

SAPIOSAURUS



LON McQUILLIN

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Chapter 1

Discovery

Hal Reynolds swore under his breath as he watched the drill shaft rotate in place on the video monitor. It was the same damn thing as the last time. He keyed his headset mike on.

"It's not going anywhere," he told the team. The news was greeted by groans over the intercom.

The core bit had stopped at 437 feet, hitting something too hard to penetrate.

The current bit was designed to take ice core samples, not rock samples. While it could go through dirt and soft rocks, it couldn't deal with harder material like granite, which was probably what they had hit.

"I'm going out," he said.

"Wear a sweater," Sinclair advised over the intercom. Reynolds allowed himself a grin. "Yeah, right," he thought to himself.

Reynolds unplugged his headset, zipped up his parka, pulled on his goggles, raised the hood and stepped out of the survey shack. The wind hit him like a piece of drywall.

"This is summer?" he thought as he bent into the wind and worked his way towards the rig. "I hate goddamn cold," he whined to himself, for at least the thousandth time since he'd been here.

Summer in Antarctica actually could be almost pleasant at times, with the temperature running up near or even above zero Fahrenheit, but such was the exception, not the rule. Today was more typical; despite the sunshine, it was minus 15 degrees and the wind chill factor, he decided, was approaching absolute zero.

As Reynolds approached the drilling rig, Bob Sinclair came at an angle from the communications trailer and joined him. Leaning into Reynolds' shoulder, he shouted over the wind.

"We're only 40 feet from the last hole. There's gotta be something down there."

Reynolds nodded. "It's a granite shelf or something," he yelled.

"But it wasn't clear on the echoes," Sinclair replied.

"We saw shapes of something," said Reynolds. "We just didn't know how dense they were. The depth is right; we just gotta figure out what we've hit."

As part of their survey, long before they started drilling, the team had set off a series of small explosive charges, conducting echo soundings to try to determine what lay under the ice. The area they were working had proven interesting because of a large number of somewhat regularly spaced and shaped echoes, all at roughly the same depth. And while their funding was from Arcon, and they were in part looking for possible oil deposits, they were officially conducting surveys for the University of California at Berkeley. That gave them the luxury of investigating soundings that weren't necessarily related to potential oil deposits.

Reynolds and Sinclair fought their way through the wind to the rig, where Rank Matthews waited for them. Reynolds leaned close to Matthews and cupped his hands around his mouth.

"Shut it down," he ordered. "Let's switch to a hard diamond bit and find out what we're hitting."

Matthews gave an exaggerated nod. "Gimme about an hour to yank the drill. I might be able to get the new bit down today."

Reynolds smiled. "You're a good man, Charles Brown," he shouted.

Matthews flipped him the bird. "Same to you, egghead!"

Reynolds chuckled, and turned back toward the office shack. Matthews was one of those hardasses you could always count on.

Matthews watched Reynolds and Sinclair struggle away through the wind, shaking his head.



Hal Reynolds had never left school. After receiving his B. S. in geology at Georgia Tech, he'd gone on to get his Master's and Ph. D. at U. C. Berkeley — Cal, to its alumni — and stayed on to teach. At 42 he was tenured, and spending most of his time doing field research. Despite his credentials, he was

the kind of professor who not only didn't mind getting his hands dirty, he liked to. At a couple of inches over six feet and 210 pounds, he had no problem stepping in to help wrangle core pipes if the need arose.

He returned to the shack, got a sandwich and a bottle of juice out of the refrigerator, and sat down to study the echo readings for the hundredth or so time. He'd never seen anything like them anywhere in Antarctica. There was a regularity to them that almost looked like whatever was down there was man-made.

Which was, of course, impossible. This part of the Antarctic continent had been covered with ice for tens of millions of years, and the last time the sun had shone on the dirt and rock surface below, Antarctica hadn't been at the bottom of the world, but rather, further north, in a more temperate latitude. Continental drift over the eons had changed the positions of all of earth's land masses, and Antarctica, its luck running out, ended up at the bottom of the planet.

Whatever had created the structural patterns in the rocks below would have to have been some process new to geology, and finding new geological things was Reynolds' favorite activity.

Reynolds was chewing the last bite of sandwich when Bob Sinclair came through the door, letting in a blast of wind. Reynolds looked up at his assistant, one of three graduate students at the site, and grinned. "Rank thinks this is a complete waste of time, doesn't he?"

"Well, yeah, pretty much," Sinclair replied. "He's an oil guy. He thinks collecting rocks is something that kids do."

"I never claimed I wasn't still a kid. And these days I've got the neatest toys to play with."

"Yeah, well the way Rank sees it, you're playing with his toys." Sinclair opened the cupboard and peered in, trying to decide what he wanted for a snack. "We keep bouncing his bits off rocks, he's liable to start making unpleasant noises about how much we're spending on our hobby."

Reynolds leaned back in his chair and considered what Sinclair had said.

The partnership of academia and industry had been generally beneficial to both, but there were times when the relationship could begin to chafe. Arcon wanted to know what lay under the Antarctic surface every bit as much as Reynolds did, but for their own obvious reasons. By combining pure

research with oil exploration, they took the shared raw data and extrapolated their own information.

But when the current type of situation presented itself, where time and money were being spent on work that clearly wasn't going to help locate dead dinosaurs that could end up sloshing around in someone's gas tank, the folks back at headquarters who got paid to count beans started tugging at their collars.

Reynolds knew this, and reckoned that he had a fairly good idea of how often and how much to push, but he sometimes wondered if his zealousness took him a bit close to the edge. He knew that if the next attempt to get meaningful samples failed, it'd be time to stop pushing and let the crew move on to another site.

"We're dropping the bit into the hole we already drilled, so it won't take long," he said. "If we come up empty, we'll move on."

Sinclair had selected a large chocolate-chip cookie. He nodded.

Reynolds looked back at the echo plots.

"Still, I'd sure like to know what's down there."

Sinclair nodded again, his mouth full. "Me schew," he replied.



At first glance, Rank Matthews was an old-fashioned oil man. Big, stocky and ox-strong, he put up a good front as a gruff rigger. What he almost never revealed to co-workers was that he held a degree in English literature with minors in physics and math, completed on a football scholarship at Florida State. Drafted as a defensive tackle by the Seattle Seahawks, his NFL plans were derailed when he blew out his right knee in the third game of his rookie season.

With an education that qualified him to sit in an office pushing papers around, he opted instead to work outdoors, and following a buddy's suggestion, found himself on an oil rig. In less than ten years he had worked his way up to chief rigger.

He'd worked in Texas, Alaska, California, Kuwait, Nigeria and Chechnya before signing on with

Arcon and being assigned to head the drill team in Antarctica. The project had interested him for several reasons, the primary one being the chance to spend some time on a continent that few people would ever see. The hardship pay didn't hurt either.

But despite his caustic comment to Reynolds, he was actually quite pleased to be working on a project that counted for more than just oil company profits. To get along with the rest of the crew he of course had to disparage the university guys, but that was for show. He was curious about what was down there as much as Reynolds and Sinclair, and the fact was that he wasn't about to give up without finding out if he could help it.

When the last section of pipe came out of the hole, he and Dave Howard, his chief assistant, disconnected the steel bit and attached a diamond core bit. They then started to lower the pipe, one section at a time, adding new sections as they progressed.

An hour and a half later, the drill was down to its original level at the bottom of the ice pack, and once again pressed on the hard surface. With Reynolds, Sinclair, both of the other grad students and the drill hands watching, Matthews engaged the engine and started applying pressure. Despite the fact that there were gauges that would show how far the bit was cutting, all eyes were on the section of pipe that protruded from the hole. By watching a mark or scratch as the pipe turned, it was easy to tell if the drill was making any progress.

After a few long minutes it became obvious that the bit was indeed cutting into whatever was down there. "It's biting," Matthews shouted over the wind, not taking his eyes off the pipe, "but whatever it's biting into is mighty tough." He increased the pressure on the bit, but if the progress increased it wasn't noticeable to the eye.

Reynolds nodded. Even with granite, the bit should be making more progress than it was. An hour later, the progress began to slow, and by the end of an hour and a half, the bit would cut no further. They'd bored just under 10 inches into the material. Matthews released the pressure on the pipe and shut down the engine.

"The bit's shot," he yelled. "I'm gonna have to pull it and replace it."

Reynolds stomped back and forth in an attempt to warm up. "It's late enough. Let's leave it

down and pull it in the morning.”

Matthews grunted. “Fine by me.”

With the sun approaching its lowest point over the horizon, the group retired to their quarters.

By early the next afternoon the crew had pulled the drill, replaced the bit and resumed the drilling. Reynolds was in the survey shack when the intercom crackled to life. It was Matthews. “Hal, you probably wanna haul your butt out here.”

Reynolds keyed the mike. “What’s up?”

“We just broke through. The drill’s into something a lot softer. I’m guessing it’s dirt.”

“Be right there,” Reynolds replied.

The wind was nowhere near as fierce as it had been the day before, and Reynolds didn’t bother to pull his parka’s hood over his head as he made his way to the rig. He’d alerted Sinclair, who arrived from the communications trailer simultaneously.

Matthews was already pulling the pipe. As the pair approached, he pulled off his goggles. “We went through just about 22 inches of the hard stuff before the going got easy,” he said. “Another eight inches of the softer stuff to pack the end of the pipe, and we’ve got a sample coming up.”

“Alright,” said Sinclair, “I wanna see what that stuff is.”

“You ain’t the only one,” said Reynolds. Matthews shot Reynolds a quick grin.

When the final section of pipe had cleared the hole, the crew wrestled it to the sample tray, and inserted a plunger into the top end to push out the core sample. As expected from Matthews’ observation, the lowest section of the core appeared to be compacted common dirt.

What came next made Reynolds’ brow knit. Above the dirt, the core sample was a uniform dark gray. It looked less like granite than marble, and even at a glance appeared extremely dense.

But the real surprise came when the end of the sample emerged. The last core samples they’d brought up before hitting the hard material and switching to the diamond bit had been what they’d expected: hundreds of feet of ice over several feet of dirt and organic material, so there was nothing but a small amount of debris in the core sample above the hard material. As the top of the sample came free from the pipe, it was immediately apparent that, aside from the scratches resulting from the

drilling process, the top of the hard material was completely flat.

Moving to the bottom of the dark section of the sample, Reynolds inspected the boundary with the dirt section. It was irregular.

"Damn," he half muttered. Sinclair was on the other side of the sample tray. "Second that," he said.

Matthews had been watching the two of them from over Reynolds' shoulder. "So what's the deal?" he asked.

Reynolds and Sinclair looked up from the sample at each other, and then back down at the sample. Finally, Reynolds spoke. "If I didn't know better, I'd say this was concrete poured over dirt."

Matthews frowned.

"But it can't be concrete," Reynolds continued, "and even if it were, it's like no concrete I've ever seen."

Matthews scratched his nose. "How long ago did you say the surface here's been buried under ice?" he asked.

"Somewhere between 50 and 80 million years," Reynolds answered.

"It has to be volcanic," said Sinclair. "That could explain the rough bottom surface."

"But it wouldn't explain the top surface," said Reynolds. "When was the last time you saw lava harden into a smooth surface?"

"I've seen smooth lava fields."

"Not this smooth."

Sinclair nodded. He had to agree, the top surface was like nothing he'd ever seen in a hardened lava flow. It had a surface grain like fine sandpaper.

"OK," said Reynolds, "let's preserve this lower dirt section along with the previous one that was under the ice, but what I'm really concerned with is this dark stuff. I want to do some analysis. Let's get pictures of everything, and then move this to the lab."

"You got it," Sinclair replied.

Jill Hodge, the grad student who served as the team's photographer, fetched her camera from the

photo lab in the main shack and took photos of the sample as a whole and in sections, rotated 90 degrees for each series. When she finished, Reynolds gently tugged at the dark material until it broke free from the dirt. The process took more effort than he expected, because the dark material was heavier than he thought it would be.

With matching grunts, he and Sinclair lifted the dark section of the core off the tray, and moved it onto a sling that Sinclair had laid down. Together they grabbed the handles on each end of the sling and lifted it.

“At least 130 pounds,” said Sinclair.

“More like 150,” countered Reynolds.

In the main shack, they rolled the sample off the sling and onto the scale. The scale’s strain gauges zeroed in on the sample’s weight: 163 pounds, seven ounces.

“This ain’t no granite. Or marble,” said Sinclair.

“This is definitely weird,” said Reynolds, “It’s way too dense.”

Reynolds picked up a small pick and hit the sample with the side face. The sample responded with a “tink” that sounded like marble, but a notch or two lower in pitch.

“I want to analyze a slice,” said Reynolds. “The sample looks to be homogeneous from top to bottom. I’m going to cut it in half, and take a slice from the middle.”

“Sounds like a plan,” Sinclair replied.

A half hour later, using a diamond rotary saw, Reynolds had a millimeter slice of the core sample, a section of which he pulverized and fed into the spectrometer. The sample was vaporized and the spectrometer went to work.

Within a few minutes the results were displayed on the spectrometer’s screen.

Reynolds studied the data for several minutes before retrieving a reference volume from the bookshelf and opening it, then studied the data for a few minutes more before rendering his initial verdict:

“Damn!”

Chapter 2

Analysis

Bob Fletch was standing in the shower with the water spraying his back, enjoying its warm sting, when his wife Lizzie poked her head into the bathroom. "You've got a phone call," she hollered. "Tell 'em I'll call 'em back." he shouted.

"It's from Antarctica."

Of course it is, he thought to himself, turning off the water and stepping out of the shower. He grabbed his towel, did a cursory job of drying himself off, wrapped it around his waist and headed into the bedroom. Lizzie was wearing just a bra and panties, and he goosed her as he went past on the way to the phone. She whooped, as she always did.

"Who do you know in Antarctica?"

"Nobody that I know of."

He picked up the receiver. "Hello."

The voice on the other end was as clear as if calling from across town, which surprised him a bit.

"Dr. Fletch, this is Hal Reynolds. I'm with the geology department at U. C. Berkeley."

"Sure, I know your work. You wrote that paper last year on tectonic analysis."

"I'm the guy."

"So what're you doing in Antarctica, and what can I do for you?"

"We've been drilling samples trying to check out some odd-looking echo readings we got around 500 feet under the ice pack, and we finally managed to bring one up. I've never seen anything like it, and I thought you might like to look at it."

Fletch nodded to himself. As chairman of the School of Geology at the University of Colorado and a specialist in mineralogy, he was a logical choice for Reynolds to turn to.

“What do you have?” he asked.

“The stuff we hit looked almost like granite, only denser. It had a smooth top surface, and if I didn’t know better, I’d swear it was artificial. I ran a spectrograph on a sample, and that’s what has me stumped. The chemical building blocks of granite are there, all right, but there’s also what appear to be organic compounds. Plus, while granite has a reasonably regular molecular structure, this stuff turns out to be almost perfectly regular. That’s what makes it so dense.”

“OK, you’ve got my attention. What would you like to do?”

“First, I’d like to e-mail you the spectrography results and some photos of the samples. I’ll follow up with some actual samples, but that’ll take a week or so, until the next supply plane makes its run.”

“Sounds fine to me,” Fletch replied. “Let me give you my home e-mail address. I’m not planning on being in the office for a couple of days.” He recited the information for Reynolds, and agreed to be in touch once he’d had a chance to study the data.

“So how’s the weather down there?” he asked as they were about to sign off.

There was a moment’s hesitation as Reynolds tried to guess what kind of sense of humor Fletch might have. He decided that he didn’t want to take a chance of offending him with a caustic comment, and simply said, “Cold.”

Fletch smiled to himself, knowing that his question had been banal. “I’ll bet,” he answered. “OK, I’ll get back to you as soon as I can.”

“Great. Talk to you then,” came Reynolds’ reply, and the two hung up.

“What was that all about?” asked Lizzie, who’d been in the bathroom brushing her teeth during most of the call.

“This guy from U. C. Berkeley dug up some odd core samples that he can’t explain, and he wants me to take a look at them.”

“You gonna have to go to the office?”

“No, I gave him the home address. He’s gonna e-mail the stuff to me so I can look at it tonight.”

He turned toward the bathroom to finish drying himself off, but Lizzie moved into his path. “So when the going gets tough, they turn to the expert,” she said with a grin, rubbing up against him. He

grinned back as she pulled the towel from around his waist and grabbed him where he most liked to be grabbed, at least, by her.

“Only the best will do,” he replied.

“Oh yeah? I’ll show you ‘best.’ ” And she did.



Fletch stared at the data displayed on the screen of the Macintosh in his den and gave a low whistle. After a while he switched to the digitized images Reynolds had sent along with the spectrographs. There were six in all, scanned from slides taken by Jill Hodge. Reynolds had been right — the material did look like marble or very dark cement.

Switching back to the data display, he made a few notes, then switched to his browser and called up the mineral database at school over the web. There was no question that there were organic compounds present in the sample, and the combination was nothing he’d ever seen before. Nor was there anything in the database that came close to matching.

Granite is a silicate — a combination of mainly silicon and oxygen, with lesser amounts of aluminum, iron, magnesium, calcium, sodium, potassium and traces of manganese, phosphorus, titanium, zirconium, barium and water.

