

THE THOUGHTCRETE DIMENSION

by Tony Giovia

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My name is Manny Levels, and I am a troubleshooter for the National Science Foundation. One mission of the NSF is to find the causes of unusual events – mainly, we look for the equations behind the fireworks. The popular press says my work is a like the X-Files television show, but they are wrong. I do not investigate alien conspiracies trying to take over the world. At least, not exactly. I'll explain.

Now, I know you have seen the television and newspaper reports about Thoughtcrete. It was the number one news story in April. But the media reported only part of the story – the shiny part. Here are the high points, in case you forgot.

A new university was under construction in Paris. The main building, called Mattercrete, had been completed and dedicated to Doctor Joseph Mattercrete, the man who funded the school.

A companion library building, called Thoughtcrete, was scheduled to begin construction a week after the dedication of Mattercrete. Well, Thoughtcrete was built too.

Overnight.

Ten stories tall.

Floating 10 feet off the ground.

I was watching the story break on Fox when I got the call to get in to work.

* * *

Netto is my boss at the NSF. He has the look and feel of command when he wants to use it, but he doesn't use it much. He has a big bald head, and today he had it polished like a crystal ball. I saw my distorted reflection in it as I sat down in one of his oversized, comfortable chairs.

I was used to his stares. This one felt pretty angry. He was under the gun. "You are the only person I know who will believe what I am about to tell you."

"I just saw it on the news. A levitating library."

Netto grunted. "This is less than an hour old, so I don't have much for you." He tossed a thin folder over to me. "You are on the next plane out."

"With no background?" Here at the NSF, we don't do things that way. "So what's the rush?"

“Don’t ask me. The Special Committee has called me twice in the last thirty minutes. They want this investigated now. And they want you to do it.”

I nodded my head. Some years ago I had been sent to investigate the discovery of a new planet in our solar system. I landed on the so-called 10th planet, and met Bandwidth, its ruler. Since then, I’ve run into Bandwidth three more times. Right here on Earth.

I said what Netto was thinking. “They think Bandwidth is behind this.”

Netto shrugged. “They think Bandwidth is behind everything as provocative as this. Here is what I have so far. You’ll be updated with more as I get it.

“Some fellow named Mattercrete is building a monument to himself, calling it Mattercrete University. We have a newspaper photograph of him, taken at the University’s dedication ceremony. But we have nothing else on him, not even a social security number. The money used to build the school came from the bank account of the architect. Apart from that news photo, Mr. Mattercrete does not exist.”

“The money came from the architect. So the architect is Mattercrete.”

“He says not. He volunteered that information in a published interview in Le Monde. The architect is Woodland “Woody” Marble, his real name, and we do have a record on him. He has designed a dozen projects around the world.”

I recognized the name. “He designed the Monte Carlo Art Museum. The one shaped like a double helix. I’ve been there. Want to hear about it?”

“If it is relevant.”

“It will tell you something about his class. Each floor of the Museum has 2 wings, North and South. The Museum takes a theme and isolates two floors for the displays. The North wing of floor A is connected to the South wing of floor B by moving stairs, and vice-versa. Each wing is dedicated to one form of the theme’s expression – painting, photos, video, sculpture, architecture, music, literature, you name it. Mix and match any four.” I smiled as Netto’s eyes glazed over. “Not a bad idea, but the curator needs help on the execution.”

Netto grunted again. It wasn’t his problem. He continued as if I hadn’t said a word. “Marble appears to be clean. Deposits were made to his bank by wire transfer from a Swiss account. That is the money Marble says was used to fund the building. I have someone working on Swiss cooperation, but no crime has been committed. That gives us no leverage.”

“Got it.”

“The Special Committee wants you to locate Mattercrete. They want you to find out if Mattercrete or Marble put up a building overnight, and how it was done.” Netto took out his pipe and squeezed the bowl. His knuckles turned white. “Most of all, find out how he got a 10 story library to levitate.”

I considered this for a while. “So, they want me to bring him in alive.”

Netto’s eyes softened, then hardened again. It’s tough to make him laugh with one-liners.

He responded with “You’ll take the assignment?”

It was always my option to say no, although I never have. Besides, Netto was feeling the pressure and it wasn't in me to let him down. I nodded.

Netto stood up and shook my hand, as was his custom.

