today. I bet there's not a single modern skyscraper that will last a thousand years, but the pyramids – built by supposed primitives – have already lasted four times that long. We think that we're really something, but we're not. The ancient races were far smarter than we are. They could do amazing things *without* our technology, as the Oklo reactor proves. We essentially have to use machines and money to make up for our own stupidity."

"That seems kind of harsh," Ashley said.

"Does it? Stop and think. Ancient civilizations, four thousand years ago, were able to produce *plutonium* using only rocks, water, and nuclear chemistry. They required no machines, no computers, and no equipment of any kind. They were the brilliant ones. We have to use machines to accomplish things by brute force, because apparently we've lost the ability to find clever ways to solve problems."

The professor sighed. "It looks like that's all the time we have for today. Class, be sure–"

“Hold on,” Max said. “Aren't you forgetting something? Aren't you supposed to warn us about the dangers of global nuclear war?”

“Why would I do that?” the professor asked, as he gathered up his notes. “Are you unaware of the dangers?”

“Well, no, but–”

“Do you actually control any nuclear weapons?”

“Well, no,–”

“Then there's really not much you can do about it, is there? I might as well warn you about the dangers of the Sun exploding. If it happens I am sure you will notice, and the odds that you will survive it are quite slim. Even if you somehow survive the blast and avoid the radioactive fallout, I find it extremely unlikely that you could survive the collapse of civilization itself.”

“But–” Max stopped. “Look. Isn't there a point to be made here? I mean, what you're telling us is that ancient man was really super smart, but they destroyed themselves in a nuclear war. They passed along some of their knowledge to the cultures that

survived, like airplanes and such. Now here we are again, with all this technology, and we're once again threatening each other with nukes. Doesn't it sound like history is going to repeat itself?"

Dan spoke up. "Oh, c'mon, let it go! The professor was done. Why are you dragging this out? Don't you realize how hot it is in here?"

The professor smiled. "Patience, young man! Max has asked a reasonable question. The answer is no, history will not repeat itself. Not quite that way, at any rate. Yes, I believe that nuclear weapons will be used again. It is quite likely that in the next few decades Israel will get into one or more conflicts with its neighbors – perhaps Iran, perhaps Syria, or perhaps even Russia – and nuclear weapons may be used in one or more of those conflicts. It's even possible that when the Tribulation begins and the Antichrist begins his war against the rest of the Earth, that nuclear weapons might be used in that conflict. Certain passages in Revelation are suggestive, but not definitive. But mankind is not destined to destroy itself

with nuclear weapons, as it did four thousand years ago. No, the next time civilization is destroyed it will happen because the Lord God has decided that enough is enough, and rains down judgment on a wicked and unrepentant world. After His judgments wipe out more than half of mankind and make the Earth pretty much uninhabitable, He will return, end the reign of the Antichrist, and set up His own kingdom, which will never be destroyed. That is the way that will play out.

"Anyway, as I was saying, be sure to read the next chapter of your book before we meet again. Class dismissed!"

Who Discovered America?

“Good morning, class,” Professor Grimes said brightly. “I trust you're enjoying the new heating-and-air unit that our tireless maintenance crew just installed.”

“Yeah, it is kind of nice,” Dan agreed. “Things are back to the way they should be.”

“Indeed they are! Thanks to the wonders of modern science, you can now discuss the weather while being largely immune to it. You can now talk about the oppressive heat and humidity while sitting in 70-degree rooms and sipping cold beverages.”

“Hey now, professor! That's not fair. I mean, we still have to go outside sometimes. My next class is in the music building. It's, like, a three minute walk.”

The professor shook his head. “My dear boy, I feel sorry for you. To think that you will have to spend three agonizing minutes outside, on a beautiful sunny day when the

temperature is in the low 80s and there is a cool wind blowing! Your suffering clearly knows no bounds. I will have to speak with the Dean and see if we can get underground tunnels built on campus so that you are never forced to see the sun."

"That would be totally awesome," Dan said enthusiastically.

Professor Grimes sighed. "Would it? Hmmm. If that's the case, then I sincerely hope that the robot uprising will happen sooner rather than later. Mankind is rapidly becoming unable to do much more than sit on couches and watch television. If robots don't take over the world soon I don't know how civilization will survive."

