

# Sci-Fi Original: The Observer Effect

by Rich Brueckner

Minute as its impact may be in our physical universe, the fact of quantum entanglement is this: If one logically inexplicable thing is known to exist, then this permits the existence of all logically inexplicable things.

– Brian McGreevy, Hemlock Grove

## The Accident

6:02 am

PDX Airport

Jake straightened his badge as he walked up to the security checkpoint. The TSA supervisor would be onsite already as always, but it wasn't about that. Jake liked to look sharp and the dream he had last night had rattled him. He was sure that his coworkers would see it on his face.

It didn't help that the dream was still so vivid in his mind. It had taken place right here at work, only something in the dream was different. A feeling more than anything, Jake still carried with him the overpowering sensation that he was being watched.

As he took his seat at the body scanner controls, Jake wondered if he had made a mistake downloading the Shadow App. It was something new, and very exciting – technology that enabled people to remember their dreams. As instructed, he recorded them into the worldwide database. It was so simple after all, just tapping a few characters into his smart phone in the middle of the night. But as he continued using Shadow, the more effective it became. Dreams no longer faded. Instead, he carried them around with him all day – even the bad ones.

"You look tired, Jake," said Father Joseph as he entered the checkpoint with an extra cup of coffee in his hands. "Care for a Hair Bender Americano?"

A gaunt man in his sixties, the priest had struck up quite the friendship with Jake over the past few weeks. He liked his Stumptown coffee from downtown, and by bringing Jake an extra, he was able to smuggle in his own cup each day on his way to the meditation chapel at C Gate. They would often talk over coffee during breaks, and Jake liked to call him Joseph, the Explainer of Dreams.

Jake was new to the agency. After a couple of tours as an MP in the Balkans he had wandered from job to job, moon-

lighting as a security guard at the docks. It was mostly solitude there, a time of healing for him after accidentally shooting an unarmed man in Serbia.

The man had stolen bread from the PX and ran from Jake while he was on patrol. In the dark, the pointy baguette in the man's hand looked like a knife.

Now Jake took the coffee from his friend and set it on the console. He could use the caffeine after his rough night.

"Same dream again?" Father Joe asked.

Jake nodded; he raised his hands to describe the box he had held in the dream, the one with the sounds of breathing inside. As he did, his arm knocked the cup of Stumptown onto the console.

"Dammit!" Jake exclaimed, wiping up the coffee with his handkerchief. "I'll be screwed if I messed this thing up."

"I'm sorry, Jake. We can talk later. If you're ready to test it, I'd like to get scanned and get on over to the chapel now."

As he did each and every day, Father Joe raised his hands above his head as the scanner did its business.

Jake looked at the display absently. The monochrome readout was always the same, but not today. Father Joe's scan had shifted red. No concealed objects, just red.

"This scanner is hosed," Jake said out loud. "I better test it on myself." He motioned his colleague Jenkins across the checkpoint to take his station and then he entered the scanner. It whirred around him.

"Looks normal to me," said Jenkins.

Jake walked around to the display to take a look.

"That's so odd," he said. "You ever see colors come out of this thing?"

Jenkins shook his head and returned to his post as Jake watched the priest make his way to C gate.

Redshift, he thought to himself. That's what you see when something's moving away.

## The Heist

6:20 am

Elephant's Deli

"Security is all about degrees of belief," Pritis told his son as their car entered the parking lot. "Look at that sign: 'Premises under 24 Hour Surveillance.'" They think they are safe, but they are wrong. Your grandfather kept telling me this after he lost everything in the Balkans. People always want themselves and their stuff to be safe, but they can never really truly have it."



“No,” Papa said to me. “They can only claim they have it.”

Kotas was already taller than his father. At 16, he had also developed into quite the accomplished thief as well. It was still dark and the boy’s black clothes and hoodie were the perfect cover for today’s smash and grab.

Pritis parked the Subaru in the back corner of the lot and pulled the jammer remote from his pocket. “OK, I’ll switch on the jammer and you hit those cars over there. I can’t leave it on for too long as this thing has incredible range. Your cousin in Russia got quite the bargain on this, I can tell you.”