* * *

Netto is my big boss and hands out the assignments, and Tristater is my "field controller". I am supposed to report to him when I am on a case, but I usually don't. As a member of the Special Committee, Tristater gets all my reports from Netto anyway.

But I do talk to Tristater when I need help. On this one I thought I'd pick his brain, if only to sort out my own thoughts. At his suggestion I met him at Ground Zero, the Pentagon restaurant. The last place you want to be when it all goes bad.

We ordered coffees and Atomic Hamburgers. Thin and energetic, Tristater still had the honeymoon glow about him. He married a Senator's daughter about 3 weeks ago.

"You still look happy," I said.

He smiled. "It's groovy."

"Just wait." I was divorced.

Tristater laughed.

I was at the wedding. There were Senators and military big-wigs and blank-faced government types that you think exist, but can't prove it. The Special Committee members were there. And oh yeah, The President was in Jerusalem, but The First Lady made an appearance.

Get this straight – most of those people didn't show up to break bread with the Senator. They were there for Tristater. He was, as they say, well connected.

"That floating Thoughtcrete building just got even more interesting," he said. "I'm glad I'm the one to tell you."

"It's a spaceship."

"Nothing that easy. It exists, it blocks the light, it casts a shadow. But birds fly right through it."

I wasn't sure what he meant. Based on my expression, he expanded.

"It's not solid. It is there, but it is not there. We have people poking things through it right now."

"Not solid?"

The coffee arrived and we spent a minute preparing it. Then I continued. "You mean, it's a projection?"

"If it is, it's a good one. And it is not a library. It appears to be an exact duplicate of the Mattercrete building." Tristater arched his eyebrows.

“Mattercrete II,” I said.

“Located in the exact spot where the Thoughtcrete library was going to be. It has the same windows and floors as Mattercrete. You look inside and see the same rooms and chairs and computers that are in the Mattercrete building. But when you try to go in the front door you fall to the ground. A helicopter flew right into the middle of it and the pilot read the notices on the bulletin boards. He even said there was standing water in the toilets. “

I tilted my head back and looked upward. I wasn't sure how to think about this. All I came up with is “But how?”

“Hey, that's your job, not mine.” After a time he smiled. He had an idea. Tristater has depths that can make you feel like you just dropped off a cliff. My guess is that he is the sharpest member of the Special Committee, which is itself composed of the best minds in America.

“Spill it. “ I leaned back.

“The two buildings – one is named Mattercrete, the other Thoughtcrete. Must mean something.”

“Everything means something. But what do Mattercrete and Thoughtcrete mean? Matter as a school, and thoughts as a library?” It made a kind of sense, but it wasn't the jolt I was expecting.

Tristater looked off to his left at a wall, long enough for me to look at the wall too. His style is to hint at solutions, but never lay it out for you. It could be very irritating. I looked at the wall but didn't see anything, not a painting, not a window, nothing. Just white stucco. At the time, it seemed no help at all.

“Is that it?” I asked.

“There's a lot there.” The hamburgers came and we ate them. Later Tristater started into his second cup of coffee and became conversational again. He tapped a finger between his eyes. “So how's the hammer in your head?” he asked.

At the wedding, a friendly “drinking contest” broke out. I might have had one too many tequila shooters with the groom and several people who never told me their last names. I'm a good drinker, but no champ. After the contest the main thing I remember is Tristater cutting in on me when I was dancing with his bride.

“I'm all better now. Or so the doctors say.”

“Martha wants me to talk dirty to her now.”

Martha is his new wife.

I was pretty much expecting this. I had screwed up, and now I had to say the right thing. I said,

“My kinda girl.”

Tristater busted out laughing.

This is why we are friends.

* * *

I flew over in a modified Army transport plane. Not comfortable, but it got me to Évreux, a military airport outside Paris, in good time. A jeep and a driver/interpreter, who said his name was Mr. Smith, were put at my disposal. I don't usually get the military routine, but this was helpful because I don't speak French and this eliminated language and orientation problems.

The driver was wearing a Black Beret. I was careful not to offend him. He knew where to go, and after a half hour of winery fields I could see part of the Eiffel Tower. Twenty minutes more and I saw the tops of the twin towers Mattercrete and Thoughtcrete.

There was an enormous crowd, like Times Square on New Year's Eve. A perimeter had been set up around both buildings, with a single entrance point. At the gate Mr. Smith made it clear that he wanted to deal with the French military, not the local police, and he got his way. Within minutes we were passed through. People took my picture.

