

The Doctor's Daughter

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I was preoccupied. This wasn't much of a problem in my work. I'd placed maybe ten thousand neural implants over the previous ten years or so: I could have done the two on my morning schedule blindfolded and drunk. They'd become so small and unobtrusive that they practically placed themselves, which was exactly the direction our lab work was heading.

This fact was to the dismay of my fellow neurosurgeons, but if they hadn't seen the writing on the wall by then, that was their own fault, not ours for advancing the technology. Macrorobotic surgical programming was already producing comparable outcomes to human doctors, and like the assembly line technicians who once built automobiles, surgeons were fading into obsolescence.

Robots didn't tire, and they didn't make mistakes. They were sterile. And if that wasn't enough writing on the wall for my colleagues, there was the department of nanomedicine across the building at the Johns Hopkins Medical Center. Bots didn't need to cut in order to repair, and the newest implants were going in that direction too.

But the facts don't stop people from complaining, especially when they're worried about losing their jobs. This was deep in the back of my mind as I was heading from the hospital to my lab in the research building.

At the forefront of my mind was the concern I had about the well-being of my sixteen-year-old daughter Emmie. Tell me: how can a man be expected to care about hospital politics when his daughter wants to kill herself?

When she told me, it was the most horrifying revelation of my entire life. I hadn't been entirely blind to it, but it came on so fast. She had always been this joyous, cherubic little child; then, as if one day she'd just seen

enough, she was a young woman who took no joy in the world around her: she stopped laughing, slumping her way through a yearlong sigh that hadn't stopped as of that morning. And I worried every moment that I'd never see her again.

As a neurologist, my predictable reaction—to take scans to look for an organic cause—elicited a predictable teenage response from her.

"You're not going to find anything wrong, Dad," she told me. "There's nothing wrong with my brain."

"There must be if you want to kill yourself, Emmie," I said.

She was right though. There was nothing wrong neurologically.

"So if there's nothing wrong with your brain, Em, what's this all about?"

"Ennui," she said.

Imagine that. A kid so young, so bright, using a word like that. It broke my heart.

That was my principal concern throughout that morning's surgeries, and during my lunch, and as I walked to the lab, through the security checkpoints, into the elevator, and down the hall that led to my lab.

The first thought all day that didn't revolve around my little girl was upon sighting the party of suspicious-looking characters standing in the hallway outside the lab door.

"Who are you, and what are you doing in here?" I asked. "You're not authorized to be in here."

"Dr. Lewis Andon?" one of the men asked as I approached.

"I am," I answered. "And you are?"

"We are here to discuss a matter of some import. Do you have somewhere we can speak in private?"

“What are you guys supposed to be anyway? You look like a bunch of spies.”

The two men in the front looked at each other, their eyebrows raised; then the elder of the two looked back at me, “Someplace quiet?”

“You’re joking?” I said.

They weren’t. I took them to an empty conference room: my lab was a secure area with a complex security network and multiple video and audio outlets. There were only four outlets in the conference room, and at the request of these mysterious gentlemen, I disabled the video monitors. After I’d switched off the network connection in my neural implants, two of the men identified themselves as CIA officers, flashing their credentials just long enough for them to seem authentic to a skeptical neurosurgeon.

“And him?” I asked, gesturing toward the third man in the back.

“Who?” the elder of the two CIA men asked.

“The man sitting behind you, sir?”

He smiled, ignoring my question, “We’re here to discuss some work we’d like you to do for us, Dr. Andon.”

“What could I possibly do for the CIA?”

“You’re one of the world’s leading experts in neural adjuncts, Dr. Andon.”

“The government has experts,” I said. “Army, NIH—the Surgeon General herself is a neurologist. What do you want with me?”

“Sometimes we enlist the service of private citizens. This has to look like a simple curiosity—one doctor to another. That’s all. If we delegated this to a government doctor, it would send a message we don’t care to send.”

“That you’re involved?”

“Precisely, Dr. Andon. And we’re not asking for you to do anything dangerous. We’d like you to evaluate the work of another neurologist to see if there’s any merit to it.”

“I do that all the time, gentlemen; it’s called peer review. You could’ve just transferred the files to my assistant; you didn’t have to sneak in here like a bunch of secret agents.”

“We don’t have any material to give to you, Dr. Andon. Just the video.”

“The video? What video?”

“Dr. Andon, do you have a good Spanish translation application in your chip?”

“I’m a practicing physician, of course I do,” I answered, wondering why they’d ask me such a thing. Then it dawned on me. “You’re not serious? The Mexico thing? The guy with the rats?”

“His name is Dr. Javier Carrasco.”