"Do you really think that robots are going to take over the country?"

"They'd better," the professor replied. "Our future depends on it. If they don't then we're in a lot of trouble. It's practically impossible to find someone who knows how to repair broken plumbing. I was hoping that robots would rise up and step into the gap. At any rate, that is a topic for another time. Today we are here to discuss who discovered

America."

"Was it robots?" Lora asked.

"No, young lady, it was not. We can safely rule out robots. Are there any other guesses?"

Ashley spoke up. "It was the Indians. Right?"

The professor nodded. "I think it is safe to say that the ancestors of the Native Americans did discover North America. As far as I know their presence on this continent is undisputed. The question is, who *else* discovered America?"

"I think it was Christopher Columbus," Ashley replied. "Columbus said the deep blue sea in fourteen hundred and ninety three."

"I'm afraid not. Columbus actually discovered America in 1492. According to the historical record, land was first spotted on October 12, 1492, around two in the morning. Technically the first person to spot land was not Columbus himself but Rodrigo de Triana. Now, Columbus did claim that he saw land earlier and just didn't tell anybody; you can make of that what you will. But the

year was definitely 1492, not 1493."

Ashley frowned. "But that doesn't rhyme!"

"That is because you are using the wrong rhyme. Columbus said the ocean blue in fourteen hundred and ninety two."

"Oh," Ashley replied. "I guess that works too."

The professor sighed. "As I was saying, it is generally accepted that the Native Americans were the first to discover what is now considered North America. They took up residence at some unknown point in the past and then populated the continent. Much later, in 1492, a Genoan named Columbus–"

"A what?" Ashley asked. "I thought he was from Spain."

"No, I'm afraid not. Spain financed the voyage, but Columbus was actually from the Republic of Genoa. As I was saying, he is credited for discovering North America but–"

Max spoke up. "Wait a minute! Professor, I think you have your classes mixed up. Isn't this supposed to be Paranormal Studies? What on earth does this have to do with the

paranormal? I mean, everyone agrees that America was discovered, right?"

"Oh yes, they certainly do! That much is not in dispute. The question is, who *else* discovered America? It's obvious that the ancestors of the Native Americans made it here, and it's also well-established that Christopher Columbus made it here. But who else managed to set foot on this continent between those two discoveries?"

"Weren't there some Vikings?" Ashley asked. "I seem to remember something about Vikings."

"I still don't see what this has to do with paranormal studies," Max commented.

The professor looked at him curiously. "So you think it is perfectly normal to state that the Romans discovered America a thousand years before Columbus did?"

"The Romans? No way! They could barely sail across the Mediterranean. There's no chance they could have survived crossing the Atlantic!"

"I didn't say they discovered it on purpose. As it turns out, there is actually credible evidence that quite a few different

nations and people groups discovered America long before Columbus did. That is what we are going to discuss today."

"Do we have to?" Dan asked.

"Yes, we have to. Now, the first group that may have discovered America is the ancient Phoenicians. They were an ancient seafaring nation that lived in what was once Canaan, but is now modern-day Syria, Lebanon, and Israel. They existed from approximately 1200 BC to around 300 BC. Unfortunately, the Phoenicians were a very secretive society, especially when it came to their trading outposts and their sources of raw material. They went to great lengths to hide their discoveries and routes from their competitors. Because of this we will likely never know how extensive their travels really were."

Max spoke up. "If that's the case then how do you know that they discovered America?"

"Because we have found some evidence, scant though it may be. It is not as conclusive as I would like, but history rarely gives us everything that we want. The most

compelling evidence is a series of stone ruins in New Hampshire that date back to the time when the Phoenician civilization existed. The ruins were clearly not built by the Native Americans – not only is the architectural style very different, but the tribes that existed in that area did not build cities out of giant, multi-tonne blocks of stone. It appears that some outsiders came to the area, built a city, and then abandoned it. Given that the Phoenicians were the seafaring people of that era, it's possible that they were responsible. If they did build a city in New Hampshire then that would mean they must have discovered America."

"But couldn't someone else have built it?" Max asked. "Maybe an extinct race of Indians?"