The spectrographs that Reynolds had sent him showed all of these, but there were elements present that simply didn’t belong, including carbon, hydrogen, and nitrogen, all of which indicated organic compounds.

Unfortunately, the spectrograph worked by vaporizing material and reporting the raw elements, so there was no way Fletch could determine what compounds the elements were in until he could get his hands on a sample. With chemical and other tests, he could start to get some idea of how this material was put together.

If he had run across these data without knowing how they were obtained, he’d have assumed that the sample had been contaminated with organic matter. But the cover note that Reynolds had in-

cluded made it clear that the sample Reynolds tested came from the inside of the section. Reynolds had been careful about getting uncontaminated results.

Fletch picked up the phone and punched in a number. After a few rings there was an answer at the other end.

“Charley, it’s Bob. Yeah, hi.”

“Charley, I just got some spectrographic data from a guy from Berkeley who’s drilling core samples in Antarctica. It’s the damnedest thing I’ve ever seen.”

For the next half hour he and his friend from the University of Kentucky speculated on what the team in Antarctica might have found. He described the appearance of the core sample, forwarding the images and data over the net as they talked. By the end of the conversation, Fletch had a feeling that his hunch could very well be correct.

Reynolds had said that the material almost seemed artificial, and Fletch had a feeling that he was right. And he tried not to think too much about the implications if this proved to be true.

Later that evening, Charles LeMont forwarded the data and images to two other colleagues, and posted them on his web site. Within three days there was a UseNet newsgroup devoted to the find, and a search of the web would have found more than a dozen web sites that included the data and images.

Eleven days later, when Fletch received the actual samples for testing, the geology and mineralogy departments of virtually every university and college in the world knew of the find, and were busily adding their speculations on what it might be.

Chapter 3

Revelation

Dewey Manley managed to find a seat in the second row of the auditorium at the College of Letters and Science at U. C. Berkeley even though the press conference was about to begin. He checked his cassette recorder, turned to a clean page in his notebook and, feeling settled in, studied the group on the stage who were getting ready to take their seats.

There were three men and one woman, ranging in age from what appeared to be early thirties to late fifties. The woman, who he thought to be rather attractive, looked to be at the lower range, right around thirty. She was about 5' 10", with brown hair that came just to her collar. She had little or no makeup on, and was wearing a beige skirt and jacket with a white blouse. Very professional.

Sharing the stage with her was a large, athletic-looking man of around forty, a bit over six feet tall with dark hair, wearing a plaid shirt and corduroy slacks with no jacket. The second man looked to be in his late forties, very tall, slim, with dirty blond hair flecked with gray and a mustache, dressed in tan chinos and a blue shirt open at the collar under a tweed jacket. The final man was the elder of the group, with white hair, clean shaven and wearing dark gray slacks, a gray tweed jacket and a bow tie.

As the speakers moved to their seats, the audience began to quiet down, and the elder man, who had taken the center seat, leaned slightly toward his microphone.

"Ladies and gentlemen, may I have your attention, please."

The crowd noise went down several notches further. The speaker paused, looking around the audience with the air of one long accustomed to dealing with large groups. At the back of the auditorium there were perhaps a half dozen video cameras set up, and there were numerous flashes as the strobes of still photographers fired. After a few moments, the speaker resumed.

“Thank you all for coming this morning. I’m Dr. Royce Clayton, chairman of the Geology Department here at U. C. Berkeley. Joining me on the panel is Dr. Harold Reynolds of our department,” — the athletic man nodded — “Dr. Stephanie Mitchell, also of our department” — the woman nodded at the audience — “and Dr. Robert Fletch, chairman of the School of Geology at the University of Colorado.” The tall man smiled.

“We have a prepared presentation, which will be accompanied by some visuals. We’ll take questions afterwards. We will also have copies of photos and video tapes available for you at the end of this conference.”

The crowd had now settled down, and the strobe flashes had ceased.

“As I’m sure you’re all aware, a few weeks ago, an interesting and perhaps important discovery was made in Antarctica about 100 miles Southwest of McMurdo Station by Dr. Reynolds and his team while taking core samples from below the ice pack.” As he spoke, a slide was projected on the screen to the right of the stage, showing a collection of shacks and vehicles surrounding a drilling rig in what was obviously Antarctica.

“At approximately 130 meters below the surface of the ice, their drill encountered a dense material that required considerable effort to penetrate.”

Clayton so far was repeating what even the general press had already reported. As science editor for the San Francisco Times, Manley had written two pieces on the discovery. There had been a fair amount of speculation on what the findings meant, and the tabloids had of course had a field day. According to the American Exposer, the Antarctic team had drilled a hole into a space ship that had been buried under the ice for millions of years, and the aliens inside were really, really pissed! In his own pieces, Manley had reported that most experts took the view that the material brought up was some kind of natural compound that simply hadn’t been seen before.

“Since the initial sample was brought to the surface, and its basic properties determined, an additional four samples have been taken from the surrounding area.”

This was new. Following the initial surge of publicity, based on widespread exposure via the Internet, the Antarctic team had clamped down on the spread of information.

“In each of the samples taken, analysis yielded essentially the same results.”

As Clayton spoke, slides showing core samples laid parallel in rows at the drill site were projected.

“With the assistance of Dr. Fletch in Colorado and the chemistry department here at Berkeley, the samples have been carefully studied, and our present assessment is that the material is not a naturally-occurring compound.”

This created a slight buzz in the auditorium, which Clayton chose to ignore.

“More precisely, we now feel that the material found in the samples was artificially created.”

Now he paused, and let the heightened buzz run its course.

“Since the samples were taken from under more than 400 feet of Antarctic ice, and since as far as we know the part of Antarctica in question has been under ice for at least 40 million years, our findings have made us — shall we say — curious.”

Several strobes fired, accompanied by the click-whine of still camera shutters. For maybe the hundredth time, Manley found himself both amused and slightly annoyed at the photographers. How on earth did the shots they just took look any different from the ones they took at the start of the session? He guessed that it was just human nature at work, and went back to taking notes.

“I’d like to turn things over to Dr. Reynolds at this point, so that he can give you a better description of the drill site and what he and his team have found.”

Reynolds nodded at Clayton, and cleared his throat.

“Our exploration began with a series of echo soundings that revealed interesting features below the ice pack. This was what led us to drill our original core sample. As Dr. Clayton mentioned, we’ve now taken a total of five core samples.

“Our findings were sheer luck. Most of the Antarctic ice pack is a mile deep or more. We just happened to be near the edge of the pack, where the depth was relatively shallow.

“The material brought up from all five locations was essentially the same. It’s denser and harder than granite, and it has a tighter and more closely aligned molecular structure.

“But while it resembles granite in many ways, and contains all of the base elements found in

granite, it's not granite, or at least not any kind we've ever seen.

"The material also contains organic compounds, evenly distributed throughout its molecular structure. It appears more than anything else to be a kind of cement, of which granite is a component. But it's far denser and harder than cement as we know it."

Again the audience stirred.

"The presence of organic compounds means that the material contains carbon, and this allowed us to perform carbon dating tests."

Now the audience grew still, sensing that Reynolds was coming to something dramatic.

"Based on our testing, this material dates from roughly 65 million to 75 million years old."

Reynolds paused as the audience let out its collective breath and the noise level went up. The photographers' strobes again lit up the auditorium. After a brief pause, Reynolds continued.

"When I say from 65 to 75 million, I don't mean that our dating techniques are that imprecise. What I mean is that different layers of the material dated to different ages, with the lower layers being the oldest. This, of course, is how layers of various materials are often found, but there's a major difference here."

The screen now showed a lengthwise cross section of one of the samples, with graphic annotations.

"The differences in age occur in distinct bands near the top surface, where the first layer, around an inch thick, is the youngest. The next layer, about three quarters of an inch thick, is approximately 2 million years older. The pattern repeats with slightly varying degrees of thickness until we reach the oldest and thickest layer about 4 inches deep, and which extends the rest of the way through the material. This lowest layer dates uniformly to around 75 million years. Essentially the same pattern was found in all five core samples.

"At the boundary points, the layers appear to have been fused together somehow, since there's no significant discontinuity in density." He paused, looking at the audience. "It's as if we were to build a road, and then periodically re-pave over it every few million years."

Reynolds let the audience absorb this for a moment, and then continued.

“Once we had this analysis of the core material, we took a more extensive set of soundings. Based on these soundings and the drilling that we’ve done, we’ve created a computer model of what we think the surface looks like underneath the ice pack.”

A computer rendering now appeared on the screen. It showed a flat surface on which sat a series of truncated, three-sided pyramids, or tetrahedral shapes. It was as if someone had built three-sided pyramids and then lopped the tops off from about a third to two thirds of the way up from the base. Although the structures varied in size and height, there was an order to their layout. As Reynolds spoke, the computer model began to rotate, giving the image additional depth and perspective. The surface of the ice appeared as a mesh hovering above the lower surface at varying heights.

“The structures are aligned in an orderly fashion, and spaced somewhat regularly, laid out almost as if they were part of a city. By way of size, the structures range from around 8 meters to a side at the base to nearly 120 meters.”

This put a buzz back into the crowd again. Reynolds waited for it to die down.

“From our sonar soundings, it appears that this ‘city,’ if I can use the term, covers an area of roughly 85 acres, in a triangular layout that’s repeated in the shapes of the structures.

“Somewhat interestingly, the layout doesn’t seem to be aligned in any particular direction. None of the points of the triangles that define the bases are aligned to any compass points. This could indicate nothing, or it could also mean that the structures initially were aligned to compass points but no longer are due to continental drift.

“In taking our core samples, we decided to avoid drilling into any of the structures until we had more equipment in place. The reason for this is that we think there’s a chance that these structures may be hollow. If they are, the air inside them would have been sealed inside them for at least 50 million years, if not longer. We’d very much like to analyze that air.

“Therefore, all of the core samples taken so far have been from the flat areas in between the structures.”

The computer image now showed five thin vertical columns indicating the locations from which samples had been taken.

“We expect that when we take samples from the structures themselves, we’ll find the same cement-like material again.”

The computer rendering of the “city” now zoomed toward the center of the triangular area as Reynolds continued.

“As you can see, this structure near the center of the city is larger than any of the others, and is also the only structure with two levels.”

The central structure consisted of two truncated pyramids, with a smaller one atop a larger one. It was reminiscent of some of the stepped pyramids of Egypt and Central America, except for being three-sided.

“Despite the fact that the ice pack is thicker here than at our original drill site, at roughly 160 meters, or 520 feet, we’re guessing that this is where it would make the most sense to concentrate our investigation. And for that subject, I’ll turn things back over to Dr. Clayton.”

Clayton nodded at Reynolds.

“Thank you, Dr. Reynolds.

“Before we move to our plans for further exploration, I suspect that everyone in this room has the same question on his or her mind, which would be: Who or what created this... ‘city?’

“Obviously, at this point we can only speculate, but I’ve asked Dr. Mitchell to offer her comments as a paleontologist. Dr. Mitchell?”

Stephanie Mitchell smiled at Clayton, and then turned to the audience.

“Thank you, Dr. Clayton. Certain members of the media feel they’ve already provided the answer of what’s under the ice, and that we’re already in big trouble with little green men for disturbing them.”

This got a laugh from the crowd, which was comprised almost totally of members of the press. Even the stringer from the Exposer chuckled.

“If we look at this logically, there are three possible explanations of how these structures came to be. First, these could be the result of some natural phenomenon, with which we’re unfamiliar.”

As she spoke, a textual graphic summarizing her point replaced the computer rendering on the

screen.

“Given the nature of the material, the apparent smoothness and regularity of the structures and the orderly way in which they’re laid out, I think this first possibility can safely be discounted.

“Second, they could be man-made. While we believe that the ice pack in that part of Antarctica has been building up for anywhere from 40 to 50 million years, we could be wrong about that. As for the carbon dating indicating an age of 65 million years, just because the material itself was formed that long ago doesn’t mean that these structures made with it were constructed that long ago.

“It’s conceivable that somewhere on Antarctica there exists this type of ‘organic granite’ that formed 65 to 75 million years ago, and that was quarried at a much later time by early humans as a building material.

“There are several problems with this theory, not the least of which is that we’re pretty confident that the ice pack in this area *has* been building up for 40 to 50 million years, based on testing of core samples of the ice itself. And even if we’re wrong by an order of magnitude, that would still place the age of the pack at four to five million years. Unless our understanding of human evolution is way, way off the mark, our ancestors of that era weren’t even close to having any kind of technology, let alone the technology to build something like this.

“So on at least these two points, I’m fairly certain we can rule out a human origin.”

As she continued, the projection added the third possibility on the screen.

“Finally, we come to the only reasonable alternative, which is that the structures we’re seeing were constructed by some intelligent but non-human agents.”

She smiled slightly as the crowd registered its reaction. More than a few people were looking at the *Exposer* stringer, who was grinning broadly.

“At this point, folks, I have to leave you to your own speculation. If we use the date of 65 million years ago as the time these were built, then the only creatures we know of that existed on Earth back then were the last of the dinosaurs and non-sentient — intelligent — mammals. Which leads us to speculate that visitors from somewhere else — aliens, if we must — may have built these structures.

“The fact that this was around the same time that the dinosaurs became extinct perhaps even

lends weight to the alien theory. As long as we're speculating, we could entertain the possibility that the two are related. Maybe the aliens who built this were what killed off the dinosaurs, either on purpose or by accident."

This really set the crowd off, and it was a good half minute before Royce Clayton spoke up.

"Thank you, Dr. Mitchell."

"My pleasure," she replied.

"Ladies and gentlemen, if we could settle down please." The audience slowly returned its attention to the panel.

"Speculation may be fine for the press, and it's certainly entertaining, but we prefer to rely on hard science to find answers. Toward that goal, I'm pleased to announce that Dr. Reynolds and his team, along with considerable reinforcements and additional equipment, will be returning to Antarctica for an expanded exploration of the site."

As Clayton spoke, a new version of the computer graphic depicting the site appeared on the screen, and a new, thicker column appeared just next to the central structure.

"Our plan is to sink a shaft wide enough to allow people and equipment to descend to the area directly next to the large structure near the center of the site, where we can then open up an area around the structure and explore directly."

At the bottom of the shaft in the graphic a space expanded into a cavern under the ice that eventually encompassed a portion of the large structure.

"This expedition will be leaving for Antarctica as soon as possible, in order to get as much work done as possible while the weather is still relatively mild."

Reynolds' eyebrows involuntarily went up at that remark. "Mild" is indeed a relative thing, he thought.

"And at this time, we'll take your questions," Clayton announced.

Dewey Manley knew pretty much what to expect from his colleagues at this point, and he wasn't disappointed. The first question, from one of the TV reporters — an obnoxious woman named Fiona Sellers, from "KDOH-TV Action 3 News" — set the tone.

“Dr. Reynolds, what do you expect to find down there?” Manley groaned to himself.

Reynolds lifted one eyebrow slightly, weighing his options for a moment before deciding on a straightforward approach.

“I don’t really know,” he answered. “That’s why we’re going to tunnel down, to find out.”

The question session continued on, with the bulk of the questions as insipid as the first, and as it became clear that the panel was getting ready to wrap things up, Manley headed up the side aisle to beat the rush.

The real story, he knew, wasn’t in the auditorium, it was in Antarctica, and all he had to do was figure out how to convince his bosses that he should be part of the expedition, and then find the strings that needed to get pulled to get him included.



It turned out that the senior features editor of the S. F. Times had graduated from Cal with Royce Clayton, and the two had remained friendly over the years. Manley got his assignment and a ticket, as it were, to Antarctica.

Chapter 4

Revulsion

Reverend Billy Joe Wilder switched off the television as the CNN coverage of the Berkeley press conference ended and threw the remote on the coffee table in disgust.

“Blasphemy!” he yelled, loud enough to startle Sheila, his secretary. She cringed. She hated it when he got upset like this.

“According to the Bible, the Earth is no more than about 6,000 years old, tops! Whatever them pointy-headed liberal college types found down in Antarctica sure wasn’t built by no aliens from outer space! If human beings could build the pyramids of Egypt and the Tower of Babel, why in the name of Sweet Jesus couldn’t human bein’s build pyramids in Antarctica?”

Sheila cringed again. “But Billy Joe, what about all the ice?”

“Ice don’t mean nothing,” he thundered back. “The Lord decided Antarctica should be cold and covered with ice, so He caused it to snow. He had thousands of years to do it, which for Him is but the blink of an eye.”

Sheila couldn’t argue with Billy Joe’s logic. “Why I guess that’s true,” she said, with admiration in her voice. As far as she was concerned, Billy Joe Wilder had to be the smartest man she’d ever met; maybe even the smartest man alive.

“All those scientists and Darwinists and other non-believers go making up these stories that go against the Lord’s word, and it just ain’t right!”

“No it ain’t,” Sheila agreed.

Billy Joe was working up a high dudgeon now, pacing back and forth as Sheila sat at the end of the sofa in his private office.

“Now your truly faithful folks, them that’s been saved, they’ll see through these lies and know

them for what they are. But there's lots of folks out there who haven't been saved yet, and this kind of blasphemous nonsense just makes it harder to reach them."