Mattercrete and Thoughtcrete made an awesome sight. They were both the same gray color, with alternating rows of round and square windows. Each was nominally ten stories high, because that's how many floors there were, but it looked like the ceilings were double height, because these were definitely twenty story buildings. Thoughtcrete was 10 feet higher than Mattercrete – that's how much it hovered off the ground.

"I feel like I'm dreaming", I said to Mr. Smith.

"I agree, Sir." For the first time he smiled. "Good luck. Woodland Marble is in the Mattercrete building, waiting for you. Do you want to see him now?"

"Let's take a look at Thoughtcrete first."

A platform had been set up that allowed people to walk up to the front doors of Thoughtcrete. Mr. Smith said a few words in French to the group of officers at the platform's base, and after some arm waving we were allowed up.

The doors were sliding glass, and they opened automatically when I approached. They looked awfully real to me. I headed straight for them, and I was almost there when Smith grabbed my arm.

"Sorry Sir, I go first if you decide to enter. I have my orders. "

"Whose orders?"

He didn't answer, and instead drew his revolver and proceeded through the doors. I stepped in right behind him.

And fell straight to the ground, almost landing on top of him, except he hit and rolled, while I hit and bounced. Layers of thick mats had been placed under the doorway, and they softened the blow. It was an eerie feeling. I saw the floor there, I put my foot on it, but there was no there ... there.

A roar went up in the crowd, with plenty of laughter. Lights flashed. Mr. Smith rushed over, helping me up. "Are you all right, Sir?" I felt a twinge and a twang in my left wrist, but I wasn't going to admit it to a Black Beret. "Well, that was fun," I said instead.

I looked up. The bottom of the building was closed off, a solid gray rectangle that appeared to have incredible mass. Hanging just over our heads. I pointed the way out and Mr. Smith, no fool, followed quickly.

I had the idea that this was an advanced form of hologram, and I walked around the entire base of the building looking for a power source. I didn't see anything, but I didn't want to rule it out – yet.

After the tour I said “OK. Let's meet Marble.”

From the outside the Mattercrete building was a duplicate of Thoughtcrete, except when I stepped inside Mattercrete I stayed inside. There was a vacant reception area in front, and behind it a hall with a line of doors on each side broken by elevator banks.

“Mr. Marble is waiting in the Administrative Offices, Sir.” Mr. Smith pointed to the left.

A small but definite chill went down my spine. Then another, larger chill followed it. Thoughtcrete had the look and feel of a Bandwidth operation – fantastic imagery, intense speculation, and a world-wide press ready to pounce. One would get you five that Bandwidth was behind that door.

You certainly remember that a few years back the Hubbell telescope discovered a tenth planet in our solar system. Then a radio signal, now called the “Message From Mentalos”, was picked up from the planet. The Message said, in effect, that if the Universe began in an explosion of energy, then everything in the Universe is composed of energy – including ideas.

This implied, among other things, that 1) the physical laws that govern energy must also govern ideas, and 2) since energy and matter are equivalent – meaning you can see energy as matter and matter as energy (thanks to Einstein) – then ideas have mass and a physical existence, expressed as geometric forms just like all other matter.

Well, that was kind of a shocker, and I was sent to Mentalos to investigate. That's where I first met Bandwidth, the ruler of the planet. And as far as anyone can tell, I am the only one who has ever seen Bandwidth. I should add that “seeing” him is a tricky concept – Bandwidth has shown me that he can assume any human appearance he chooses.

“I'll take it from here.”

“Yes, Sir. I was told to expect that.” Then Mr. Smith saluted me. It was an unexpected, awkward moment for me. I was out of practice but saluted back, then walked right into the Admin Offices without knocking.

A short man was sitting upright behind a desk, dictating a letter to a secretary who was jotting it all down. They were the only people in the room. The man stood up as I approached. He had white hair and a delicate, formal bearing. His brown striped suit was perfectly tailored, and perfectly pressed. His eyes were dull gray, without animation.

“Hello. My name is Manny Levels, and I am looking for Woodland Marble.”

“At your service.” We shook hands. “Very pleased to meet you. This is my secretary, Maya.”

Maya was wearing sunglasses, so dark that I couldn't see her eyes. But her lack of eyes was offset by extremely pliable facial expressions. She ran a few at me. I sensed an extraordinary gamut of feelings.