Pritis activated the jammer and kept a close eye on his watch. Two minutes. That’s all young Kotas would need to break four windows and grab the baggage in the back of each car. The jammer would scramble the Wi-Fi cameras watching the lot. It shorted-out car alarms as well, with something his cousin called a “Rotating EMP pulse.”

“*What power at a distance,” he thought to himself as the street lights went out around him. “This device is almost like a shadow that turns on its source.*”

He opened the hatch for Kotas and the boy ran up and loaded in the stolen gear. They then drove out of the parking lot, quiet as a cat in the night.

“Dad, you never told me what really happened to Grandpa in the Balkans. I think I’m old enough now.”

Pritis sighed. The boy was right. “I will tell you straight out. He was shot by an American for stealing bread. The war had destroyed everything. My mom and I, we were hungry and he went out.”

Pritis felt his voice trail off and they continued on in silence. As he drove, Pritis thought about the dream he had the night before. He was young again, a small boy waiting for his father to come home with some food. As he stared out the window and watched the long dirt road that lead to the house, gold coins starting raining from the sky.

## The Escape

6:22 am

### Good Sam Mental Ward

Garth Meeks awoke suddenly from his dream. It was still dark outside and usually the meds kept him out until breakfast time at 8:00. It was always the same routine here in the ward, but not today. Garth was scared today, scared for his brother, Justin.

“I have to make a phone call,” he said to an empty room.

Garth stood up and walked to the door. It was always locked, but not today. Today he walked right through, past the reception desk and out the door into the pale beginnings of morning light.

He was hungry and his bare feet were cold on the pavement, but the deli next door was closed. Best to keep moving, he thought. I have to make a call.

## The Dark Gravity Experiment

7:30 am

### Cloud Labs International

Justin Meeks nodded to the guard and greeted Dr. Brandt at the door. “You’re right on time, Doctor. I’ve really been looking forward to meeting you in person.”

Brandt shook Justin’s hand with great enthusiasm. “I could hardly sleep last night, Mr. Meeks. Are the supercomputers fully configured?”

“Yes,” said Justin. “We’ve got the 512-Qubit quantum machine at Ames allocated for the entire day. It’s been a bear to deal with all the preprocessing data you supplied, but we’ve spun up an AWS instance with 50,000 cores to feed the beast. It’s more than we’ve ever done before.”

Justin led Dr. Brandt to the lab, which was decked out with dozens of displays. He showed Brandt a status display of the company’s cloud software, a marvel of technology that automated the process of turning thousands of cloud servers into a virtual supercomputer.

Brandt was noticeably impressed. “This is a veritable mission control,” he said. “I was very pleased to learn that my experiment won the contest, especially considering the quality of the other proposals you received.”

“Yes, we were very impressed with your algorithms, Dr. Brandt. My CTO tells me your work here today will be a quantum leap for cosmology.”

“It’s more than that, Mr. Meeks. When we complete this simulation, we will be able to compare it to measured results that have been sealed away and encrypted in this memory key.”

The look on Justin’s face told the doctor he did not understand.

“It’s rather complicated, but please let me explain. Are you familiar with the Quantum mechanics and the Observer Effect?”

“You mean, where the act of observing has an effect on the outcome?”

“Precisely. Only in this case, what we will be proving, or disproving, is the presence of an observer outside of our universe.”

Justin thought hard about what the Doctor was saying. “But I thought your experiment had to do with Dark Gravity.”

“Ah yes, yes it does. You see, gravity is a great mystery to us scientists. Out of the four primary forces, it is by far the weakest. Lucky for us, yes, because without weak gravity, the universe would have collapsed upon itself long before life itself could have evolved. It’s almost as if it was designed that way for a purpose.

“You’re saying that the universe conspired to create intelligent life?”

"I'll get to that. Now, as for gravity itself, obviously we can feel its effects, but graviton particles themselves have eluded us. The question is, why? This experiment hypothesizes that the full strength of gravity is an effect that we cannot observe directly because it is outside of the membrane of our universe."