Sheila nodded vigorously.

"I've got to write a sermon for this Sunday's program exposing these fairy tales for the lies they are, and revealing the truth to our flock. For the truth shall set them free."

As Sheila nodded, the phone rang, and she jumped up to answer it.

"Billy Joe Wilder's office... Oh yes, just a moment Mrs. Wilder." She put her hand over the mouthpiece. "It's your wife," she said, perhaps a bit redundantly.

"Thank you darlin'," Billy Joe said softly before taking the phone from her.

"Hi, sweetheart, how are you?" He listened for a moment.

"Yes, I saw the press conference.

"Uh huh...

"Uh huh..."

"Yes, I'm gonna be addressing that very subject this coming Sunday."

Billy Joe's wife Mabel was a very devout woman, and she often provided advice and guidance when it came time to prepare the sermons for Billy Joe's Sunday broadcasts on the Christian Cable Network.

"Yes, dear, I'm fixing to call Bobby Palmer over at HMU. He'll be able to help with solid Biblical science to refute their secular so-called science.

"That's right..."

"We'll work on it tonight when I get home.

"I love you too, dear.

"Goodbye."

Billy Joe put the phone down smoothly, hiding his annoyance at having been interrupted by his wife's call. He'd just been building up a good head of steam, and Sheila had been eating it up. He started in again, talking about the way heathens were trying to take over the world, and how it was the duty of all good God-fearing Christians to do battle with the forces of evil. Within a few minutes

he'd brought the energy level in the room back up to and past where he'd had it before the phone rang.

"...and that's why it's so important for good Christians to do everything they can to support God's efforts on Earth," he intoned.

"Oh, I know," said Sheila, "I know!"

"Of course, a man like me, with so much responsibility, and such a passion for the Lord's work, well, some of that passion can't help but spill over into other areas of his life."

Again Sheila nodded to show him she understood what he was saying. Billy Joe moved to the sofa and stood before her.

"And my dear Mabel, well, she's a wonderful woman, but she just can't take care of all of the needs of a man like me, you know."

"Oh, I know that, Billy Joe," Sheila replied.

"Sheila, darlin', are you ready to help me in my fight against the forces of Satan?" he asked her earnestly.

"Yes, I am!" she answered, reaching to unbutton her blouse. They'd been down this road more than a few times before.

"I knew that I could count on you," said Billy Joe, as he unclasped his belt and lowered his zipper. "I knew that I could."



Wilder sat at his desk, waiting for his phone call to be answered. The line clicked, and a voice answered "Hello."

"Bobby, is that you?"

"Hello, Billy Joe, how you doing?" said Bobby Palmer. The head of the Creation Sciences Department of Holy Mother University had been preparing to leave for the evening when his old friend called.

"I'm doing just fine, mighty fine. I just finished boffin' my secretary, so I'm feeling real good."

"You dog!" Palmer replied. "She that cute little brunette with the really nice hooters?"

"That's the one."

"Man, I wouldn't mind getting some of that myself," Palmer opined.

"Now, you get your own 'tang, son. This one's my private property."

"That ain't very Christian of you, Billy Joe," said Palmer with a chuckle.

Wilder gave a short guffaw back, before moving to his subject.

"Bobby, did you see that press conference from U. C. Berkeley on CNN today?"

"Yeah, I did."

"What'd you think?"

"Well, I started following the whole thing right after it showed up on the Internet. I gotta say that it looks to me like they found a city buried underneath the ice. And it also looks like it's been there a long, long time."

"Yeah, that's what they were saying," said Wilder.

"And that woman scientist made a good point about the carbon dating, but still, the evidence points to an origin around the end of the Mesozoic period."

"Say, she wasn't too shabby, was she?" Wilder replied. "What was it, Stephanie something?"

"Yeah, something like that. No, she'd do!" said Palmer.

"Well Bobby, you know I can't talk about Mesozoic or Jurassic or any of that kind of shit in my sermon. I've got to stick to the strict interpretation that the Earth was created roughly 6,000 years ago. Is there anything you can give me to help make those scientists look like chumps on Sunday?"

Palmer thought for a moment before answering. The oldest known artifacts of human civilization dated back to around 8,000 or 9,000 BC, which was easy enough to fudge figures on. As for older human artifacts, from Cro Magnon on back through the earliest known hominids, the standard approach was simply to dispute the accuracy of carbon or potassium-argon dating. The same with dinosaurs; according to strict fundamentalist science, humans and dinosaurs walked the Earth at the same time, and the dinosaurs died out in the Flood.

Palmer knew that this was all nonsense. But Wilder's viewers — his customers, he called them privately — were hard-core fundamentalists, and if the Bible said the Earth was only 6,000 years old, well, that's our story and we're sticking to it. Give the customers what they want.

"I'd go after the whole carbon dating thing. Your folks already thinks it's bogus, so this fits in perfectly. As for the ice pack, I'd ignore that. The average person has no idea how the age of glacial ice is dated, so I'd just leave it to them to find their own way to discredit that evidence."

"Hmm," Wilder considered. "I think you're right. I'll keep things simple. Turn it to a good old, basic attack on the eggheads themselves."

"Why mess with something that works?" Palmer replied.

"Good," said Wilder, glad that his instincts had been confirmed.

"So, Billy, when we going fishing again?" asked Palmer.

"Boy I'd like to, Bobby, but, well, Mabel keeps coming up with these functions I gotta go to. You know, keep the image up and give face time to the flock."

"How is the battleaxe?" asked Palmer.

"Hell, you know," said Wilder. "Still the same. Shit, she's so tight when she farts she whistles."

Palmer laughed. "Well, that's why the good Lord made secretaries with big boobs!"

"You got that right," said Wilder with a chuckle. "OK, bubba, speaking of the ball and chain, I'm expected home for dinner."

"Yeah, me too. See ya later, B. J." said Palmer, and they hung up.

Before he left his office, Wilder made a stop in the bathroom to wash himself off. It wouldn't be good for Mabel to notice the aroma that clung to him when he came to bed tonight.



When Sheila Eakins got to her apartment, she fed the cat, closed the curtains, went into the bathroom and brushed her teeth. She then took a large hit of mouthwash and swirled it around for more than a minute before spitting and rinsing.

Billy Joe Wilder was a wonderful man, she thought, and he truly needed her help and support, and she was thrilled that he turned to her to give him the strength to carry on the good fight. And the Lord wouldn't have made us of flesh and blood, she thought, with all the attendant needs if He hadn't intended us to fulfill those needs. But all the same, she'd be just as happy if Billy Joe were, well, maybe just a bit more conventional in his appetites.

She slipped out of her clothes and stepped into the shower. As she washed herself, she imagined that the hands moving over her body were Billy Joe's, and she remembered what he'd felt like, and she knew that she was truly doing God's work.

Chapter 5

The Spooks

There was a low hum from the panel in the wall as Dan Lightfoot aimed his right eye into the retinal scanner, and then a beep as the words “ACCESS GRANTED” appeared on the display. He inserted his key card into the slot in the door, and turning the handle, entered the offices of the Special Operations Section of the National Security Agency.

“Good morning, Mr. Lightfoot,” said the secretary as he entered.

“Good morning, Miss Ellerby,” he replied, sticking to their traditional script. She grinned as he went past her desk and gave her a subtle little salute. If Lightfoot weren’t a happily married man, he’d be all over Janet Ellerby, and she knew it, and he knew that she knew it. But he was happily married, and so they played their quasi-Bond/Moneypenny game a notch or two below the version played out in the books and movies. Still, she sighed slightly to herself as she watched him walk away. He was an awfully good-looking man.

Navigating the maze of corridors created by the cubicles in the large open area, Lightfoot made his way to Conference Room B. Upon entering the dark wood-paneled room, he found the others were already present, and he appeared to be late, since there was already a discussion in progress. As he moved to a seat at the near side of the conference table, the man at the head of the table looked up and interrupted himself.

“Dan, I’m glad you’re here. Now we can get started.”

“I’m not late, am I?” Lightfoot asked.

“Don’t worry, we’re all early,” said Gordon Winston, the Director of Special Operations.

Lightfoot traded nods with the others seated around the table.

To his immediate left was Archer Demarco, the agency’s resident historian. Next was Florence

Hummford, a specialist in languages and cryptology. On the other side of the table was a man Lightfoot didn't recognize, then Craig Polhemus, head of the agency's laboratory, and finally, Doug Lee, who didn't really have a formal title, but always seemed to be present at high-level meetings. Some within the agency considered him to be the "resident genius."

"Dan, you know everyone here except Roger McReady," said Winston, indicating the man sitting to his left. "Roger's a retired Air Force Colonel who was involved with Project Blue Book back in the 60's, and with several UFO research projects since then. I've asked him to sit in so we can get the benefit of his experience on aspects of our subject."

McReady and Lightfoot exchanged nods, and then both turned to face Winston.

"I know you're all aware of the events of the last few weeks in Antarctica, and that you've seen the press conference tape that was part of your briefing packages. Frankly, we have no idea if anything found down there poses a threat to the U. S. or any other country, but as is our custom, we like to stay on top of things.

"All of the experts we've contacted seem to agree that, if the data are correct with regard to dates, there's no logical explanation for this 'city' that's been located under the ice that meshes with any of the planet's history as we understand it. During the press conference, Stephanie Mitchell discussed the possibility of alien activity, and as wild as that may seem, based on the evidence, we have no choice but to include it among the possible scenarios."

Winston looked around the table for reactions, but this was a stoic group. So he added his kicker.

"Actually, it appears that this is the most likely scenario."

Lightfoot already had a fairly good idea why he'd been called into this meeting, but Winston's last comment confirmed it. Lightfoot was a field agent, but was also one of the agency's unofficial exobiologists, having made a hobby of keeping track of claims of alien activities. He'd even earned the occasional nickname of "Mulder," after the character from the "X-Files" television show.

"Are we planning to take an active role?" he asked.

"Not for the time being," said Winston. "We're going to monitor the situation until the research team gets its shaft dug. But when they've reached the surface — that is, ground level under the ice

pack — and have their workspace opened up, they're planning on bringing in additional personnel. That's when we want to have someone present, and Dan, that someone will be you."

Dan nodded. He'd seen this coming.

"Archie, could you give us some perspective on how this site fits in with any other artifacts found on Earth?"

Demarco cleared his throat. "Well, it pretty much doesn't. As far as the design is concerned, the overall pattern when viewed from above is based on equilateral triangles, while nearly all human cultures that developed construction technology based their designs on squares, rectangles, circles and ovals.

"As to the apparent age of the site, the only things that even come close are what have been called 'Ooparts,' which is an acronym for 'Out-Of-Place Artifacts.' These raised a little notice during the 70's and 80's in a couple of sensationalist books, and most serious researchers discounted them, but not all of them were completely debunked.

"For instance, there's what was known as 'Galt's Cube,' which was a perfect metal cube under an inch on each side with an indentation running around four of the sides that was supposedly found embedded in a piece of coal. There was also a gold necklace that was supposed to have been found embedded in a piece of quartz. Both of these couldn't possibly exist unless the objects had been present tens or hundreds of millions of years ago.

"But these examples have never been proved as being valid, so they remain in the realm of the speculative."

"So the bottom line is..." asked Winston.

"There's anecdotal evidence of extremely ancient artifacts, meaning tens of millions of years old, but nothing proven or concrete."

"All right. Thanks, Archie."

Winston turned to McReady. "Roger, can you give us a quick summary of what the Air Force's findings have been with regard to any sort of extraterrestrial activities?"

"Sure," said McReady. Now in his mid seventies, McReady had the craggy look of a flier despite

never having piloted an Air Force plane. He had “flown” desks at bases around the world, first in aerial port squadrons, then with Project Blue Book, and finally as an investigator in the Judge Advocate’s office at the time he retired. He leaned forward and clasped his hands in front of him.

“Despite all the commotion in the popular press — Roswell, and all that stuff — we were never able to verify any evidence that any alien presence has ever visited Earth. We had some tantalizing hints over the years, and personally, I’m not completely convinced that we’ve never had visitors, but we’ve never been able to prove it.”

“So what’s your take on the findings in Antarctica?” Winston asked.

“I’d say this is the closest we’ve come to hard physical evidence, assuming that what’s down there is some kind of artificial structure, and absent any other explanation.”

“So this finally could be the proof you’ve been looking for?” asked Lightfoot, though it was as much a statement as a question.

“Well, remember that officially, Blue Book wasn’t out to prove anything. Our job was to collate and investigate reports of alien activity. But yes, on a personal level a lot of us who were involved hoped we’d find some positive evidence eventually.”

“And now?” asked Winston.

“I must admit to being a bit uneasy.”

“Why’s that?”

“Everyone in the press conference keeps referring to whatever’s down there as a ‘city,’ probably because it covers roughly 85 acres. Since then, the reference has stuck in everybody’s mind. But what if it isn’t a city? What if it’s a ship?”

McReady paused to let the thought sink in for a moment.

“If it is, then that’s one big spacecraft.”

The room was still for a few moments before Winston spoke.

“Roger and I discussed this possibility several days ago, which is why I asked you to participate, Florence.” She nodded slightly. “There’s a possibility that we may need to deal with translation from what would be a completely alien language. I thought you might want to get a head start on how

you might tackle something like that.”

“Actually, there’s been some interesting work done on the subject already,” Hummford replied. “We assume, of course, that any alien culture would use a written or spoken language in essentially the same way we do, which may not be a safe assumption. For example, it would be possible to base communication on touch, or smell, or on postures — something like sign language. But it seems fairly certain that a technologically advanced species would need to be able to store and retrieve information, and visual and/or aural information is the most efficient method we know of for doing this.

“I’ll contact some of the people who’ve been working on the problem on a preliminary basis, if that’s alright.”

Winston nodded. “Be discrete, and keep in the back of your mind the possibility that you may need to go down there yourself.”

Lightfoot leaned forward in his chair as he spoke up. “Gordon, under what circumstances would we get involved on a large scale?”

“It’s very simple,” said Winston. “If there’s anything that appears as if it might affect national security, then we’d be prepared to take over completely, using both our own resources and those of the military. The site’s within the Australian sector, so we wouldn’t have much of a problem setting up joint jurisdiction.

“On the other hand, if the find proves to be benign, we’ll offer any assistance we can provide, but other than that, we’ll leave the matter in academic hands.”

Winston turned to Craig Polhemus. “Craig, you’ve had a chance to analyze some of the material brought up from the site. I know your results, but could you summarize for the others, please?”

Polhemus was a direct person, a bespectacled scientist who wasted few words. “It’s concrete, it’s apparently based on granite mixed with organic material, it’s artificial, and I have no idea how it was made or how we could duplicate it.

“From our analysis, this material was poured like concrete, but it set in a way that no concrete we know of would set. The molecular structure of normal, everyday concrete is relatively random. The

structure of this stuff is highly regular and interlocked in a way that I can't explain.

"Because of its density and molecular structure, it's one of the toughest materials we've ever seen. The team down in Antarctica went through an average of three diamond bits for every sample they were able to bring up. They had to fly in spares. Whatever that is down there, it's still there because it was built to last."

He turned to McReady. "And if it is a space ship, it's not only big, but it's incredibly heavy for something built to fly. That is, assuming that the entire thing is made of the same stuff."

McReady thought about this a moment, and tilted his head back without answering.

"Thank you Craig," said Winston, before turning to Lightfoot.

"Dan, when the time comes, you'll be heading down with an ID from the EPA, on the basis that there could be hazardous materials on site. That should give you full access without raising too many eyebrows."

Lightfoot nodded. The Environmental Protection Agency was a logical participant on the part of the government. It'd make an excellent cover.

"I've set up a briefing for you with a couple of their people who've spent time at McMurdo, and they should be able to provide the background information you need and material to study so that you can talk intelligently on the subject."

"Good," Lightfoot replied. It was something that he usually found enjoyable about undercover assignments: He got a chance to learn about subjects outside his own specialty.

Winston now turned to Doug Lee. "Doug, do you have any thoughts on all this?"

Lee frowned slightly, pursing his lips and staring at the surface of the table, and didn't immediately respond. In the pause, Roger McReady glanced first at Winston, and then leaned over the desk and looked Lee. "If it's not too rude of me, could I ask what it is that you do?"

Lee's expression remained the same, but he brought his gaze up to McReady. "I'm not really sure," he answered in his slightly nasal voice. McReady smiled slightly, and then sat back in his chair. After a moment, Lee responded.

"Gordon, I think we should be prepared for the possibility that what's down there under the ice is

not extraterrestrial in origin. We won't know until we actually get there, but personally, I doubt that it is."

"Would you care to share your thoughts on what it might be?" asked Winston.

"Actually, no. At this point I'd rather not. Let's just call it a hunch that I'd like to keep to myself for the moment.

"The one thing that I would like to suggest, however, in case nobody's thought of it so far, is that when the science team drills into the structures down there, the drilling should be done with full biohazard protections."

The room was silent for a long moment, as the group assimilated the implications of what Lee had said, and then Winston made a noise.

"Mphh!"