Marble said quietly, "May I ask who you represent? There has been a parade of people in here today, and I would like to check you off the list."

"The National Science Foundation, United States of America."

He looked at Maya, who made a check mark. Then she lowered her glasses and winked at me.

The chill re-visited my spine. Bandwidth had a constant companion, Ms Terry. I don't know if she was his wife, his advisor, his whatever. But she was always with him.

And her move ... was a wink.

I turned to Marble, who was already transforming into Bandwidth. He doubled in size, and his mind, a maelstrom of lightning and ebullient geometric forms, erupted from the top of his head and bounced across the ceiling of the room. Think of it as a brainstorm of ideas, except these ideas possessed an actual physical existence.

A large cross-shaped object assembled in the center of the turbulence. It was composed of 8 cubes, a row of 4 followed by an additional cube attaching itself to each face of the second cube in the row. I recognized it as a tesseract, an unfolded 4 dimensional hypercube.

Each of the 8 cubes was a different color and began rotating – spinning – into its neighbor, like a Rubik's Cube gone wild. The cubes spun faster and faster, and the sight was so compelling it took a tremendous effort to take my eyes off it. All around the tesseract smaller independent cubes distorted into shapes I can't accurately describe, until they either found a stable design or reverted back to a cube shape.

Soon everything was spinning and changing at tremendous speeds, but it did not become a blur. Instead the individual pockets of hysteria, taken as a whole, felt like parts of an immense effervescent puzzle. It felt strong, resilient, complete.

I'd seen the show before, so to me it was spectacular. First timers would think they were in a horror movie.

Bandwidth towered over me, full of force. He had the shape of a human, and just emanated power. I could feel his presence throughout my body. I didn't feel safe, because no way I could take him in a fight. But I didn't feel scared either.

Small talk wasn't Bandwidth's style, so I went right to it.

"That Thoughtcrete is a pretty fancy hologram."

Bandwidth's laugh was so loud it set a French flag on the wall fluttering. "The Thoughtcrete building is an idea. The idea of the Mattercrete building."

It sunk in quick, but not all the way down. I worked it a little. I admit I get a maximum thrill going head to head with Bandwidth. "You have told me that an idea exists in many places at one time, and matter exists in only one place at one time. Is that it?"

"Ideas exist with or without material expression. The idea of 'nothingness' exists, but it cannot be materially expressed without contradiction." Bandwidth couldn't speak quietly. His voice boomed into the room. Any second I expected Mr. Smith to burst in with his gun blazing.

Bandwidth went on. “In this world material expression requires a minimum of 2 measurable dimensions – length, width, height, duration. Even a one dimensional line must have duration to exist.”

It made sense to me, although I knew I’d chew it over later. Bandwidth had previously defined ideas as representations of the “power relationships” among interwoven energy patterns. I tried to get that in, and found a way. Measurement is key to any relationship.

“You are saying that Mattercrete is limited to four measurable dimensions. Does Thoughtcrete represent another measurable dimension?”

“The Thoughtcrete Dimension is the library of all the relationships among all the ideas – all the interactions initiated at Creation.”

Bandwidth held out his hand to Ms Terry / Maya, who took it in a regal manner. They both faced me, hand in hand. Ms Terry tossed her glasses and smiled.

Bandwidth let out one more bone-crushing laugh, and then he and Ms Terry just disappeared. Gone. Now you see them, now you don’t.

* * *

For the record, Mr. Smith said he did not hear a sound from the room, and he was standing (guard?) just outside the door. He drove me back to the air base, and this time when he saluted me I shook his hand instead.

I was somewhere over the Atlantic when I got the news that Thoughtcrete buildings had appeared in Tokyo, London and New York. All of them hovering 10 feet off the ground. Thoughtcrete was replicating itself.

On the plane I put together a preliminary report and sent it over a secure connection to Netto. In the middle of writing it Tristate’s “clue” suddenly made sense to me. The walls of Ground Zero were constructed of reinforced concrete. Tristate drew my attention to the wall to make me think of the concreteness – the physical, energetic existence – of both Mattercrete and Thoughtcrete. It is the common bond that joins them.

Netto was relatively calm when I entered his office. He pounded his pipe into the ashtray with no particular aggression. No doubt the Special Committee had reviewed my report and taken the heat off.

I mentioned the replications, which occurred after I had sent the report.