"Through the massive computational power and memory of you're quantum supercomputer, I will be able to run a complete simulation of the Big Bang, including the forces of Dark Gravity from an external membrane. And when I compare these results to the recently measured results from the Planck satellite, I will have my answer."

"The answer to what, exactly?"

"Well it's very simple, Mr. Meeks. If this experiment proves that there is an Observer Effect, then I intend to prove that there is an observer."

Justin felt his knees going weak. The weight of what this man was saying came crashing down on him as Dr. Brandt continued.

"My dear Mr. Meeks. Today, this day, you and I and this mighty machine you have conjured up will prove, or disprove, the very existence of God."

### The Visitor

8:03 am

#### Home of Pritis Admonics

Pritis grabbed the gym bag from the car and entered his house through the side door. The bag was heavy, as the fence was unwilling to take most of the booty from the car heist this morning. Dropping the bag on the kitchen table, he let out a sigh with the notion of having to sell the rest of this stuff to the invariable idiots that bought such things Craigslist.

Pritis looked around the kitchen for moment. Something wasn't quite right. He heard a sound from the den. Someone was in the house.

Almost instinctively, Pritis pulled the switchblade from his pocket. It was a nasty blade, sharp and serrated on one side.

"Who's there?" he asked of the darkened room.

Garth stepped out the shadows, his bare feet cold on the hardwood floor. Still in his nightclothes, he regarded the knife in Pritis' hand as something he thought he ought to recognize. Instead, his drugged mind instructed him to blink twice and return to the task at hand.

"I have to make a phone call."

"You're looking for a phone?" Pritis replied, seeing the dullness in the man's eyes. "Idiot, why are you looking for a phone in my house?"

Garth stared straight ahead and felt his balance shifting to the left, like part of him was on some kind of boat.

"I have to make a call. I have to call my brother Justin before he opens the vault. I saw it. His computers will make gold fall from the sky."

This man was obviously sedated and not a threat. Pritis folded up his knife.

"Do not worry, my friend. I will get you a phone, but first, we should talk about your brother. Now tell me, where is this vault you speak of?"

### Redshift

7:56 pm

#### PDX Airport, Checkpoint Charlie

Jake arrived early for the extra shift he picked up from one of the other Agents, a nice lady named Marge who was fighting the flu. He would be taking over the scanner from Mason, kind of a squirrely kid with thick glasses and bad skin.

"You're early, Jake," the kid said. "That's awesome. It's been a hell of a day, what with happened to the priest and then this crazy machine and all."

"Wait. What did you say about the Father Joe? Is he okay?"

*“It was time to turn on the jammer, which then blinked away as it activated. Everything within a line of sight was going dark.”*

"Oh, I'm sorry. You two were friends, I know. He passed away in the chapel this morning. It looked like a heart attack or something because he was slumped over, still kneeling at the altar when they found him."

Jake felt the shock of his friend's death wash over him for a minute before he could ask more questions.

"Is he gone, kid? Did they haul him out of here?"

"Yeah, it was quite the scene. Cops from the Port Authority. The coroner. The whole bit. And it was a hell of a bad time for this scanner to go nuts. I mean, the line was backed up already half way to Starbucks and then all the scans for gate C1 were coming out red all of a sudden."

"Red scans you say? Is it working now?"

"Thank goodness, yes," said the kid. "As soon as the passengers started arriving for the C3 gate, the thing just started working like normal again."

"You're saying all the scans from C1 were red?"

The kid nodded and returned to the scanner controls for the last hour of his shift.

Jake thought of the blurry red scan of his now deceased friend. It was a Redshift, like something was moving away.

Now he felt a rush of adrenalin as he made his way quickly to Gate C1. Soon his panic lead him to a full run. If he was right, there might still be time to stop the plane.

As he rounded the corner, C1 was empty except for the ticket agent. Catching his breath, Jake walked to the window and felt his hand reach out to touch the glass. It was just in time to see the Sun Gold Airways jet streak off into the sky.