Chapter 6

First Touch

The jackhammers shut down, and Hal Reynolds waited until the crew shoveled the last of the ice away from the wall. He was standing on the dark gray concrete surface of the “Town,” as they’d come to call it, within a few feet of the main structure. Nine weeks had elapsed since the press conference in Berkeley.

The shaft from the ice surface more than 500 feet above measured approximately eight feet in diameter. A conveyor belt-type lift had been installed that could raise or lower people and equipment, and that carried excavated ice to the surface in buckets. Electrical cables and ventilation, water and exhaust pipes for the gas-powered compressors ran alongside the lift.

At the shaft’s base an area roughly 20 feet square had been opened up to a height of eight feet, much of which was already filled with equipment around three walls. Behind the North wall was “Town Hall” — the main structure.

When the shaft had reached the town level after three weeks of drilling, there had been quite a discussion about who should be the first person lowered on a sling. Dan Lightfoot, who’d only recently arrived, argued that since they had no idea what to expect, he should make the descent wearing protective clothing and a respirator, and armed with the detection equipment he’d brought with him. This would give him the chance to make sure there was nothing toxic at the lower surface.

Reynolds, however, was adamant about making the initial descent himself. His rebuttal to Lightfoot’s concern was that none of the samples brought up to date had shown anything hazardous at the surface. At most, they’d found layers of soil, ash and organic matter — moss, ferns and the like — sandwiched between the ice and the concrete.

In the end, Reynolds won out, or so he thought. In reality, Lightfoot decided that Reynolds’

arguments made sense, and opted not to press the issue. Reynolds did agree to take down one of Lightfoot's devices, a hand-held "gas sniffer," as Lightfoot described it. In reality, it was called a "MultiPhasic Analyzer," or MPA, and it could sample the air, read radiation levels and detect various types of energy including radio and microwaves, with all data recorded internally on a mini optical disk. Privately, Lightfoot called it his "Tricorder," after the devices on "Star Trek."

Reynolds' trip to the Town's surface — they now called it "going downtown" — had been uneventful, and Lightfoot's MPA found nothing more than Antarctic air and water vapor, along with traces of gasoline fumes from the generators and compressors up above. No radiation, no signals, no sign of any kind of electrical activity.

As the work space was opened up by a combination of drilling and melting the ice, the layer directly above the concrete surface turned from clean white ice into layers of dirt and ash averaging around three feet thick, as seen in the core samples, with various types of detritus embedded in it. There were moss, leaves and bits of ferns and other plants, but they also found the well preserved if somewhat flattened carcass of a small mammal, apparently a rodent, frozen at the ice/dirt boundary.

During the process of exposing the concrete surface, Stephanie Mitchell had supervised the survey of the organic matter, much as she would have at any archeological dig. Now the surface was clear and mostly clean and dry. The air piped down from the surface was not being heated, in order to prevent body heat and that given off by lights and machines from melting the ice around them.

As the drillers finished clearing the large ice chunks, Reynolds, Bob Sinclair and Lightfoot moved in with picks and trowels. Reynolds had told the jackhammer operators to stop short of the outer wall to guard against damage. While it was likely made of the same material they were walking on, and therefore very hard stuff, he wasn't taking any chances.

The three men began to chip and shovel away at the dirt and ice covering the wall just above the surface. After a few minutes' work, the last bits of dirt in one area fell away, revealing a small spot of the wall. A few minutes later, they had cleared several square feet of the wall, to a height of about two feet, and Reynolds signaled a stop.

Under the work lights, the wall appeared to be made of the same concrete type material as the

surface on which they stood. Brushing clear the base of the wall, Reynolds examined the point where it met the floor. It appeared seamless, as if it had all been poured at the same time as a single piece. When Reynolds tapped the wall with the flat side of his pick, it gave off the same dull “tink” sound as had the samples.

“Well, it looks and sounds the same,” said Reynolds. “Let’s find out for sure.”

Sinclair nodded, and crossed the cavern to a stack of equipment cases. He returned with a case about the size of a small suitcase. Opening it, he extracted a device about one foot long and eight inches square with handles at one end.

“Spectrometer?” asked Lightfoot, disingenuously. He knew precisely what it was.

“Yep,” Reynolds replied.

Sinclair flipped up the lid of what appeared to be a standard laptop computer that remained in the case, revealing a keyboard and display screen. He handed Reynolds a cable, which Reynolds connected to the spectrometer.

“This’ll zap the surface with a laser and vaporize just enough of it to get a reading on its composition,” Reynolds explained. Lightfoot passed on the chance to tell Reynolds that he not only knew how it worked, but had used much smaller and more sophisticated units than this relatively clunky example.

As Sinclair booted the computer and turned on the power supply in the case, Reynolds positioned the spectrometer, holding it against the surface of the wall. “Say when,” he told Sinclair. “Gimme a second,” Sinclair replied. He waited until the program finished launching, and then set the parameters for the analysis. “Okay, go.”

Reynolds pushed a button on the spectrometer, and there was a muffled pop as the laser fired. Less than a minute later the data appeared on the laptop’s screen.

“It’s the same stuff,” said Sinclair.

“No surprise,” Reynolds replied. “Okay, let’s start clearing a larger area, working in that direction.”

Reynolds was indicating his right as he faced the wall. Their echo soundings had shown what

appeared to be rough bands running up the three faces of the bottom portion of Town Hall. Reynolds was hoping the bands indicated stairways, which might in turn indicate an entrance.

The jackhammers went back to work, again stopping short of the wall so that the final few inches could be uncovered by hand. Reynolds left the latter task to three of the grad students, and he, Sinclair and Lightfoot returned to the ice surface — “uptown.”

The top of the shaft was no longer open to the elements. A large prefab shed had been brought in and erected to allow work to continue without regard to the weather, which was getting progressively nasty as Antarctica moved into Fall. At one end of the shed were offices and lab facilities, and at the other end were living quarters. While the main open area of the shed was not heated, the offices, labs and quarters were, and the three men removed their parkas as they entered the main office. Stephanie Mitchell was sitting at a computer, and looked up as they entered.

“Well?” she inquired.

“Same material,” Reynolds answered, “just as we expected.”

“Any organics on the wall’s surface?” she asked.

“No, it was clean from the ice level up, which doesn’t surprise me,” said Reynolds. “The angle’s sharp enough that not much could stick to the surface, especially since it must have been scoured by snow as the ice was building up.”

The lower part of Town Hall that made up the first level rose at just less than a 45 degree angle until it reached a height of about 60 feet. A flat area roughly 30 feet wide surrounded the second truncated pyramid that sat on top of the lower one. The second pyramid itself rose at the same angle, but to a height of another 35 feet, making Town Hall overall about 95 feet in height.

With his hunch that the rough bands might be stairways, Reynolds had toyed with the idea of sinking the shaft to one of the flat areas surrounding the upper pyramid, guessing that these would be the most likely spots for entrances. Doing so would save them 60 feet of drilling.

In the end, he decided to start at the base, since he was only guessing about the presence of stairs.

“They’re clearing East of where we first uncovered the wall, and should get to the midpoint where the ‘stairs’ are in a couple of hours.”

"I think I'll head down to watch for a while," said Mitchell. She finished the line she'd been typing, saved her work, and got her parka from the rack by the door. As she pulled it on, the phone connected to the cavern rang, and she answered it.

She listened for a moment, and then said, "Okay, I'll tell him," and hung up the receiver.

"That was Rank," she said to Reynolds. "He'd like you guys back down there. He says they've found something you'll want to see."

"Let's go," said Reynolds.

When the four team members got to the bottom of the shaft, Reynolds was surprised at how much progress had been made in such a short time. The exposed section of the wall was now perhaps ten feet wide and three to four feet high, with one section a few feet wide cleared to about six feet up, which was about as high as the crew could clear without bringing in something to stand on. Matthews came across the cavern to meet him.

"We've been working across and then up, and it's this section over here that you wanna look at," he said, leading Reynolds and the others to the highest-cleared section at the left of the exposed area, near where they had started.

As they reached the wall, Matthews turned on a flashlight to supplement the worklights in the cavern. He played the light over the surface of the wall, and it was immediately apparent why he had called them down.

"Wow!" said Reynolds.

"No shit!" replied Sinclair.

There, starting roughly four feet up the wall from the floor, was a horizontal band of markings about two feet high. Rather than being carved into the surface as with Egyptian hieroglyphs, however, these markings stood out from the surface, in relief. While Reynolds was no expert at languages or hieroglyphs, he'd taken courses that had surveyed the subjects, and though these were unlike anything he could remember having seen, he was certain that this was writing.

"Stephanie, you've probably had more exposure to ancient writing and symbols than the rest of us. What do you make of it?"

She took the light from Matthews and ran it along the exposed section of markings.

"I've never seen anything like these before, but I don't think there's any doubt that it's writing of some sort. Ornamentation tends to have symmetries, and there's no symmetry here. Also, look at the pattern — the symbols run in columns, the way Chinese would be written."

She pulled off her glove and was about to touch the markings when Matthews stopped her. "You don't want to do that," he said. "It cold enough that your skin will stick to it."

"Here, try this," he offered. He fished a surgical glove out of his pocket and handed it to her.

"I found out the hard way," he said with a grin.

As Mitchell examined the markings, Lightfoot turned to Reynolds. "Mind if I take some pictures?" he asked.

Reynolds was a bit surprised, but could see no reason why not. "Sure, go ahead," he replied. He was even more surprised when Lightfoot immediately pulled a camera from his pocket and proceeded to snap a half dozen pictures of the markings. Sensing that Reynolds hadn't expected this, he offered an explanation.

"Cameras are standard issue. There're times we need to document spills and other hazards before evidence can be removed or covered up."

Reynolds nodded. This seemed reasonable. In any event, photographs of the markings would be all over the Internet within days, if not hours, and Lightfoot's having the first shots would make no difference.

"Can I get copies?" he asked.

"No problem," said Lightfoot. "I'll transfer them onto a DVD-ROM for you."

It was only then that Reynolds noticed that Lightfoot's camera was a Canon digital model. While the results would look fine when viewed on a computer screen, they'd fall far short of the resolution obtained with standard film cameras. Of course, Reynolds had no way of knowing that Lightfoot's camera wasn't the same type you'd buy at the local photo shop, its imaging and storage systems having been replaced with the finest technology the NSA had at its disposal. The resolution and detail on the images Lightfoot had taken would virtually match those shot on film.

Over the next three hours, the crew exposed the surface of the wall from one end of the cavern to the other. As they reached the far right end, Reynolds and Sinclair stood close by, and when the grad students uncovered what could be nothing other than steps up the side of the pyramid base, Reynolds was elated. He'd been right after all.

He also realized that this meant a tremendous amount of work lay ahead, since with the approach he'd chosen they'd need to tunnel up the side of the pyramid to reach the next level. His alternative would be to sink another shaft from the ice surface about 60 feet north of the existing shaft, and bypass the stairs altogether. Doing so, however, would raise the possibility of missing something on the way up the stairs. Reynolds was assuming that any entrances to Town Hall would be at the upper level, but it was only that — an assumption.

The hour was late, so Reynolds told the crew to knock off for dinner. Afterwards, he assembled the entire team in the main office.

"We need to decide how we're going to tackle Town Hall. As I see it, we have two choices: we can dig our way up the stairway, or sink another shaft and come down directly at the second level."

He explained his thoughts on the pluses and minuses of the two approaches, and the team debated for a half hour before the consensus swung to going up the stairway from the current cavern.

"The thing is," Rank Matthews interjected, "if we're going up the stairway, I'm going to need some additional equipment and people. The guys are getting worn out just digging horizontally. Going up is gonna kill them."

Reynolds had anticipated Matthews' concern. "Yeah, we're gonna need more resources to pull this off. Both equipment and personnel."

"We're already over budget," Sinclair offered helpfully.

"I think it's time to shift gears here in a major way," Reynolds replied. "Arcon's already said thanks but no thanks on any additional funding, and Cal doesn't have a whole lot of spare cash floating around to toss at Geology. I'll talk to Royce Clayton and see if he has any ideas for some additional funding."

The meeting broke up, and Reynolds waited until everyone had left before placing his call to

Clayton. The two men spoke at least every couple of days so Clayton could stay on top of the situation.

Reynolds brought his superior up to speed on the day's progress before shifting to the topic of locating funding not only to maintain but expand the effort.

"Hal, given the magnitude of what you're uncovering, I'm pretty sure I can scare up some money to do the job right. This is a major find, and I'll be amazed if there aren't at least a dozen other universities that would love to be in on this. Give me a few days, but don't worry about it."

"Great, Royce. I'd also like to keep Rank Matthews and his three guys here. Could you see if Arcon would be willing to put them on leave of absence so they can stick with the project? I've already talked with Rank, and he and his people would like to see this through."

"I'll check with Greg Hurlburt at Arcon, but if they balk, I'd say let's just hire them away if we have to."

"Good. Royce, the press guys here know we found something big, and they wanna know what it is. If it's OK with you, I'd like to let them go downtown and see for themselves."

"I suppose word's going to leak out soon enough anyway," Clayton replied. "We might as well make sure the facts are revealed, rather than wild speculation. It's fine with me."

"Great. I'd hold a press conference, but it'd be kinda silly with only two reporters and a cameraman."

The two men said goodbye, and Reynolds got ready for bed. With the activity of the day, he hadn't had time to reflect on their findings.

As he lay in bed, he tried to imagine who and what the beings who had built the city were. He was leaning increasingly toward the theory they had been aliens, who came to Earth tens of millions of years ago, while dinosaurs still existed, built an outpost, and then departed. Or had they? Maybe their bodies were entombed inside the pyramids.

What did they look like? Was it they who killed off the dinosaurs? And if they did, was it by accident, perhaps through biological contamination, or was it on purpose, through hunting for sport or for meat?

As a scientist, he'd had a passing interest in the possibility of extraterrestrial life, but as a geologist, he'd never expected that he'd be the one to find evidence that it existed.

As he drifted to sleep, his mind filled with depictions of aliens from films and books. He imagined the city as it must have appeared while they walked its streets, and saw them climbing the stairway of Town Hall. He imagined himself following them up the stairs, and coming face-to-face with them at the top. And as his thoughts turned into dreams, he raised his hand, and said "Hello." And the aliens raised their arms, and...



Upon returning to his room, Lightfoot downloaded his pictures into his computer and transmitted them via secure satellite link to Florence Hummford. When the transmission was complete, he placed a voice call to her, again using his satellite phone.

"Hi, Flo, it's me. Did they arrive intact?"

"I'm looking at them now."

"What's your first impression?"

"This doesn't match any human style of writing that I've ever encountered, and I've seen just about everything that's been found. I'll run a computer check, but I doubt we'll find anything that matches. What's the scale here?"

"Sorry, but I didn't have a ruler with me — these were pretty impromptu. The band is about two feet high, so the average height of each symbol is right around two inches."

"The nearest thing I can think of is Sumerian. If you look at image number three, notice that the strokes have a wedge shape to them, but where Sumerian cuneiform characters are essentially straight, these symbols include curved shapes."

"Yeah, I thought of Sumerian writing when I saw them, too. What about the vertical orientation?"

"That matches early Sumerian, but the cuneiform shapes and the vertical orientation are almost certainly simply coincidental. This is definitely not Sumerian."

"How much of this is there?" she asked.

"These photos were from the first area uncovered. So far they've cleared a little more than 20 feet, and the band continues the full length of what's been exposed. I'd be willing to bet that the markings run around the entire structure."

"When can I get a larger sampling? I want to get the computer working on an analysis."

"The team photographer's working behind the crew, taking extensive photos. She knows what she's doing. She'll have them on DVD-ROM by tomorrow. The low-res versions will be posted on their web site by tomorrow afternoon our time."

"That's enough to give me a start," said Hummford, "but I'll need the hi-res versions as soon as possible."

"I'm sure I can find a way to borrow a copy of the disk and send them to you."

"I'll be waiting by the screen."

"OK. Talk to you then, Flo."

"Bye, Dan."

Lightfoot then placed a call to Gordon Winston. He briefed him on the day's findings, ending with the fact that Berkeley was going to try to obtain additional funding.

"Actually, they've decided to open the project to other schools. Reynolds and Clayton discussed it while you were talking with Flo."

Lightfoot knew that the NSA had been monitoring all communications from the site. "Any change in our position?"

"What do you think, Dan? You're down there. You've seen the thing close up. Do you think it's an alien artifact?"

"At this point I'd have to say yes," Lightfoot replied. "The sediment layer under the ice contained enough organic material to positively date it to at least 50 million years or so, which doesn't leave room for any other explanation. And the writing we've discovered just doesn't... I don't know, it doesn't feel human."

"Yes, I saw your photos," said Winston. He paused for a moment.

“Alright. We think this is an alien construction. But your scans detected no traces of radiation or electrical activity, and the site’s been buried for millions of years, so we can probably assume that it’s completely dormant. Even plutonium would have decayed to harmless slag in that amount of time. I think for now we can maintain the status quo. We have people ready to move on a moment’s notice if necessary, but for now I think we’ll keep a low profile and let the academic community continue.”

“Sounds fine to me,” said Lightfoot. “What about the general public? Do we try to keep this under wraps?”