Professor Grimes paused a moment before replying. "That is always possible, of course, but it seems unlikely. If the Native Americans had mastered building cities out of stone then we would expect to find two things: a series of more primitive attempts that finally culminated at some technological peak, and a series of other stone cities

where that technique was applied. Having just one stone city that popped into existence all by itself is quite suspicious.

“But we have more evidence than that. Carthaginian coins that date back to that same era were found on an island in the mid-Atlantic. This is noteworthy because they show that someone from that time period made it quite close to the North American continent. It is not unreasonable to think that if they managed to get that far then perhaps they made it a little further. And which civilization of that era was famous for their maritime expertise? The Phoenicians. On top of that, some inscriptions have been found on rocks in Pennsylvania that may be Phoenician, and a stone in Massachusetts bears a carving of a ship that resembles the ones used by the Phoenicians. There are other hints, but those are the main ones.”

“Couldn't there be some other explanation?” Max asked. “What if the inscriptions aren't Phoenician? What if the ship was just made-up, or a forgery or something? It just seems kind of tenuous at

best."

The professor nodded. "As I said, the evidence is not as strong as I would like. Still, I think one can make a good case for it. Given the Phoenicians' level of sailing expertise it's certainly not impossible. At any rate, that brings us to the next group: the Romans. The evidence that the Romans were once here is actually fairly good. Not only have archaeologists found Roman coins on this continent, but in the 1940s a Roman head was found in Calixahuac, Mexico."

Ashley spoke up. "You mean, like, a skull?"

"Goodness, no! I mean the head of a statue. It was authenticated as genuine, it dated back to the second century AD, and it was quite Roman. This brings up a serious question: just how is it that, two thousand years ago, the head of a Roman statue traveled from the Roman Empire to Mexico? Obviously, someone must have brought it there. Since the Phoenicians were no longer around the most likely culprit is the Romans themselves. Earlier Max made fun of their seafaring technology, but it was actually

fairly good. They had large ships that were well-built, and they spent a great deal of time traveling around the Mediterranean. They were competent sailors and, weather permitting, were able to get wherever they wanted to go. It is not impossible to imagine that one or more of their ships might have made it to North American – especially if they were following up on rumors that the Phoenicians had discovered a new continent. But there is more. Here is what researcher Charles Boland said:"

> Bronze cups in the Naples Museum are dated at 2000 years old or more. They were found in Pompeii. A nearly identical bronze cup in the Smithsonian carries a question mark. It was found in American.
>
> A nail header found in an old Roman site at Saalfeld Fort in Germany is dated at A.D. 200. It was found in Europe. A nearly identical nail header in the Smithsonian carries a question mark. It was found in America.
>
> Threaded nuts found near Neuwied,

> Germany, in an ancient Roman site, are dated at A.D. 200. They were found in Europe. Nearly identical threaded nuts in the Smithsonian carry a question mark. They were found in America.

Lora spoke up. “What do you mean, 'carry a question mark'?”

“It means that people are upset with the artifact,” the professor explained. “No one wants to admit that the Romans discovered America. If these artifacts were found in Europe then there would be no questions at all. However, these artifacts upset archaeologists because they were discovered in *America* and they are clearly authentic. Logically, this leads one to believe that the Romans knew about this continent and visited it. Sadly, modern science prefers to sweep the evidence under the rug so that they can keep clinging to their tattered theories. They would rather get rid of the evidence than get rid of their theory.”

“So you really expect us to believe that the Romans were here?” Max asked.

“I think that there is quite a bit of evidence to support that theory. Really, though, why would we be surprised? Their ships were certainly capable of reaching this continent. The Romans were not dummies; they were gifted engineers and accomplished numerous impressive feats of construction and logistics. Is it really so hard to believe that, just perhaps, the major world power of the time found a way to cross the Atlantic Ocean?”

“Then why didn't they set up colonies?”

“We went to the Moon, and we didn't set up a colony,” the professor pointed out. “Even though we had the technology to do so, there were all sorts of political and economic reasons that have kept us from it. Plus, keep in mind that nearly all of the early known colonies in North America were wiped out by the Native Americans. It took centuries for Europeans to learn how to live in peace with the natives and not get massacred. It may be that the Romans did establish a colony and it was simply wiped out by the locals.”