## The Phone Call

8:05 PM

### Cloud Labs International

Justin got a text from his head engineer that the simulation run was nearly complete. He should have felt excitement, but his conversation with Dr. Brandt about the nature of the experiment left him with a creeping malaise.

As he was making his way down the hall toward the lab, his phone rang.

"Justin? Justin, are you there? This is your brother."

"Garth? Garth, what are you doing? You always call on Sundays. What's wrong?"

"Justin, I'm with the police. They helped me make the call. I have something, I mean, I have to warn you before it's too late. The lady in white woke me up this morning. She told me your computers are going to open the vault. You need to go. Gold will fall from the sky."

"Garth, where are you? Where is the police station?"

"Wait. Justin, they say I'm at the Burnside station on Sixth. Please come now. I'm really scared."

Justin reached the end of the hall and found Dr. Brandt waiting for him. He told the man he would be right back, but the Doctor barely seem to hear him and continued to stare at the progress display of the cosmic simulation.

## The Shadow Turns

8:15 pm

### Outside Cloud Labs International

Pritis parked his Suburu in the shadows of an oak tree across the street from Cloud Labs. As he exited the vehicle, the noise from the nearby airport was nearly deafening. He hated such noises, as they reminded him of huddling in the cellar as a boy during the sorties of the Balkan war.

The roar of the jet began to subside now as he looked up to Western sky to see the Sun Gold airliner banking away in its steep ascent. Walking around the back of the building, he surveyed the loading dock for WIFI cameras. Yup, there were at least three of them trained on the parking lot. It was time to turn on the jammer, which then blinked away as it activated. Everything within a line of sight was going dark.

"What power at a distance," he thought to himself as the street lights went out around him. "This device is almost like a shadow that turns on its source."

Now all he had to do was jimmy the door and see if that escaped lunatic at the house was right about the vault.

## The Observer Effect

8:25 pm

### Cloud Labs Mission Control

The blinking cursor on his laptop told Dr. Brandt that the simulation run was nearly completed. What he thought would take five minutes ended up taking ten, and he found his mind wandering back to the dream that fostered this experiment.

He was in a room alone. The room was empty except for a small wooden box on a table. He very much wanted to open the box, but he couldn't move. When he closed his eyes, he found he was able to move his hands. He reached out in the darkness and touched the latch on the box. Eyes still closed, he opened it now. He could feel what was inside, but he couldn't identify it. And as he was about to open his eyes and see the contents, he heard the sound of breathing. Someone was behind him. Suddenly terrified, he turned and forced his eyes open to the golden morning light that streamed through his bedroom window. He looked up to see that his hands were raised above the bed as if he was still holding something, something that had changed when it was seen.

Now his awareness returned to the lab as the lights in the lab went out. It was dark except for the glow of his laptop screen.

Now he heard the sound of something scraping on metal. Someone was entering through the steel fire door that lead to the loading dock.

A hooded man entered the lab carrying a small black remote control in his hand. Brandt found himself at loss for words as the man approached him.

"You opened the door," Brandt offered in observation.

"Yes," said Pritis, looking around the room for a safe. "Have you?"

Brandt heard the ping from his laptop that signaled his post-processing job had completed. No time for the stranger, he looked down to see the simple binary results of the great experiment.

He felt his breath escape as he froze there in that moment of knowing. In all the faithful, in all the history of the world, there could be no more degrees of belief.

Puzzled by the man's reaction, Pritis walked around the desk to see what the man in the lab coat was staring at on the display panel.

At first, he didn't understand. But as he read the words on the screen, over and over, they first confused, and then alarmed him. The jammer in his hand began vibrating. He looked down at it absently. He had forgotten to turn it off!

A noise outside slipped in through the open door behind him. It was the unmistakable roar of jet engines getting louder each second with the Doppler resonance of the Blueshift, something hurtling down upon them at incredible speed.

In that moment of understanding, Pritis recalled his dream of treasure falling from the sky. Only this time, he saw his father in a flash of gold.

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### About the Author

*Rich Brueckner writes about people and technology at insideHPC. He lives with his young clone in Portland, Oregon.*