“Dan, there are too many people down there, and too many ways for them to get word out to try to keep this a secret at this point. Conspiracy buffs may love to think that the government has been hiding evidence of alien contact for decades, but we both know that that’s nonsense.

“This is potentially the most exciting discovery in human history. I don’t think we could cover it up even if we had reason to want to.”

“I thought that’s what you’d say, Gordon, but I’m pleased to hear it nonetheless.”

“At the same time, Dan, there’s also the possibility that this could be the most dangerous discovery in human history. It’s possible — if not probable — that we’re dealing with an alien technology here. If so, their technology is without any doubt far more advanced than our own.”

“I’d say that’s a fair assumption,” Lightfoot agreed.

“Dan, I want to be optimistic about this discovery, but it’s my responsibility to take into account the possible threat to national security. Hell, for that matter, world security. A technology we don’t understand by its very nature brings the chance that there are hazards involved that we can’t even imagine. And it’s not just the potential for technological dangers that has me concerned. There’s the real possibility of biological danger. This thing appears to have been built at right around the same time the dinosaurs went extinct, and as we’ve discussed previously, this could be more than a coincidence.”

“So what are you leading up to, Gordon?” Lightfoot asked, although he had a queasy feeling he already knew.

“Now that we know the structures are definitely artificial, I want us to be prepared for every

contingency." He paused, as if for dramatic effect. "I'm sending you a package."

"That's what I figured," Lightfoot replied.

"It'll be contained in a spectrum analyzer which, by the way, is fully functional. It's tactical, very clean, with a yield of 50 kilotons. Contact George Quincy by secure line once you receive it, and he'll brief you on getting at the controls."

"Right."

"We managed to delay the next supply ship leaving from Tierra del Fuego, and it sails tomorrow, so you'll have it in about four days. Also on board will be a fellow named Dr. Arnold Greissman from the CDC. He's bringing in the gear you'll need for a complete Level 3 containment when it comes time to open the structure. He's been briefed, and he knows who you are and for whom you work."

"Good," replied Lightfoot. "I've felt a little lonely down here, surrounded by academics. They've been polite, but I've still felt like the odd man out."

"Before this is over I expect your population at the site will close to double. You'll soon have lots of company."

"It's gonna get cramped down here. It'll be several months before any new construction will be possible. In case you hadn't noticed, Winter's coming on soon."

"I've noticed, and frankly it gives me the heebie-jeebies that we have to wait for breaks in the weather to be able to land aircraft there for the next six months. If you end up having to evacuate, it could be quite a struggle getting everyone to McMurdo in bad weather."

"Let's hope it doesn't come to that."

There was a pause as both men contemplated the reason for and difficulty of an evacuation.

"Alright, I can't think of anything else at the moment. Keep me posted," said Winston, signing off.

"Will do."

Lightfoot finished up by resampling the high resolution images to the lower resolution a standard camera would provide and copied them onto a DVD-ROM for Reynolds. No point in tipping his hand technologically at this point, he thought.

Chapter 7

The Press

Dewey Manley sat in the main office, joking with Kelly Michaels, the pool cameraman from CNN, and Eric Jeffreys, the CNN reporter. Manley had been at the site for nine days, while the CNN crew had arrived only three days ago. So far, Manley had interviewed virtually the entire research team, but hadn't yet been allowed to go downtown.

The discovery of what appeared to be a city under the ice in Antarctica had created quite a stir in the press. Both Time and Newsweek had run covers featuring the computer simulation of the echo soundings that had been displayed at the press conference, and all major newspapers had run stories. The tabloids had of course gone crazy. ABC's "Nightline" had devoted two broadcasts to the story, interviewing Hal Reynolds before he had returned to Antarctica, followed on the second show by experts in geology, paleontology and exobiology, among others. The majority of the pundits were of the opinion that what lay beneath the ice in Antarctica was probably of alien origin, though the more reputable among them characteristically hedged their bets.

Since the support resources at the site were limited, it had been decided to allow one print journalist and one television crew to take a limited role in the project. Access to both information and downtown itself was to be controlled by Hal Reynolds. Manley had gotten his assignment through personal connections; the CNN crew, who would share their footage with other broadcast organizations, won their spot by lottery.

Manley and the CNN pair knew that something had been found the day before that had shaken up the research team, but everyone who knew what it was had been tight-lipped. The meeting that had been held after dinner had also been for team members only; Manley, Michaels and Jeffreys had spent the time playing poker and speculating on what was going on.

As Manley got to the punch line of the joke he was telling, the door opened, and Hal Reynolds came in, accompanied by Dan Lightfoot. The CNN crew were laughing so hard at the joke that Reynolds asked Manley to tell it to him and Lightfoot, so Manley complied.

“This guy goes into a little curio shop in Chinatown in San Francisco. He pokes around for a while, and he comes across this little brass rat. The workmanship’s incredible, like nothing he’s ever seen, and it almost seems to have an energy to it. He takes it over to the proprietor, an old Chinese man standing behind the counter. The proprietor says, ‘May I help you?’

“ ‘How much do you want for this brass rat,’ the guy asks. The proprietor smiles and nods and says, ‘For rat alone, ten dollar. For rat and story behind rat, one hundred dollar.’

“The guy thinks this over for a minute, and then he says, ‘Tell you what, I’ll take the rat for ten bucks, and you can keep the story.’ The proprietor nods and says ‘Very well, sir.’ The guy pays the ten dollars, puts the rat in his pocket, and leaves.

“So he’s walking down the street, and all of a sudden, from every alley, from every sewer grate, rats start pouring out, heading straight for him. He starts running, and the rats keep coming. He sees a cab, and he jumps in and yells to the driver ‘Take me to Fisherman’s Wharf!’

“The driver takes a look in his rear-view mirror, says, ‘No problem,’ and floors it. They’re speeding down to the wharf, and as they go, rats keep pouring out of every nook and cranny, following them.

“They finally get to the wharf, and the guy jumps out of the cab and runs down to the end of the pier, with the rats right behind him. He takes the brass rat out of his pocket and heaves it as far as he can into the Bay, and the rats go pouring off the end of the pier and into the water.

“After he catches his breath, he goes back up the pier, gets in the cab and says, ‘Take me back to Chinatown.’ He finds the shop, goes in, and the proprietor says, ‘May I help you?’

“ ‘Yeah,’ the guy says...

“ ‘Got any little brass lawyers?’ “

This cracked up everybody, even the CNN men who had already heard it.

After the laughter had died down, Reynolds brought the subject back to the business at hand.

“I apologize for the fact that we’ve been keeping our cards close to our vest, as it were. I think you know that we found something rather interesting yesterday, and we wanted to get a handle on it — and check with our bosses — before we went public.”

There was no need to whet the appetites of the three news men; they were ready for information.

“What we found was what appears to be writing on the wall of Town Hall.”

Manley was the first to speak up. “Is it in any known language?”

“No. It appears to be completely new, from the preliminary feedback we’ve gotten from our experts. We’ve sent digitized photos not only to Berkeley but to several other schools, and no one’s been able to match the writing to anything we’ve seen before. It’s new, and frankly, to my eye, it has an alien appearance to it.”

“When can we get copies of the photos?” asked Jeffreys .

“The photo lab’s already burned DVD-ROMs of what we have so far, and there’s a copy for you guys to transmit to your offices waiting for you in the lab.”

Manley leaned forward in his chair. “More to the point,” he said, “when do we get to go down?”

Reynolds grinned at him. “How about right now?”

The three news men grabbed their parkas, zipped up and followed Reynolds out of the office. Ten minutes later the entire group was standing near the stairway up the side of Town Hall.



“This is Eric Jeffreys for CNN, on location in Antarctica at the site of a remarkable discovery.” The picture showed Jeffreys standing in front of the base of the pyramid. “Behind me you see the base of the largest of the pyramids located back in January under more than 500 feet of ice. As remarkable as the mere existence of these structures is, the findings of the past few days have taken everyone by surprise.”

The picture cut to a shot of Jeffreys standing directly next to the wall’s base. “What you see here is writing that runs along the wall of the pyramid. This writing is in no language known to man, and is

presumed to be alien in origin.”

The picture cut to a slow pan of the markings, assembled from the digitized images Kelly Michaels had transmitted back to Atlanta. Jeffreys continued in voice-over.

“This writing has experts all over the world scratching their heads, trying to ascertain what it might mean. The best minds in linguistics are already at work trying to decipher and translate this obscure language in hopes of unlocking the secrets of this Antarctic pyramid.”

The picture cut back to Jeffreys.

“But that’s not all that’s been found.” He was now standing in front of the base of the stairway, and turned, waving his arm at it. “This stairway, just uncovered, leads from ground level up the side of the pyramid.” The picture cut to a slow tilt up the stairway. “Where it leads nobody knows, but it’s where this expedition is headed next.”

The picture cut to a shot of Stephanie Mitchell, with Jeffreys in voice-over.

“I spoke to Dr. Stephanie Mitchell, a paleontologist from the University of California at Berkeley who’s a member of the research team.”

The audio edit that followed picked Mitchell up in mid-sentence. “... we’re extremely excited by this discovery. We’ve been presented with something we’ve never before encountered, which is what appears to be a non-human language, which also implies a non-human culture.”

“By non-human, Dr. Mitchell, do you mean that this is an alien artifact?” Jeffreys asked.

“Well, of course, it’s too early to say for sure, but that’s the direction most of us are leaning at the moment.”

The picture cut to Jeffreys, back at his original position. “Five hundred feet below the ice of Antarctica lies a mystery that is only now starting to unravel. Are the structures here the work of alien forces, or is there another explanation? Only further exploration will tell.

“This is Eric Jeffreys for CNN in Antarctica.”



Writing Found on Antarctic Pyramid

Alien Origin Possible

by Dewey Manley
Times Science Editor

Antarctica – Researchers excavating a pyramidal structure located under more than 500 feet of Antarctic ice today announced the discovery of what appears to be writing of an unknown style and origin on a wall of the structure. Also found was a stairway starting at the base of the pyramid, presumably leading up to its second level, on which a smaller pyramid sits. The writing, made up of thousands of symbols neatly raised from the surface of the wall, does not appear to match any known human language.

The writing appears in a band roughly two feet high running along the side of the pyramid, and extending the full length of the exposed portion of the wall. Roughly one twentieth of the Southern base of the pyramid has been exposed to date, to a height of up to eight feet. Researchers here expect to find that the band of symbols extends around all three faces of the structure.

Dr. Stephanie Mitchell of the Department of Geology at the University of California at Berkeley, the research team’s resident paleontologist, offered her reaction to the discovery.

“It’s a tremendous find, with stunning implications regardless of who or what created these symbols. The mere existence of the structures we’re exploring had already challenged our understanding of Earth’s history, but there was always the small chance that these structures might have somehow been natural formations. The existence of what is clearly writing on the structure means first of all that these are artificial constructs, created by sentient beings, and second, that through their writing we may be able to learn who and what they were.

“We’re extremely excited by this discovery. We’ve been presented with something we’ve never before encountered, which is what appears to be a non-human language, which also implies a non-human culture.”

Asked if she thought the writing indicated that it and the structure on which it was found represents an alien artifact, Mitchell said, “Well, of course, it’s too early to say for sure, but that’s the direction most of us are

leaning at the moment. The age of the layer of dirt, ash and organic matter found covering the area surrounding the structure and under the ice, and dating of the material used in its construction dates its construction to at least 65 million years ago. That predates the start of human evolution by 60 million years or more. As we look for explanations, alien origin seems to be the one that makes the most sense.”

Preliminary comparisons of the symbols with human writing have revealed no matches. Dr. Andrew Stasny of the Department of Linguistics at Berkeley was one of the first experts to receive copies of the symbols for analysis. In a telephone interview, he stressed the tentative nature of the results so far obtained.

“I can’t say with absolute certainty that this isn’t human writing, but the examples we’ve seen don’t match any known language, either contemporary or historic. The closest match we’ve found is with ancient Sumerian, but there are significant differences that make us all but certain that this isn’t Sumerian or any of its offshoots.”

Samples of the writing have been distributed to numerous universities around the world, and an Internet teleconference will be held on Monday, April 14th to allow the various teams working on deciphering the writing to exchange information.

Meanwhile, as linguistics experts work on the writing, the research team plans to tunnel through the ice up the stairway on the side of the pyramid, on the assumption that an entrance will be located either along the way, or more likely, at the second level of the pyramid. Additional crew members and equipment, gathered from several universities, will be joining the effort over the next several weeks.

Unfortunately, with the Fall season well under way, the very act of getting to the excavation site becomes more difficult every day. Most personnel and equipment must be brought in by boat to McMurdo Station, which has served as a staging area. During increasingly rare breaks in the weather, fixed-wing aircraft and helicopters are being used to ferry people and gear to the excavation site, more than 100 miles from McMurdo Station. Ground transportation via heavy Snowcats is risky during the Fall and Winter months and well into Spring.

Dr. Harold Reynolds of U. C. Berkeley’s Department of Geology, who led the team that discovered the structures that are collectively called the “Town,” spoke of the difficulties that lie ahead during a recent interview.

“We’re now faced with the job of digging our way up the side of the pyramid at just under a 45-degree angle

for roughly 80 feet until we reach the second level. Digging down or horizontally is hard enough, but digging up is really difficult.”

Asked what he thought the research team might find inside the structure, Reynolds spoke speculatively. “Until we either find an entrance or drill our way into the pyramid, I can only guess, the same as everybody else. Everyone seems convinced that this was built by aliens, and I think that’s probably the most likely explanation, but it still remains a theory. If that is the case, then there’s every chance that this largest of more than 30 structures was something like a central headquarters. We call it ‘Town Hall’ because of its prominence. If we’re lucky, we’ll find more written records and other artifacts that will let us determine who built it.”

The excavation of the “Town” began with the drilling of a vertical shaft from the surface of the ice to ground level more than 500 feet below. There, an open space was dug out, creating an artificial cavern that now measures more than 20 feet square.

While the main effort will focus on opening up the stairway to the pyramid’s second level, as the size of the research team more than doubles over the next weeks and months, a second excavation team will begin tunneling from the current cavern horizontally a distance of about 45 feet to one of the smaller pyramids that surround the main structure. This much smaller pyramid measures roughly 20 feet to a side and 9 to 10 feet high, and the plan is to excavate it completely, opening a cavern in the ice that will surround it.

“The large pyramid is our main focus, but uncovering the smaller one will be a relatively quick job that could provide additional clues about the larger structure,” Reynolds explained.

The expedition that began as a project of U. C. Berkeley with funding from oil giant Arcon will now be expanded to include more than a half dozen universities, each providing not only funding but additional personnel and equipment. The excavation effort, already impressive, will grow significantly.

Whoever or whatever built this city that now lies under the ice of Antarctica, they’re obviously now either long gone, long dead, or both. 65 million years ago, before this continent was covered with ice, beings possibly beyond human imagination built a city and then seemingly abandoned it. The pyramids they left behind will provide the clues to who they were.

Whatever researchers here uncover, one thing seems clear already. Based on the evidence obtained, these structures at the bottom of the world are not the work of man. And that means that an age-old question may

already have been answered, which is: are humans the only intelligent life in the universe? The answer now appears to be no.

Times staff writer Shannon Carroll contributed to this report

Chapter 8

Translation

Florence Hummford took two images of the same section of writing, taken with lights set at opposing angles while the camera remained locked in position, and adjusted their gamma curves to create high contrast images. She then inverted the images, making the bright areas black and the black areas white. She then selected the dark areas of the first image and copied them onto the second image, creating a monochrome set of images of the symbols.

She then had the computer trace the edges, converting them into Bezier curves. In essence, she was creating a font, or type face, of the symbols. Once the computer “understood” the shapes, it could analyze the characters.

Having performed the procedure once, she set up a batch process to repeat it on all 47 remaining photo pairs, and while the computer ran through them, she rolled her chair over to the casting of a section of the wall that had been “lost” in shipment to Berkeley. The casting had been made with plaster colored to resemble the concrete of the so-called Town Hall, and she’d set it up at approximately the angle of the pyramid wall.

The uniformity of the characters was consistent enough that she was certain they were not carved by hand but created through some automated process. Where the same symbol appeared in multiple places, each one was identical to the others. She ran her fingers over the characters, and found herself thinking that there was a certain beauty to their design. There was also a vague familiarity to them that she couldn’t put her finger on.

At 48, Hummford had been studying languages since grade school. Short and trim, with long, dark hair she kept up in a bun, she was fluent in thirteen languages and could swear in more than sixty, though she demonstrated this ability only in the presence of close friends. After earning under-

graduate degrees in linguistics and mathematics and a graduate degree in linguistics at Harvard, she went on to teach at Cornell University for seven years before her recruitment by the NSA. There, in Maryland, she met the defense analyst who became her husband. They'd been married for seventeen years and had never found time to have children. Like her husband, she loved her work.

Her Macintosh said, "Oh, Florence," signaling that it had finished the batch run, and she rolled back over to her desk. She first ran a simple count, and found that there were 1,044 individual characters. She then had the program run a comparison to eliminate duplicate characters. The answer came back almost instantly: 81.

She then set up the program to search all available databases for matches, which would take a few minutes. As the computer silently went about its task, she considered what she knew so far.