Ashley spoke up. “But what about the

Vikings? I thought they were involved somehow."

"We will get to that. Let's take one civilization at a time. The point is that it's quite possible that the Phoenicians discovered America sometime around 500 BC, and that the Romans discovered America sometime around 200 AD. I have given you some of the evidence for it; there is more, but I am pressed for time. If you are interested in the rest then be sure to read the corresponding chapters in your textbook. The bog iron evidence is particularly fascinating.

"The next civilization that discovered America is the Chinese, who came sometime around 500 AD – approximately three centuries after the Romans. Whereas the Romans went to Mexico, the Chinese visited the West Coast – although it is possible that they traveled all the way down the coast and eventually discovered Mexico as well. Fortunately, we have a written account of their voyage. The person who made the long voyage from China was a Buddhist monk named Hoei-Shin, and according to historical

records he made his trip in 499 AD. He apparently went to North America in order to spread Buddhism and enlightenment."

"Kind of like Quetzalcoatl," Ashley commented.

"Exactly. Only whereas Quetzalcoatl was a Catholic missionary, this one was a Buddhist. He wrote a fascinating account that describes his voyage and what he found; you can find excerpts from it in your textbook, if you are interested."

Max spoke up. "Couldn't the Chinese have just made up the whole thing? I mean, it's just a document. Anyone can sit down and put words on a piece of paper. How do we know that he actually made the trip?"

"Because we've found artifacts," the professor explained. "Namely, ancient Chinese anchors, found off the West Coast, and Chinese coins as well. The physical evidence agrees with the historical account that the Chinese were here, a whole millennia before Columbus. The details of his voyage are fascinating, but we have a lot more ground to cover so I won't dwell on it.

"The next person who discovered

America, as far as I can tell, was the mysterious man called Quetzalcoatl. However, as we have already spent an entire class period discussing him I see no need to repeat myself. I will move on.

"The next group that discovered America–"

"Was the Vikings!" Ashley exclaimed.

Professor Grimes shook his head. "I'm afraid not. As it turns out, a band of persecuted Irish monks beat them here by at least a couple centuries."

"Irish monks?" Ashley asked, confused.

"Quite right! They came in the tenth century. Ironically, they were actually fleeing from the Vikings. As the Vikings raided Ireland, the monks fled from one island to the next. They were pushed from Ireland to Iceland, from Iceland to Greenland, and then from Greenland to North America."

"Why were the Vikings chasing them?" Ashley asked.

"They actually weren't. You see, these monks belonged to an old sect known as the Celi Dei. They believed in non-violence and lived a strictly monastic life. You might say

that they were the Amish of their day – they lived very simple, rudimentary lives, and kept to themselves. When the Vikings came to Ireland they didn't want to fight them, so as soon as they saw their ships on the horizon they got up and moved to Iceland. When the Vikings went to Iceland they still didn't want to fight them, so they left for Greenland. The Vikings never even saw them. When the Vikings made it to Greenland the monks once again packed up and moved on to North America.

"Unlike pretty much every other group that tried to inhabit North America, the Celi Dei actually managed to live in peace with the Native Americans. The two groups got along just fine. The Celi Dei didn't threaten anybody, didn't cause any problems, kept to themselves, and actually helped the locals. No one saw them as a threat and they were allowed to live in peace. Life was great, until the Vikings came to North America. Then the Celi Dei decided they had had enough and were tired of moving. That's when they attacked the Vikings and fought back, but that's another story."

“So Irish monks lived among the Indians five centuries before Columbus?” Max asked dubiously. “How can you possibly know that?”

“Well, fortunately, much of their story is part of recorded history. There are numerous accounts of the Celi Dei. We know that they originated in Ireland. We know that they fled to Iceland. We know that they fled to Greenland. We also know that they fled from Greenland. Once they left Greenland they dropped out of the historical narrative, but they did leave behind evidence. First of all, the Vikings actually saw them in North America. The Vikings wrote about them in their accounts, and some of them were actually captured by these white monks. Second, there are tales of entire tribes of 'white Indians'. But most importantly, archaeologists have found the ruins of where they once lived.