“Add Melbourne, Moscow and Beijing to the list.” When it was over (as you might recall), there were a total of 10 Thoughtcrete buildings around the world, before they all disappeared. Just like Woody Marble, aka Bandwidth, also disappeared. It was not the first time Bandwidth proved to me that he has been visiting Earth for a long time – it is a guarantee that he designed the buildings attributed to Marble for the past 20 years.

Netto carefully lit his pipe. Not too many people wanted his job – it is a pressure cooker with many lids – so he pretty much did what he wanted. Like smoke in a federal building. “So now Bandwidth is inventing a new Dimension for us.”

I smiled. “He didn’t say he invented it. More like it was already there, and he is helping us see it.”

“I see too much already. Another Dimension and my brain will explode.” I laughed. “Give it to me again.” He sat back.

I re-worded my preliminary report. “This is how I put it together so far. Most people would say that ideas exist, because they think with them and exchange them with other people, and because ideas can affect behavior. But most of these same people also say that ideas do not have a physical existence. So they are saying that something that exists does not exist with material dimensions.” I paused. “So they are saying that ideas exist outside the world of matter. Bandwidth calls that place Thoughtcrete.

“A lot of people would also say that the three dimensions – length, width and height – the three perpendicular directions – require a fourth dimension, time. Bandwidth defined time as Duration. I think he meant that without time, there is no duration – and therefore no physical existence for the first 3 dimensions.”

Netto nodded. “The ability to measure material objects gives them physical existence.” Netto thought it over. “Maybe Thoughtcrete is the Fifth Dimension.”

“Good point. But Bandwidth did not get into the numbering game. He said Thoughtcrete is composed purely of idea relationships. Some subset of those relationships have a Mattercrete existence, existing in one place at one time.” I waited for Netto to respond, but he didn’t.

“If you add the concept that ideas are composed of energy, which is the Message From Mentalos, you come up with something like this. Bandwidth is saying that Thoughtcrete is the Dimension of pure ideas, ideas composed of energy and constructed according to the laws of energy. Ideas can exist with or without material – 2 or 3 or 4 dimensional, one place, one time – expression. Ideas do not need to have a 2 or 3 or 4 dimensional existence to belong to Thoughtcrete. They exist there anyway.”

Netto closed his eyes and cupped the bowl of his pipe. When he came back he said “Not unlike Plato’s Theory of Ideas. The universe is ordered according to eternal laws and forms, embodied by Ideas. Neo-Platonists called the collected ideas The Logos – the Mind of God. Logos is pure truth – pure logical design that exists independently of matter. All ideas already exist – we just reveal them.”

Netto is more sturdy than surprising, but he has surprises in him. Like that one. I blinked.

Netto grunted. “Pythagoras pre-dated Plato. He said geometry is the secret structure of the world – as did Albert Einstein 2400 years later. The relationships of an object’s parts defined it. Form is function and identity.” Netto’s eyes narrowed. “Think you’re the only smart guy here?”

I liked to think so, in spite of all the evidence. So I said, “Yeah.”

Something was on my mind, so I mentioned it. “By the way, who is this Mr. Smith? He said he had orders.”

“The Special Committee assigned him, and told me after the fact. All I can say is that the Committee didn’t skimp.”

I left it at that.

Netto puffed a string of smoke circles. We both watched them form, linger, then dissipate. The smell was sweet burnt vanilla. "So Thoughtcrete is the Dimension of Ideas."

"He is breaking it out. Mattercrete distinguished from Thoughtcrete. Everything is composed of energy, but Mattercrete is energy patterns that exist in one place at one time. Ideas can exist in many places simultaneously." I thought of the multiple Thoughtcrete buildings springing up around the globe.

Netto sat back and relaxed. "Bandwidth is using energy as the bridge between Mattercrete and Thoughtcrete. I like the angle." His eyes drifted up. "This feels like something", he said after a while.

I nodded.

There was a beep, and Netto looked at his computer screen. He clicked a couple of times, then said "An official statement from the Chinese. The Thoughtcrete building in Beijing has been declared an enemy of the people. Public discussion of the building has been banned. Over 200 arrests in the first hour of Thoughtcrete's appearance."

I didn't say anything. Netto, manager of men and women who search for the practical in the possible, sometimes at great risk, grunted. Then he took a long slow draw on his pipe, igniting the bowl with fiery embers.

THE END