A language with 81 characters indicated that the characters probably represented diphthongs, or sound combinations, assuming, of course, that the culture that created this alphabet used verbal communication, and that their written communication was its representation.

Written languages with a small number of characters usually were based on phonemes, where each character represents a sound. English and all other Western languages were examples.

Languages with a large number of symbols, such as Chinese, with thousands of characters, were based on pictographs, where each character represents a word. For instance, the symbol for house began as a picture of a house. In the early development of written language, pictographs were an easy and obvious choice, but as the complexity of a language expands, it becomes increasingly unwieldy. In the case of Chinese, for example, it's relatively easy to learn a few characters, but very difficult to become truly proficient.

Ancient Sumerian cuneiform writing had started as pictography, but evolved to a series of around 150 characters, each representing a syllable derived from the words that the pictographs had represented. It gained flexibility in the process.

Assuming the 81 characters used in the writing on the main structure represented the entire alphabet — probably including some form of punctuation — the language they represented would be more similar to a cross between Western and Sumerian writing than to Chinese.

The characters appeared in columns of nine, with even spacing between them, and it was this vertical alignment that led her to suspect that the language was written from top to bottom — or bottom to top, for that matter. But the characters were also aligned horizontally, albeit with more space between columns than between rows, so it was not impossible that the writing was actually horizontal.

Hummford next checked the distribution of characters in the sample, looking for classic patterns present in nearly all known languages. For instance, the letter “e” is the most commonly-used letter in English, while “z” is the least used. In the case of the sample from Town Hall, the distribution was surprisingly even. The most-used character appeared 32 times, and the least-used appeared five times, but most fell into a range of from eight to fourteen times.

The biggest problem she faced in trying to understand this writing was that if the characters indeed represented diphthongs or syllables combined to form words, she had no way of knowing where one word ended and the next began. All Western languages use spaces between words to define word boundaries, and punctuation to define sentence structure. But a written language could also use punctuation to define words as well as sentence structure.

The problem with word definition via punctuation in this sample was that the most common character appeared only 32 times. With a total of 1,044 characters, that would imply an average word length of roughly 32 characters. The average word length in Western writing, by contrast, runs from about five to seven letters. While an average word length of 32 characters was possible, Hummford doubted that this was the case.

She printed out a complete set of all 81 characters on a single sheet of paper, and leaned back in her chair to study them. There was a beauty to the curved wedges that made up this alphabet, and she was again struck by a sense of vague familiarity. There were characters that resembled Roman, Hebrew, Greek and Cyrillic letters to a certain degree, but none were exact matches unless a highly stylized typeface was assumed.

She tried to think what the shapes reminded her of... Yin and yang symbols? The curved blade of a scimitar? She stared at the sheet for several minutes, free associating, and then it came to her. The

curved strokes used in many of the characters looked like claws. Like the claws of a large bird, only perhaps not quite as curved.

Tucking that thought into the back of her mind, she studied the various shapes, looking for any inherent clues as to meaning. One might assume that punctuation symbols would be shorter or smaller than letters, since they are most effective when least obtrusive. The period at the end of a sentence, for example, is not easily confused by the eye with a letter.

The characters in her printout, however, ranged from a single stroke to a maximum of the four strokes of what looked something like a mangled “E”. There was a single straight horizontal line that bulged in the middle and tapered to points at either end, and a vertical counterpart, but neither was high in the distribution of characters.

“Oh, Florence,” her computer called. She turned to the screen to read the results, which were pretty much as she had expected. The computer had scored 26 “hits,” with the highest tolerance for variance of 57% and a mean of 22%. The hits were spread over 13 different alphabets.

In other words: “Eeep! Not a match!”

She converted the alphabet she had derived into a Postscript font that could be distributed to her research team, and then called Gordon Winston.

After brief pleasantries she said, “Gordon, I’ve finished an initial analysis of the writing found on the main structure, and I don’t have anything positive to report. We have a lot of work ahead of us.”

“Can you give me the layman’s summary?” he asked.

She recapped her findings for him, finishing with the computer analysis. “With only a third of the characters even similar enough to anything we know of to measure, and even then with high degrees of variance, and considering that the matches were spread over 13 different alphabets, the bottom line is that this is entirely new.”

“Alien?”

“I can’t say that for certain. But if it existed on Earth — well, actually, it has, come to think of it — what I mean is that it bears little or no similarity to any human writing we know of, so alien origin has to be considered as a possibility.”

“So what’s next?”

“I’d like to send what I’ve got out to my research team, to let them get started. Especially Pons at CIA and Reif at Northwestern, if that’s OK with you.”

“It’s fine with me.” Gordon knew that both men had security clearances. “Keep me posted.”

“Don’t I always?” she responded, and they rang off.

Sliding the printout she’d been holding during the conversation onto the desk, she called her husband to say she’d be late, and then got up and went to fetch a mug of coffee. She expected that long hours would be the norm for her for a while to come.

Chapter 9

Espionage

Billy Joe Wilder took the stage of the Diamond Cathedral to the thunderous applause of his audience, his purple satin robe shining under the stage lights. Two cameras on booms flew over the audience as spotlights played across the crowd while two others focused on him, one tight and one full-figure. In the control room, Sheila Eakins watched as the director called out shots to the camera crew and cuts to the assistant director.

Wilder drank in the audience's approval as they came to their feet in what to a lesser man might have been an embarrassing display of adoration. He held up his arms, motioning the crowd to sit down, which of course did no good. Bringing his arms down, he clasped his hands in front of him, putting on his "humble servant" face and nodding to the audience. The cameras soaked up his telegenic presence and bounced it off the Christian Cable Network satellite transponder, which in turn spewed it out across the United States. Other countries would have to settle for tape delay.

Finally, after several minutes, the crowd tired of applauding and began to quiet down as they took their seats. Wilder waited until the room was absolutely still before beginning his sermon.

"Dear friends. It's my humble duty to bring to you today a message of the greatest importance, delivered to me directly from the sweet baby Jesus," he began, with the name "Jesus" coming out as "Gee-yuh-zuz". He spoke with a measured cadence, crafted through years of practice.

"Now I know you've all heard about the Devil's work going on down in Antarctica, and you've heard the blasphemy being spread by the so-called scientists and the liberal media. And I'm here to bear witness to the fact that it's lies that you're hearin'.

"The Bible tells us that God Almighty created the Earth in six days, and that He did so about 6,000 years ago. But these charlatans in Antarctica would have us believe that this thing they've dug up,

this monstrosity, is millions of years old.” The crowd stirred in its disapproval, with numerous shouts of “No!”

“They trot out their phony science, their so-called carbon dating, and they claim it proves how old things are. But if the good Lord wants something to look like it’s millions of years old, that’s well within his power. These foolish people place greater trust in their science than they do in the revealed word of God Almighty!

“But that’s not where their blasphemy ends, oh no it isn’t. Now they claim to have found writing,” he paused for effect, “in a heathen tongue! Not English! Not Greek nor Latin nor any other tongue known to God or man. They claim that whatever’s down there under the ice is the work of aliens from outer space! They want us to believe that little green men — heathens from some other planet — built a city underneath the ice of Antarctica!” Again the audience registered its anger.

“But the fact is, we know that that’s simply not possible. And how do we know that it’s not possible?” The audience, not having a clue, fell silent.

“It’s not possible because God,” (“Gaaaaawwd”), “the Lord Almighty, our Heavenly Father, made man in his own image!” The close-up shot going out over CCN showed Wilder looking like he’d just eaten a canary. God, how he loved logic!

“Don’t you see, friends? There cannot be any little green men. Little green men would be an abomination, a perversion of God’s will!” This the audience could handle, and they responded with a chorus of “Amens”, with an occasional “That’s right!” thrown in.

In the control room, Sheila Eakins felt a tingle that quickly subsided when the director cut to a crowd shot that happened to pick up Mabel Wilder in the front row. The view cut back to Wilder, now hefting his Bible.

“Right here in Genesis, the Bible tells us ‘And out of the ground the Lord God formed every beast of the field, and every fowl of the air,’ but nowhere does it say a thing about the Lord God having formed little green men!” The audience howled its approval.

“He created man from dust, and then he created woman from Adam’s rib, and along the way he brought all the animals before Adam to give them names, and nowhere do we read of little green

men!"

Wilder waited until the crowd quieted down before he continued.

"My friends, whatever's down there, buried under the ice in Antarctica, has to be one of two things, and I pray to the Lord almighty that it's one and not the other. Whatever's down there has to be either the work of the Lord, or..." he tossed in a meaningful pause, "the work of the Devil!" He let the crowd buzz for a few moments.

"Now as good Christians, we have a duty to make sure the truth is revealed in this matter. And as the Lord Almighty's humble servant, I will not rest until this blasphemy has been refuted, and the truth of God has been revealed in all its glory! The Lord God, our Heavenly Father has asked me personally to go to Antarctica to uncover the truth behind this heinous discovery, and I dare not refuse." The crowd erupted in amens and applause. Wilder ignored the disapproving look on his wife's face and drank in the approbation. Now came the best part.

"Of course, mounting an expedition to Antarctica is an expensive proposition. So I must ask you today, as we pass the collection plates here in the Cathedral, please dig a little deeper than usual so that we may make sure that the word of God is heard in this time of crisis. And those of you watching at home, please do your part to help us spread God's word."

An 888 number appeared superimposed on screen, with credit card logos and an address where those without credit cards could send checks or cash.

As the collection plates were passed, Wilder launched into general comments and reiteration of what he'd already said, the better not to distract the audience while they were doing their most important job. Once the collection was nearly finished, and the folks at home had had time to call in their donations, he started one of his signature prayers, in which he instructed God on what needed to be done.

"Oh Lord our God, give us the strength and the wisdom to fight the forces of evil that rise up against us. Guide us in our efforts to spread Your word among the heathens. Smite the sinners, that they shall not prevail over the forces of righteousness." He spoke slowly, so that God could get it all down.

This went on for several more minutes, and then he turned the proceedings over to his musical director, who fired up the choir for a rousing rendition of “Onward Christian Soldier,” while Wilder retreated to his office. When the choir finished, the network would switch to a tape of one of his intimate chats, recorded earlier.

As Wilder was taking off his robe, his office door opened and Sheila Eakins entered.

“Billy Joe, are you really going to Antarctica? Isn’t it awfully cold there?”

“Now darlin’, don’t you worry your pretty head about that. I’ll follow God’s plan as he reveals it to me. If he wants me to go to Antarctica, then that’s what I’ll do.”

Wilder had no intention of getting even close to Antarctica, but that didn’t mean he wasn’t planning to extend his reach to the continent. In fact, he was completely confident that any approach to the research team with such a request would be rebuffed. On the other hand, the expansion of the research effort to a consortium of universities may have opened up a golden opportunity. If he raised enough of a stink, there was a chance he could arrange for a “biblical scholar” from HMU to join the team, giving him someone on the inside.

Sheila, however, took Wilder at his word, and again she started to feel that special tingle. The fact that Billy Joe would do whatever the Lord commanded, well, it made her... excited.

“Oh, Billy Joe!” she said, “I can’t get over how dedicated you are to doing the Lord’s work.”

Wilder knew that the sermon he had just finished, along with the buttons of hers that he’d just pushed could in minutes lead to a decidedly secular form of rapture. He’d seen the look on her face enough times before. But this was Sunday, and there were a lot of staff members roaming the halls. He also knew that his wife often came to his office following a sermon, and that his little announcement of his bogus travel plans had been a surprise to her.

“Darlin’, I’m just a servant of the Lord,” he replied. “Now why don’t you run along and see how things are going in the phone room. I expect we should see a near-record number of donations today.”

Sheila was a little disappointed, but also a bit relieved. She’d been ambivalent about their relationship ever since their first extracurricular tryst. On the one hand, she loved the attention, and she

wanted to help Billy Joe however she could, and some of what they did felt really, really good. On the other hand, she knew that in a strictly technical way, they were committing a sin, and there were some things he had her do that she really didn't like very much. So it was with a certain sense of relief that she said "Right, Billy Joe," and went to check how the tally was going.

Less than a minute after she left, the office door opened and Mabel Wilder entered.

"Hello, sweetheart," said Wilder, "what'd you think of the sermon?"

"What is this nonsense about you going to Antarctica?" she demanded without preface.

Wilder came around his desk and took her hands, leading her to the sofa.

"Now don't get all in a tizzy, honey bunch. I'm not planning on going to Antarctica myself. That was just part of my larger strategy. I want to place a representative at that research site, and if I hit 'em with the big guns first — meaning me — it'll be easier to negotiate having someone else go in my place."

She regarded her husband with a mixture of relief and wariness. This sounded like the kind of tack Billy Joe would take.

Mabel Richardson Wilder was three years older than her husband, the daughter of a wealthy owner of a chain of automobile dealerships. They'd met when Wilder had gone to work for her father. He'd been 28 and she 31 at the time. They'd been married for 16 years, and had never had children.

It was Mabel who'd insisted that Wilder be born again. She had been and still was a handsome woman, and the fact that her daddy was rich made her even more beautiful. Wilder had had no problem with becoming a born-again Christian if it let him land Mabel Richardson as his wife and Jimmy Richardson as his father-in-law.

But as Wilder was exposed to the wonders of fundamentalist religion, he realized that the money to be made selling cars paled in comparison to the opportunities that existed in saving souls. He'd switched careers, and over the previous 15 years had built one of the most successful televangelical empires in the country.

Mabel Wilder was no fool, and had few illusions about her husband. Yet having grown up with

money, she found it natural and comforting, and Billy Joe made sure she was always up to date on the good works that the ministry did around the world, especially when the reports were actually true.

They hadn't known each other in the Biblical sense for more than six years now, and Mabel was fairly certain that Billy Joe had been knowing his secretary on a regular basis, but she preferred not to confront the issue. She'd always found sex to be distasteful and rather messy, and was just as happy that she didn't have to provide that wifely service to him. While adultery was a sin against God, well, if it relieved her of the chore, then she could overlook it.

"Well as long as you're not actually going to go down to that awful place..." she said.

"Sweetheart, don't you never mind. I'm staying right here in God's country where it's nice and warm."

With that assurance, Mabel seemed satisfied, and after obtaining his promise that he'd be home for supper, she left. Returning to his desk, Wilder called Bobby Palmer.

"Bobby, did you see my show today?"

"Sorry, Billy Joe, I didn't."

Wilder briefed him on the essential details, and explained his strategy.

"I'll put up the money for HMU to become a contributing member of the consortium. What I need is one of your students — probably a grad student — who I can send in my place when they turn me down for a personal visit. I need someone who's a true believer. Someone who's willing to fight the Lord's fight if necessary, if you get my drift."

Palmer considered for a moment before replying. "I can think of two or three possibilities off hand. Gimme a couple of days to work on it. I know I can provide the right boy."

Before hanging up, Wilder asked Palmer to look up the phone number of Royce Clayton at U. C. Berkeley. As far as Wilder knew, the project was still being run under the official aegis of the university's Department of Geology. Palmer had easy access to academic directories, and provided the number quickly.

"Thanks, Bobby. I'll talk to you in a day or two."

“See ya, Billy Joe.”



Royce Clayton put down the phone, shaking his head as his assistant Joyce Hilliard came in through the open door with a short stack of folders.

“Was that Billy Joe Wilder the television preacher?” she asked.

“Yes it was,” Clayton answered. She’d fielded the call when the phone rang.

“What on Earth did he want?”

“He wanted to go down to the site.”

“Why?”

“Some mumbo-jumbo about wanting to make sure that the facts about what we’re finding aren’t being distorted.”

“Ah ha. And you said...”

“I told him no, of course. There’s no way I’d turn the site into a media opportunity for some religious nut case — er — some preacher.”

Hilliard smiled. “Don’t worry, your assessment doesn’t offend me in the slightest.”

“So then he starts in about how important this discovery is, and how great an impact it could have on religions of all faiths, and asks if I’d be willing to let Holy Mother University join the consortium and send a grad student.”

Hilliard looked slightly askance at Clayton. “And you said...”

Clayton shrugged. “He offered an up-front contribution of a million, with more to follow if necessary. Even with the participation of the other schools, that’s a tough figure to turn down.”

“And how is that not selling out?” she asked.

“Aw, hell, all we have to do is let them send down one goofy grad student. An observer. Hal and Bob can handle some idiot who thinks the world’s only 6,000 years old, or whatever it is they believe. I didn’t see what damage it could do, so I said OK.”

“Royce, I don’t know why, but I have to say, I’ve got a bad feeling about this.”

“Well, I’m not exactly thrilled myself. But I also figured that if I turned him and his money down, not only would we lose the additional funds, but he could put up a huge fuss that could cause us even more trouble. Off the top of my head I know of at least two of our larger donors who’re at least somewhat sympathetic to fundamentalists like Wilder. I was choosing — I hope — the lesser of two evils.”

“An apt description. Let’s hope we don’t regret it down the road.”

“From your lips,” he replied, with a twinkle in his eye, “to God’s ear.”