“The story of Celi Dei is really a fascinating one. Unfortunately I am running out of time and still have much to discuss, so I won't dwell on it. The whole saga is explored in detail in your textbook; you may

want to consider reading it. But time forces me to move on. The final group that discovered America before Columbus is the Vikings."

"I knew it!" Ashley exclaimed. "I just knew they were mixed up in this somehow."

"The Vikings are indeed mixed up in it. In fact, there are numerous accounts of their expeditions to North America, which they called 'Vinland'. There is the odd story of Ari Marson, who in 982 AD arrived in North America by mistake and was captured by Celi Dei. There is the story of Bjarni Herjulfsson, who in 986 AD traveled to North America in search of his father, and then returned home and kept it a secret for sixteen years. There is the famous account of Leif Ericsson, who in 1003 AD visited North America, called it Vinland, and built a home here. There is also Thorvald Ericsson, who visited in 1007 AD; Thorfinn Karlsefni, who came in 1010 AD and settled in what is now New York for three years; and Freydis, who in 1014 AD went to 'Vinland' and embarked on a killing spree."

"A killing spree?" Ashley asked.

The professor nodded. "There was

something deeply wrong with that woman. It is quite possible that she was clinically insane; at any rate, she certainly acted the part. She was the illegitimate daughter of Eric the Red, and apparently inherited his fiery temper. It appears that the whole reason she went to 'Vinland' was so she could lure the two brothers Helgi and Finnbogi there and, far away from the prying eyes of society, kill them. The brothers had nothing against her and had done her no harm, but she slaughtered them all the same, along with quite a few other people as well. I think she ended up killing around twenty people."

"She killed her own brothers?" Ashley asked, horrified.

Professor Grimes shook her head. "I don't think so. Helgi and Finnbogi were brothers, but they weren't *her* brothers. She lured them to 'Vinland', murdered them, and went back home. Her actual half-brother Leif was not at all amused."

"What did he do?" Ashley asked. "Did he, like, kill her or something?"

"Oh no. No, he couldn't bring himself to

do that. He just ostracized her. The whole community considered her to be a bad egg, so everyone refused to deal with her. She was avoided and left alone."

Lora spoke up. "That doesn't seem so bad."

"Not to us, perhaps, but back then it was a serious matter. She couldn't just go to the grocery store to buy food, or collect welfare checks from the government. You see, *no one* would deal with her. She had no money, no one would sell or give her food, and she was left alone in her house while it rotted around her. For her, being ostracized meant a slow death of starvation. It would have been a terrible way to die. It was absolutely a death sentence."

"Let's back up a little bit," Max said. "How do you know that all these Vikings actually visited North America? Do you have any evidence beside their historical accounts?"

"Yes, as a matter of fact we do. But let's not overlook the importance of those written accounts. Not only did the Vikings keep historical records, but those records

have survived. They provide a terrific amount of detail regarding who went to 'Vinland' and when those trips were made. Specifically, we have *The Flateyjarbok*, which was written about 1390; *Hauk's Book*, which was written in the early 1300s, and *The Saga of Eric the Red*, which was completed about a century later. All of these are ancient Viking manuscripts that recount stories of Viking expeditions to North America. It would be foolish of us to dismiss them. Since we are very nearly out of time I will not read the accounts to you, but they can be found in your textbook if you are interested in learning more.

"But we do have some physical evidence. When Leif Ericsson came to North America he built a house and stayed for a while. His house is long gone but its foundation still exists, and a Viking weapon was found there. In Massachusetts Viking rune stones have also been found – seven of them, actually, which have been translated. Archaeologists have also discovered–"

Ashley interrupted. "Wait a minute! What did the stones say?"

The professor glanced down at his notes. “Hmm. Let's see. Well, some of them were grave markers. Some of them were marking stones. One of them said 'Jesus amply provides for us here and in heaven'. Another one told the tale of a shipwreck. Interestingly, the account on the last one corresponds to a rune stone that was found in Norway; both of them tell the tale of a terrible shipwreck that happened in 'Vinland'.”

“Do you have anything else?” Max asked.