Chapter 10

The Mole

As he sat waiting in the reception area outside Billy Joe Wilder's office, Eugene Northrup kept his feet together on the floor, with his hands folded in his lap. He was dressed in a dark blue suit with a white shirt and a dark red tie. Occasionally Wilder's secretary would look over and, when he caught her doing so, smile at him, and he'd return her smiles. She glanced at him when he'd been waiting about ten minutes, and said, "It shouldn't be much longer, now."

"Thank you, ma'am," he replied.

Sheila thought he was a very handsome young man — muscular, about 23, she'd imagine, six feet tall with dark, close-cropped hair — and she found herself wondering what the muscles under his suit and shirt looked like.

Northrup thought the secretary appeared to be a proper Christian woman, attractive and in her early thirties, dressed demurely and very polite.

At about the 20-minute mark, the phone on Sheila's desk rang. She picked it up, listened for a moment and then turned to Northrup with a smile. "You can go in now."

"Thank you, ma'am," he replied. He stood up and strode to the door, and Sheila couldn't help but notice his ramrod-straight posture as he crossed the room.

As Northrup entered the office, Wilder rose from behind his desk and came around to meet him.

"My boy, it's good to meet you. I'm Billy Joe Wilder. Thanks for coming."

"It's an honor, sir," Northrup answered, shaking hands.

"Have a seat, son. Would you like anything? Some coffee, a soda?"

"No sir, I'm fine," Northrup answered, waiting until Wilder had taken his seat before sitting somewhat stiffly in the chair across the desk.

"Good, good. Professor Palmer tells me you're one of his best students."

"That's very kind of him, sir."

"Why don't you call me Billy Joe, son."

"Yes sir. Thank you, sir."

Wilder peered at Northrup over the top of his reading glasses for a moment, and then referred to the notes from his conversation with Palmer.

"I understand you're working on an advanced degree in physics."

"Yes sir."

"You were also a Captain in the ROTC."

"Yes sir. I'll be entering the Army as soon as I complete my master's degree."

"Very impressive background. Your daddy's a preacher too."

"Yes sir. First Baptist Church of Tysonville."

"Excellent, excellent." Wilder took off his glasses and looked straight at Northrup.

"I'm assuming that Dr. Palmer gave you some idea of why I've asked you to drop by."

"I know it has to do with the discovery in Antarctica, sir."

"Well, that's right. Tell me, what do you know of what's goin' on down there?"

"As I understand it, sir, a team from U. C. Berkeley uncovered what appears to be a city buried under the ice. They then discovered what appears to be writing on the wall of one of the structures, which doesn't appear to be in any known human language. They've speculated that the artifacts may be of alien origin, sir."

This repeated "sir" stuff was beginning to grate a bit on Wilder, but he supposed that with a boy who'd been a top-rank ROTC cadet, it was part of the package.

"And tell me, what do you think of that."

"I'm not sure, sir. I haven't given it much thought."

"You've heard that they're sayin' that this 'city' they've found is 60 or 70 million years old, haven't you?"

"Yes sir, I have."

“And what’s your take on that?”

“According to our best biblical scholars, the Earth is only around 6,000 years old, so I don’t see how that could be correct, sir.”

Wilder smiled broadly. “My point exactly, son. I wish more people would accept the truth like you do.”

“Yes sir.”

“Now, Eugene — or do you go by Gene?”

“Eugene, sir.”

“Now Eugene, we don’t feel like we can just sit around here twiddlin’ our thumbs while those scientists down in Antarctica go distortin’ the truth as revealed in the Holy Bible. At the very least, we feel it’d be best if we had one of our own people on the scene — someone who could make sure that the true facts were bein’ presented.”

“Yes sir.”

“Let me come right to the point. How would you feel about going down there and joinin’ the research team as the official representative of HMU, and the unofficial representative of the Church of Clear Light?”

For the first time, Northrup’s composure relaxed a bit, and a smile crossed his face. “Why, I’d be honored, sir.”

Wilder smiled broadly. “Outstanding, my boy, I was hoping you’d say that.”

“When would I go, sir?”

“I’ve already set things up with Dr. Palmer. You’ll be on leave from your current work, and you’ll be receiving special credit for your efforts on this assignment. We’ll have your gear ready within three or four days, and then you’ll fly to Tierra del Fuego to board the boat for Antarctica. You should be there within ten days at the outside.”

Northrup couldn’t believe his good fortune. As the middle of five children of a not-very prosperous country preacher, the only place he’d ever been besides his home town was HMU. He’d always wanted to travel, which was one of several reasons he’d gone through the ROTC program. He fig-

ured the Army would give him a chance to see other towns, perhaps other countries. But Antarctica was far more exotic a place than he'd ever hoped to visit.

"Now, son, there's something serious that we need to discuss before we go any further."

Northrup leaned forward slightly in his chair. "Yes sir?"

Wilder knew he had do deal with what would come next very carefully.

"These findings down there, well, they could represent a challenge to what we know to be the truth as revealed in the Scriptures. And I'm particularly worried that what we're seein' here is the work of the Devil himself. Do you understand?"

"I think so, sir."

"Son, I'll be honest with you. One of the reasons you were picked for this assignment is your military training. Frankly, you may be walking directly into the lion's den. If this indeed is the Devil at work, well, it might just become necessary for you to take actions in the name of the Lord to defend our entire planet against old Beezlebub." Wilder watched Northrup's face closely, trying to judge his reaction. A slight frown appeared, and then Northrup responded.

"Sir, I stand ready to fight for the Lord if necessary," he said with conviction.

"Excellent," Wilder said softly. "You're a true Christian soldier, my boy."

"Yes sir!"

Wilder proceeded to go over some of the details of the assignment. Northrup had been accepted as an observer, and wouldn't have specific duties on site. It was expected, however, that he'd help out as necessary and possible, under the direction of the U. C. Berkeley team and Dr. Harold Reynolds in particular.

When they got around to the possibility that he might be forced into taking aggressive action, Northrup brought up the question of weaponry.

"We've got a fellow who's a commander in one of the God-fearing militias who tells me he can fix us up with whatever you need," said Wilder. "Your gear will be packed in a shipping case and shipped as cargo, and he says he can package everything so that there's no way it'll be detected."

"Excellent, sir," Northrup replied.

After a few more items were covered, Wilder thanked Northrup for his participation, and promised to be in touch over the next few days. It was everything Northrup could do to keep himself from saluting as he left, but he managed not to.

On his way through the reception area, he smiled at Sheila Eakins and said, "Good afternoon, ma'am." "Good afternoon," she replied, watching him leave through the outer door. My, but he was a good-looking young man!

Her phone rang with the intercom light flashing, and she picked up the receiver.

"Sheila, is there anything or anybody else on my schedule for the rest of the day?"

"Why no, Billy Joe, everything's clear."

"Then I wonder if you might come in and help me with somethin' for a little while."

"Why, of course, Billy Joe."

Before she entered his office, she closed the outer office door. Entering Wilder's office, she leaned against the door as she closed it, turning the lock as she did. When Billy Joe needed her help with somethin' for a while, it wouldn't be good to be disturbed.

Chapter 11

The Outhouse

Reynolds entered the new chamber behind Rank Matthews, accompanied by Bob Sinclair, Dan Lightfoot, Jill Hodge and Stephanie Mitchell. Two of Matthews' crew were finishing up the cleanup of the mud on the floor of the chamber as they came in.

The small pyramid, which measured roughly 20 feet on each of its three sides and 9 feet high, was completely exposed. Because of its much smaller size relative to the main pyramid and its relatively close proximity, some of the tunnel crew had started calling it "the Outhouse," and the name had stuck.

The ground level around it had been cleared to a space of about six feet on all sides, and the ceiling of the chamber, which was roughly dome-shaped, cleared the top of the truncated pyramid by about four feet. Work lights illuminated the pyramid from all three sides, and a six-inch duct had been run in through the tunnel to pump cold air in to prevent the ice walls and ceiling from melting.

Like the main pyramid, this smaller structure also had writing on its wall, at the same height off the ground as the larger one, and again in a band about two feet tall. Jill Hodge immediately set about photographing the writing, using a hand-held camera. Later she'd return with her tripod and lights to do a more thorough job.

Reynolds turned to Matthews. "What's up top?" he asked.

"It's not flat," Matthews replied. "It's got a slight peak to it, tapering up from each of the three sides about two feet above the top of the walls. But it's close enough to level that you could walk on it."

Reynolds walked along the wall facing the entrance from the tunnel, playing a flashlight on the surface. "Any evidence of an opening?" he asked, just as he noticed the gap in the band of writing.

Looking closely, he saw that there was a seam running up the wall.

“I think you’ve found the answer yourself,” said Matthews.

Reynolds traced the seam — a fine crack, really — to the floor, and then back up and down again. It was in the shape of a fat triangle with curved sides, with the sides loosely echoing the angle of the walls to the left and right, ending in a point perhaps eight feet off the ground.

“It’s a doorway!” Reynolds exclaimed.

“Yeah, that’s what we thought, too,” said Matthews. “But so far we haven’t found a keyhole, much less a knob.”

Reynolds scanned the triangular area with the light, looking for any sign of a button or opening or control. The writing on the walls to either side stopped at the “door,” if indeed that’s what it was, and the door itself was smooth, save for the fine granularity found on all surfaces of the Town. He took his pick from his belt and tapped the door. Then he tapped the wall next to the door. If there was any difference in the sound, he couldn’t detect it.

Just looking at the door, it was hard to imagine how it might open. The crack between its sides and the walls wasn’t wide enough to be able to insert the blade of a pen knife, and there was no sign of hinges. The floor in front of the door showed no evidence of tracks or scrapes, so it would appear that it had to move into the pyramid in order to open.

“What would it take to drill through this,” he asked, turning to Matthews.

“Hell, we have no idea how thick it is.”

“Still,” Reynolds replied, turning back to the pyramid, “how would you tackle the job?”

“Well, we’d bring in an oversized freestanding drill press and use a cylindrical diamond blade — blades, more likely — to drill in at a perpendicular to the face of the wall. With what we have, we could put a six-inch hole in the door, assuming that it’s not more than about a foot thick.”

“OK,” said Reynolds, “I want to hold that open as a possibility. First, let’s see if we can get this thing to open on its own.”

“Hal,” said Sinclair, “if that is a door, and if it ever opened on its own, it took some kind of power to open it. It’s gotta be one heavy sucker. And whatever power source was used to open it has to be

long dead.”

Reynolds looked at him, but said nothing.

“I mean, even a nuclear power plant would be dead after tens of millions of years.”

Reynolds considered this for a few moments. Sinclair was probably right, but he saw no need to rush.

The ancient Incas, he thought, had built incredibly massive structures with tolerances between their building blocks every bit as tight as these, and had moved massive blocks over long distances using techniques that no anthropologist or archaeologist has ever discovered. If relatively primitive humans could do that more than 1,000 years ago, what might advanced beings from somewhere else be able to accomplish?

“Bob, for all we know, nuclear power was something these people used for their children’s toys. We can drill into this thing any time we want, but I’d like to take some time to see what we can discover before we apply a brute force approach.

Stephanie Mitchell, who’d been walking along the side of the pyramid examining the writing, couldn’t stop from turning and looking at Reynolds with a certain amount of admiration. Here was a guy who was a geologist, whose profession at times entailed blowing up natural formations to see what they were made of, and his first instincts were more like those of an archaeologist. She’d always rather admired Reynolds, but this reaction drove his stock up a couple of points in her eyes.

Reynolds decided to try to apply logic to the situation. So... Let’s say you’re a bug-eyed monster from an advanced civilization, and you’ve come to Earth for who knows what purpose, and you’ve built an outpost. Your buildings have doors. You need to get in and out through these doors. Here on Earth — make that, in human cultures, we use doors too. We put knobs and keyholes in them so that we can open them and close them, and lock and unlock them. How complicated can a door get, he wondered.

Knob, key. These seem pretty universal.

“Not if you’re talking about, say, an elevator door,” said Lightfoot. Reynolds realized with a slight start that he’d been unconsciously muttering to himself out loud.

“That’s right,” he replied, “an elevator door opens with a button next to it.”

“Or how about a garage door,” Sinclair piped in. “It opens with a remote control. These folks could have had clickers around their necks, or on their belts, or whatever.”

“Yeah, but the problem with remotes is that they can get lost. A garage door has to open with a remote in order to make any sense, and you can clip the remote to your sun visor, but a door in a building should have a way in permanently attached.” Reynolds started examining the writing directly to the sides of the door, and saw there was something he hadn’t noticed before.

To either side, the band of writing, again nine characters high, stopped abruptly. In between the ends of the band and the sides of the door were symbols that appeared to stand alone. At each side, there were nine characters arranged in a square shape, with three on each of three rows.

“Steph,” he called out to Mitchell, who had turned the corner to his left. “Yeah,” came her reply.

“Would you come look at this?”

Mitchell came back around the corner and joined him at the left side of the door.

“You’ve spent a fair amount of time studying the symbols. Do these match what we’ve seen so far?”

“Let me check,” she answered. From a pocket of her parka she pulled out a MessagePad and called up the database of symbols, scanning through them as they were displayed six at a time on the small screen.

“Well, I’m not sure about this one,” she said, indicating one in the second row, “but the rest don’t appear to match any of the other characters we’ve seen.

They had now uncovered and analyzed at total of 23,886 characters, all of which were part of the basic set of 81 characters. Apparently, they’d just discovered an additional nine characters.

“What does this remind you of?” he asked.

“Um...” she thought for a moment, before suddenly brightening. She nodded. “How about a numeric keypad?”

“Just what I was thinking,” said Reynolds.

Reynolds moved to the right side of the door, where there was another set of nine symbols. Com-

paring the two, he found that they consisted of all but two of the characters at the left, and with two of the characters repeated. He also noticed a subtle difference from the ones to the left of the door.

"Does anybody have a magnifying glass?" he hollered. "I've got a loop," Jill Hodge yelled from the other side. Hodge took the shot she'd been framing, and then grabbed her loop from her camera bag and came around to where Reynolds — and now the rest as well — were standing.

Taking care not to let his chin touch the surface, Reynolds leaned forward until he was lying against the pyramid wall. He put the loop on the wall at the edge of one of the left side symbols, and examined it through the lens. At the edges of the characters there was a very fine gap between them and the wall itself.

"These are buttons!" he half-whispered, half-shouted.

He scrambled over to the right side, and repeated his examination of the characters there. No gaps. These were just like all the other samples of the writing they'd found.

"My god, those are buttons on the left side! It's a combination lock!"

"Jeez, do you suppose these characters on the right might be the combination?" Sinclair wondered.

"Why install a combination lock, and then plaster the combination right next to it?" asked Matthews. "What would be the point of that?"

"It'd make perfect sense if you wanted to keep out people — or creatures, more to the point — who couldn't read," said Mitchell.

"Right," said Reynolds. "You're building a city in what was probably the middle of a jungle. There are lots of big, hungry but incredibly dumb critters all around you. You want to keep them out, but let your own kind in."

"So why not use a universal key code?" asked Sinclair. "Why have a different combination for different buildings?"

"I don't know, but I'd be willing to bet that that's what we've got here."

"So why not try it?" asked Matthews.

"Right, like it's just going to open up," said Sinclair.

"You never know till you try."

"Rank's right," said Reynolds, "although you probably are too, Bob. I mean, we've got nothing to lose."

Lightfoot had remained silent so far, but it was now his turn to enter the discussion.

"I'm all for seeing what happens, but on the slim chance that the door would open, we need to take some serious precautions here."

Reynolds stepped back. He hated to admit it, but Lightfoot was right. They'd agreed on full Level 3 containment before opening any of the pyramids.

"Dan's right," he said. "We need to establish our protocol. OK. I'd like to call a meeting of the science team along with you, Dan, and the guy from CDC." Lightfoot nodded.

"Rank, we're gonna have to open up some more work space in front of the door for the airlock."

"I'll get my guys on it right now."

"OK, folks, let's go back uptown."

The group made their way back through the tunnel. The main chamber now measured nearly 80 feet along the side of Town Hall by from 40 feet at its widest down to less than ten feet at the far end. The shaft to the ice surface had been enlarged, and there was now a construction-style elevator that could carry up to six people at a time. The cavern was crowded with equipment, storage crates and even a miniature forklift and two front loaders, all electric. The team now included 18 people from an assortment of schools and government organizations, with even more expected.

As the elevator rose, carrying Reynolds and the others, he looked at all the equipment and people and activity and found himself thinking, "Damn! All we did was take some simple echo soundings..."

Chapter 12

The White House

Gordon Winston walked down the hallway unescorted. He'd been to the White House on several occasions, and had met the President twice at social functions, but this would be his first meeting in the Oval Office.

As he entered the antechamber, the President's secretary got up from her chair immediately, and with a polite smile said, "You can go right in. They're expecting you." She opened the door for him.

President Carl Dellinger was sitting on one of two facing love seats on either side of a small coffee table at the opposite end of the office from his desk. Next to the President was General Vincent Hammond, Chairman of the Joint Chiefs of Staff. Across from him was Larry Chapin, Director of the National Security Agency, Winston's boss.

"Ah, Gordon, good to see you," said the President. "Please be seated," he said, indicating the place next to Chapin.

"Good morning, Mr. President," said Winston, "General Hammond, Director Chapin," he said, nodding to the two men.

"Gordon, we were just discussing the situation down in Antarctica, and since you've been in direct contact with your man down there, it seemed most appropriate to have you participate in this meeting."

"It's my pleasure, sir," Winston replied.

"I understand they're planning on trying to open one of the smaller structures."

"That's correct, sir. They're hoping to be able to make an attempt within a few days."

"And your man is on the scene?"

"Yes sir. Dan Lightfoot, one of our best and most experienced field agents. If they manage to

open the door to the structure — the small pyramid — he'll be one of the first two men inside, along with Dr. Arnold Greissman of the CDC."

"And I understand that he's equipped with everything he might need in the event things were to get out of hand?"

Winston glanced at Chapin, who gave the slightest of nods. "Yes, Mr. President. He has with him a 50 kiloton tactical device that can be detonated within less than 30 seconds if necessary." When the other three men continued to look at him without saying anything, Winston added, "He's been fully briefed on the circumstances that would require such action." Winston looked at the three others in turn. "And he's prepared to do what's necessary," he added.

"It's the circumstances under which the device would be used that we're here to discuss, Gordon," said Chapin. "Would you mind summarizing for us the orders under which Agent Lightfoot is currently operating?"

"Well..." said Winston, "Since we really don't know what we're dealing with, his orders have been necessarily broad. The device would only be used if he were to determine that whatever they find is without question a threat to the security of the United States or the world population in general." He paused for a moment. "Frankly Mr. President, we feel that if something down there were to be a threat to U. S. security, almost by definition it would also be a threat to the entire planet."

"Can you give me an example of what Agent Lightfoot would consider to be without question a threat?" asked the President.

"Our greatest fear is of biological contamination. Since it appears that we're dealing with a city built by... well... extraterrestrials, there could be some form of biological material that's survived even after tens of millions of years that could be extremely dangerous. Beyond that, the simple fact is that in trying to anticipate what they might find, we simply have no idea what the possible hazards are. Opening the structures could trigger the release of gases, radiation — possibly of a type about which we know nothing — or any other of about a dozen scenarios that were brought out in brainstorming sessions. For all we know, the structures could be booby trapped in some way."

Dellinger leaned back on the seat. He knew that this latter possibility had been discussed, and it

had caused him great concern. He had considered ordering the entire site shut down and sealed off, and it had only been when Dan Lightfoot had found no traces of radiation or electromagnetic energy that he'd somewhat reluctantly allowed the project to continue.

"This is why we took the rather unusual step of arming our man with the device, and in essence leaving its use to his discretion. Agent Lightfoot has degrees in both chemistry and physics, and he's also been one of our unofficial exobiologists. He's a former Naval officer, and his record as a field agent is superb. But he's also a family man, and his personality profile rates him as one of the most stable and well-adjusted people we have."

The President leaned forward. "Gordon, I don't mind telling you that I'm very uncomfortable with having a tactical nuclear device in the hands of a single individual. I reviewed Agent Lightfoot's record before approving him for the job, so what you're telling me is familiar ground. What I'd like to know is your personal take on him."

"I've worked with Dan for nearly 13 years, Mr. President, and I'd trust him with my life. Come to think of it, I — we — may possibly be doing just that. I can't think of anyone I'd rather have in that position."

"I'm pleased to hear you say that, Gordon," said the President. "At the same time, I'd like to see if there's any way we can tighten up the rules of, shall we say, engagement. Do we know anything now that we didn't know when Agent Lightfoot left for Antarctica?"

"Not a significant amount, really," replied Gordon. "We've had our own people along with platoons of specialists at schools around the country — around the world, for that matter — studying the writing that's been found on the walls of the two pyramids. There seems to be no question that it is indeed writing, but so far no one appears to be even close to cracking it."

"The biggest change in plans since Lightfoot left was the decision to open the small pyramid first, which was a decision we applauded. We feel the threat may be smaller going into what we assume is a structure of lesser importance, and that what we learn may help better prepare us for the main structure."

"On the other hand, it also changed the implications of using the device."

“How so?” asked the President.

“We assumed that if necessary, the device would be detonated inside the main pyramid. If set off inside the upper section, this would most likely vaporize the upper part, and presumably most if not all of the lower part, along with anything contained within it. Now that the smaller pyramid is being opened first, the problem becomes a bit more complex.

“Setting the device off inside the smaller pyramid would almost certainly vaporize it, but there’s a good chance that the main structure would survive with little or even no damage.”

“Even with 50 kilotons?” the President asked. “Good God, that’s more than twice the Hiroshima yield.”

“Our testing of the material used to construct these pyramids shows that it would hold up better than almost anything we have at our disposal. If the device were to be detonated inside the smaller pyramid, then — depending on the thickness of its walls, which is information we don’t yet have — a fair amount of the energy would be absorbed just turning it into vapor. In effect, it, along with nearly 75 feet of ice, would act to shield the main pyramid.”

The President considered this for a moment, and then shifted gears. “How many people are currently at the site?”

“Eighteen presently, with another half dozen in transit and due to arrive within a few days,” Winston replied.

“And what’s our worst-case scenario?”

“The worst case would be for Lightfoot to find something that presents a clear and immediate danger. And by immediate, I mean right then. As I mentioned, he can arm and detonate the device in less than 30 seconds. This would of course mean the loss of all personnel.”

“What the best-case scenario that would include the use of the device?”

“He finds something that presents a clear danger, but determines that there’s time to evacuate before the device detonates.”

“How long would evacuation take?” the President asked.

“It depends to a large degree on the weather, which at this time of year, is working against us, but

in any case, it'd be about an hour. Minimum safe distance would be at least three miles, but ten would be better. Best of all would be getting everyone back to McMurdo.

"In bad weather they can use the Snowcats to get to minimum safe distance in as little as an hour. In good weather, a C-130 could evacuate the entire crew to McMurdo in about an hour and a half."

Again the President took a moment to consider Winston's information. "All right, is there anything else we should discuss about the nuclear option?"

"Actually, there is, sir," Winston replied. "One of our people pointed out something that I must admit I hadn't considered," he said, not referring to Doug Lee by name.

"What's that?"

"It's along the lines of the booby trap possibility, but in this case an unintentional booby trap. We have no idea of course what we'll find inside either of the pyramids, but one possibility is that there remain the remnants of either a power source or an actual weapon that would be triggered by our device. Rather like the way a fission device provides the trigger for a thermonuclear device. Only we have no way of knowing how powerful such an explosion might be."

"You mean it could be more powerful than a hydrogen bomb?" asked the President, using the word "bomb" for the first time, rather than the "device" euphemism preferred by defense and intelligence people.

"Sir," Winston replied, "we simply don't know. We don't have the technology to build a device that could destroy an entire planet, but we can imagine such a capability."

The room was silent as the President slumped back on the seat. This was precisely the kind of thing he didn't want to hear. It was bad enough putting a nuclear bomb out in the field in the hands of a single man, but to now learn that there was the possibility — however slim — of blowing up the planet was just too much.

"I like this idea less and less," he said. The others remained silent as he considered the situation.

"Alright," he said, again sitting upright, "what other options do we have, short of the nuclear one?"

Winston was ready for this. "Again, Mr. President, our major concern is biological. An alternative

would be to simply seal the entire site back under the ice in the event of trouble. It's been down there, not hurting a soul, for 65 million years. If we sealed it back up, there's no reason it shouldn't stay down there for another 65 million years."

The President brighten visibly. "What would it take to do that?"

For the first time General Hammond spoke up. "We could provide shaped charges that would be placed at varying depths in the shaft down to the site that would bring 500 feet of ice down over it. It would be almost as if the shaft had never been sunk."

"How many charges would it take?" asked the President.

"Just off the top of my head, I'd probably want to see three at each level, every 50 feet or so, so I'd guess around 30 altogether."

Chapin spoke up, as if it was now his turn to contribute. "Of course, it'd be virtually impossible to get that number of charges in place and wired without it being obvious to the scientific team what we were doing. That's a job for the military, not for covert operatives."

"I agree," said Winston, "which would mean obtaining the cooperation of the research team."

"That I'm not worried about," said the President. "They might not like it, but to me it sounds like a prudent precaution. And I like it a hell of a lot more than our other option."

"Does that mean that you want us to remove the nuclear alternative, sir?" Winston asked.

"No... I think we should have all bases covered. But your suggestion gives us additional options, and makes me much more comfortable with the situation. It also gives us an excuse to get the military involved. I don't want to turn this into a military operation by any means, but I'd feel better having someone in the direct chain of command on site."

He turned to Hammond. "How long would it take you to get a team down there and do the job?"

"Depending on what the Navy's got in the area, I'd guess possibly as soon as a few days."

"Good, good." The President rubbed his hands together. He felt much relieved.

"How are we going to break the news to the scientific team?" asked Winston.

The President smiled. "Gordon, you just leave that to me."



Dan Lightfoot knocked on Hal Reynolds' door, hoping to find him still awake. "Come," was the reply. He opened the door and poked his head into the room.

"Can you spare me a minute?" he asked.

"Sure," Reynolds answered, "come on in."

"Actually, I'd like you to come down the hall to my opulent suite, if you don't mind."

Reynolds frowned. "OK," he said, getting up.

He followed Lightfoot down the hallway to his room. Upon entering, he could hardly help but notice the elaborate satellite telephone set up on the small desk in the room, much larger than the hand-held units most people had. Lightfoot's room was identical to everyone else's, which was to say, cramped.

"I have a conference phone call for you," Lightfoot announced.

With a quizzical look at Lightfoot, Reynolds picked up the receiver. "Hello?" he said.

"Hal, this is Royce. I have someone on the line who'd like to speak with you."

Before Reynolds could respond he heard an instantly familiar voice.

"Dr. Reynolds, this is Carl Dellinger."

Despite being taken aback, Reynolds managed to reply. "Good evening, Mr. President. To, uh, what do I owe this honor?"

"Dr. Reynolds, I'd first like to say that we've been following your work down there with great interest, and I think I can speak for the entire nation, if not the world, when I say that we're impressed with your efforts and fascinated by your findings."

"Thank you sir. The initial discovery was actually rather an accident."

"I'm aware of that. May I call you Hal?"

"Of course, Mr. President."

"Hal, I know that this project is your baby. You started it, and you've continued to manage it, and I think you're doing a splendid job."

"Thank you again sir."

"What you've uncovered is potentially the biggest thing in human history, and I think it's appro-

priate that the project is being handled by the leading universities not only here in the U. S., but from around the world.” Reynolds remained silent.

“Part of my job is to make sure that the United States and our allies remain secure, and that means from any kind of threat. Now we still don’t know for sure what it is you’ve uncovered down there, but among the many possibilities we have to consider is that it might somehow pose a threat to human life.”

It was something that had crossed Reynolds’ mind, but he’d dismissed it if for no other reason than the fact that the Town was sold incredibly old.

“Now I know that Dan Lightfoot’s been with you since early in the project, representing the EPA.” Reynolds looked over at Lightfoot, who responded with a wry grin. “Actually,” the President continued, “you could say that Dan’s been detached to the EPA from his normal job, which is with the National Security Agency.”

Reynolds put his hand over the mouthpiece and whispered, “You’re a spy?” Lightfoot shrugged his shoulders.

Reynolds removed his hand from the mouthpiece. “I see, Mr. President.”

“I’ve asked Dan to brief you on our concerns, and on some steps that we feel need be taken to address them. We don’t expect that anything we do will interfere in any way with your progress, and this will have no effect whatsoever on your authority over the project. Think of Dan, if you will, as your liaison with the U. S. government.”

“Very well, sir.”

“Hal, let me reiterate how excited we are about the work that you and your team are doing down there. We’ll be following your progress very closely.”

Reynolds simply couldn’t help himself. “I’m sure you will, Mr. President.” If Dellinger caught the slight jab, he paid no apparent attention.

“Keep up the good work, Hal.”

“I will, Mr. President. Goodnight sir,” he said. There was a click on the line.

“Royce, are you still on the line?”

"I'm here, Hal."

"I'll give you a call back in a little while. From my phone."

"I figured as much. I'll wait here until I hear from you."

Reynolds hung up the handset and turned to Lightfoot.

"When were you planning on telling me that you were a spook?"

"When my superiors instructed me to. Which turned out to be now." He motioned to the phone.
"And it doesn't get much more superior than that."

"So what, do you have all sorts of spy equipment, and explosives, and weapons and all that kind of stuff with you?"

"I can't discuss the type of equipment I may or may not have with me."

"So what are these concerns the President was talking about?"

"Have a seat," Lightfoot replied, sitting on the desk chair. Reynolds sat down on the cot.

In the space of 15 minutes, Lightfoot sketched out an overview of the issues that were involved with national and international security. Reynolds had to admit that there were possibilities he hadn't considered, and which made sense. When he learned that the shaft to downtown would be mined, however, he was not at all pleased.

"You mean to tell me that there are circumstances under which the shaft would be blown with the crew still downtown?"

"Hal, that would be an absolute worst-case scenario. With the protocols we've set up, something would have to go terribly, terribly wrong for that to be the only solution. But we simply don't know what we're dealing with here, and that means we don't know what the possibilities are."

"Cripes, this place has been dead for 65 million years!"

"Hal, we don't know that. We just assume that."

Reynolds rolled his eyes.

"Look," Lightfoot continued, "let me play out just one scenario for you. We're getting ready to open up structures created by what was obviously an advanced civilization from who knows where. If these beings were from another world, then they obviously had the technology to get here."

“Now as far as we know — and the best minds tell us it’s all but certain — physical faster-than-light travel simply isn’t possible. Which could mean either that the beings who built the Town were spacefarers, who spent most of their lives, generation after generation, living on ships in space, visiting planets like ours. Or, maybe they found another way to travel. It’s been suggested that particles called tachyons can actually travel faster than light. Now I know this’ll sound far-fetched, but what if they have a means of transporting themselves between planets? Like the transporters in science fiction films. We assume the Town is uninhabited because it’s under 500 feet of ice, but what if it’s not?”

Reynolds gave Lightfoot a sideways look, but said nothing.

“My point is that we’re up against a complete unknown, and all the rules we know simply may not apply. We have to be prepared for the worst, even while we hope for the best.”

Lightfoot fell silent, letting Reynolds absorb the information. Reynolds wasn’t happy by a long shot, but he realized that much of what Lightfoot had said was true.

“So what happens next?” he asked.

“While we’re getting the airlock set up at the Outhouse, the Navy’s sending in a team of Seabees. They’ll be here in three days, weather permitting. They’ll place the charges in the shaft, and then most of them will move out.”

“Most of them?”

“They’re leaving an officer behind. He’ll be the one with his finger, so to speak, on the button.”

“Dan, I’ve got another half dozen people coming in within the next few days, and we’re already out of room. Where am I supposed to put this guy?”

“Ah,” said Lightfoot, “that’s the best part. The Seabees are bringing in prefab shelters that can be set up along the wall of the residential end of the shed. They’re self-contained, and they’re gonna leave them behind. We’ll pick up six extra rooms.”

This was the only good news Reynolds had heard so far.

Lightfoot went over a few more details, and the two men made plans to tell the rest of the team at breakfast the next morning. Lightfoot had left out any mention of the device he’d brought with him;

that definitely fell into the category of “need to know,” which Reynolds didn’t.

When they finished, Reynolds went not to his room, but to the office, where he placed a call to Royce Clayton.

“When did you find out about this?” asked Reynolds.

“I got a call just this afternoon from a guy named Chapin, who I gather is head of the NSA. He filled me in, and then told me to expect a conference call between you, me and the President. I’m just guessing, but I’d say it served to get your attention, not to mention your cooperation.”

“Well, it’s not like I really had a lot of choice.”

“How upset are you, Hal?”

“Oh, I’ll get over it. They have some valid points. I’m just a little pissed that Lightfoot’s been here all this time and I didn’t know that he was a goddamned spook!”

“Yeah, I can see how that would bother you.”

“Thing of it is, I’ve gotten to like him. He’s a straight-up kinda guy. He helps out even when it’s not part of his job — or at least what I thought was his job.”

“Well, they’ve assured me that the Navy will be in and out within two days, and that it shouldn’t interfere with your work. Hang in there, Hal.”

“Yeah. Talk to you later,” said Reynolds before hanging up.

At the briefing the next morning, Reynolds told the team that there was an announcement, and then asked Lightfoot to re-introduce himself and then explain what would be happening.

He took a certain amount of satisfaction from the fact that any animosity over the mining of the shaft — and he was certain there’d be some — would be directed at Lightfoot, and not at himself.

Overall, he was surprised at how well the team took the news. Part of this had to be attributed to the fact everybody knew Lightfoot, and while he’d been duplicitous with them, he addressed that fact squarely, apologized that he’d had to do it, and then provided a completely reasonable explanation of why the additional precautions were necessary.

But afterward, it was obvious that the mood of the entire team had changed. Previously, there had almost been a giddiness to the atmosphere, with the team members driven by a sense of adventure

and discovery. Lightfoot's announcement cast a more serious mood over the group, which Reynolds eventually decided was not only natural, but in a way, possibly a good thing.

It wasn't that the stakes had gone up so much as that they hadn't before realized how high the stakes had been. Now they did.

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