“What more do you want? We have historical accounts, written by the Vikings themselves and dating centuries before Columbus' expedition. We have been able to reconstruct their routes to North America, based on the information contained within the accounts, and we can pinpoint the exact places on the continent where they landed. The descriptions of the land, and what they saw, matches with reality, and Viking artifacts – including weapons and rune stones – have been found where the Vikings claim to have landed. Comparatively speaking, the Viking expeditions are

remarkably well-documented."

"Were they the last ones?" Ashley asked. "Before Columbus, I mean."

Professor Grimes shook his head. "No, I'm afraid not. There is also Prince Madoc of Wales, who made a trip to North America in 1171. There is Paul Knutson, who came in 1355. There is Prince Henry Sinclair, who came in 1395. And there is Joao Vaz Cortereal, who came in 1472."

"And Columbus," Ashley added.

"Yes, and Columbus. He successfully discovered America – after the Phoenicians, after the Romans, after the Vikings, and after a long assortment of other explorers. The truth is that before Columbus came there had been a pretty constant stream of visitors to North America. Columbus simply made public what other groups already knew – that there was a land mass on the other side of the Atlantic Ocean."

"So why does he get all the credit?" Max asked.

The professor shrugged. "Why not? It's a lot easier to say that Christopher Columbus discovered America in 1492, rather than go

into all the detail of who actually got here first. Make no mistake, there *is* a lot of detail. Entire books have been written on this subject. Normally I prefer to delve into all of the minutiae, but this time there was so much material that I was forced to simply skim the surface. I could have taught an entire class on each one of these early explorers.

"Think of it this way. It is far easier to say that the Wright brothers were the first to build a heavier-than-air vehicle, rather than go into the long history of people who got there before they did. It is easier to say that the Manhattan Project resulted in the first atomic bomb, rather than discuss all the ancient civilizations that also possessed that technology. Real history is untidy – full of loose ends, unanswered questions, and educated guesses. It is rarely as definitive as historians like to make it out to be."

"Oh, come on," Max said. "It's not that bad."

"Really?" Professor Grimes asked. "Consider this. Have you ever seen the illustration that's used in scientific textbooks

to show children what an atom looks like? Kids are told that the atom looks a lot like a solar system, with electrons orbiting the nucleus in neat little orbits, just like planets orbit the sun. The reality is not even remotely like that; what schools are teaching is a gross distortion of the truth. But schools still teach it because it's nice and easy and simple. The fact that it is *wrong* is brushed neatly under the rug. Textbooks are *full* of things that are *factually demonstrability wrong*, but that doesn't stop publishers from publishing them and teachers from teaching them. That goes double for history books."

The professor sighed. "In your life you will often hear claims that somebody was the first person to climb a mountain, or achieve some feat, or make some discovery. Whenever you hear that, take a step back and be very, very skeptical. Are you absolutely sure that Bob was the first person to climb that mountain, *ever*, in all of history? Can you actually say that you know the entire life story of every single human being who has ever lived, and can say definitely that none of them ever climbed

that mountain before him? Do you really have complete knowledge of all past civilizations and of everything that has ever been achieved by anyone? I very seriously doubt it. It may be – and I say *maybe* – that Bob is the first person in modern times to climb that mountain or make that discovery. But even there it's impossible to be sure. How do you know that some unknown person didn't get there first? Are we to assume that Bob was first simply because he's getting all the press?"

Max shrugged. "Does it really matter? I mean, seriously. Who cares?"

"I think it matters a great deal. When we tell ourselves that we are the first, we are setting ourselves up on a pedestal. We proudly make the claim that we have gone farther than anyone else, that we are better than everyone else, and that we have succeeded where all others have failed. I think those claims are very dangerous to make, because they are almost certainly a lie. We are not better than those who have gone before us; in fact, I think it's quite likely that we are not half as intelligent as those

who lived in the distant past. It is entirely possible that what we are rushing toward at full speed is not the pinnacle of existence, but our own doom."

The professor glanced up at the clock. "At any rate, we are out of time for today. Be sure to read chapters 24 through 45; they cover a great deal of material that I had to omit today. I was only able to give you the highlights, but the detail does exist. Also, there will be no class next week; you are on spring break. Class dismissed!"