I was laughing, but they weren’t, “He’s a neurologist working out of Universidad Noreste in the city of Tampico,” the other agent said. “We’ve arranged transportation and a cover story. We’d like for you to approach him as though it were a serendipitous meeting. The U.S. Government would like to know if there’s any validity to that video, or whether it’s a cleverly crafted fraud.”

“I can save you the time, gentlemen. It doesn’t take a neurologist to tell you that video was a fraud. Everyone knows that.”

“How do you know, Dr. Andon? Have you examined the clinical evidence? The research subjects? Have you read Carrasco’s research files?”

“I know, because such a thing is just as improbable as it is impossible. There are a million ways that video could have been faked using visual effects, and there’s no

possible way from a clinical standpoint that it could be real. It's science fiction."

"Nevertheless, Doctor, we need someone to confirm that finding, and the CIA has chosen you."

"Chosen me to do what exactly?"

"We need you to go to Mexico, to speak with this Carrasco, and to convince him to let you examine his work."

"I'm sorry, gentlemen, but that's just impossible. I have a hospital to run, research that needs my attention, and those two concerns are minor compared to my family; I simply cannot leave them at the moment."

The elder of the two officers nodded, leaning back in his chair, "Dr. Andon, I say the following out of respect, because I wouldn't want you to mistake my meaning.

"We have ways to lean on people in order to get them to do what we need them to do. We've been doing that for over a hundred years. But please, I want to be clear, that's not our intention. I say this independent of what we came here to ask you to do."

He paused, and I nodded, inviting him to state his point. "I think we may be able to help your daughter."

I glared across the table at this strange man, and he could see the fury in my eyes – the kind of fury that didn't care that there were three of them and one of me, or that all three of them were probably trained killers.

"We make it our business to be aware of other people's business," the same agent said, his tone almost apologetic, a purposeful calm residing in his eyes. "We know everything about you and your family. We don't interrupt a person's life without knowing the person we're dealing with. All of your correspondences, your practice, anything with a digital fingerprint.

"Your girl is like any teenage girl, Dr. Andon; she talks more to her friends than her parents. We have access to that social media, and again, I only mention it independent of what we need you to do."

"Are you saying you can guarantee my daughter's safety while I'm away?"

"No, we're not saying that, Dr. Andon, and in point of fact, you can't either. But I can offer to keep an eye on her for you while you're away, a trained eye."

"I didn't know the CIA was in the business of babysitting, sir," I said.

"We're in whatever business the situation requires, Dr. Andon, and we require your services in Mexico. We need you to help your county."

"I hate flying," I said, shaking my head.

"Who doesn't," the younger agent said, at which point the mysterious man in the back leaned over, whispering something into the ear of the older agent, who nodded.

"We'll also need you to stay offline, Dr. Andon. All of the information you need is on these glasses," the younger agent continued, taking a small case from his pocket and placing the glasses on the table. "You may review on the way. Dr. Hawk will be taking your evening appointment."

"If he has something to say, he can say it," I said to the older agent, gesturing in the direction of the man in the back.

"No, Dr. Andon, you never saw either of us, because we were never here," the older of the two agents said, pointing to himself and then to his younger partner. "But that man, he doesn't even exist."

Then they got up and left without another word spoken.

The CIA had collected a great deal of information on Carrasco, who was an enigmatic character to be sure. I sat on the plane, staring into those old glasses like I was ten years in the past, taking in the data on the Mexican doctor. He appeared to be either an incomparable genius or a hapless drunk, depending on the observer's point of view.

The debriefing on the glasses outlined my role. I was to approach him in this seedy cantina near the airport where he regularly drank himself into a stupor. I finished watching the instructions before going back to the original video—the one that had gone viral everywhere. There was no way to make those rats do those things. No brain can process two sets of signals at once.

I began to sweat the second I exited the airport terminal in Mexico. Even under the shaded taxi stand the heat was oppressive. The whole thing was becoming more preposterous by the second. I must have looked so out of place, and the story they'd given me to gain the confidence of Carrasco was ridiculous.

Tourists didn't stumble into that bar by accident. They didn't even end up in Tampico, for that matter. This was not Cancun. There was only one plausible reason for me to be there, so when I got to the cantina, I decided to drop the pretense and simply approach the man directly. I asked the bartender what the Doctor drank and asked him to pour one for Carrasco when he arrived.

Dr. Carrasco entered at his usual time. The bartender poured a shot of tequila, said something under his breath, and gestured toward me. Carrasco turned, smiled, and lifted the glass in my direction before drinking. He turned back to the bartender, asked for the bottle and a second glass, then made his way to my table.

“So, mi amigo,” he said in a heavy Mexican accent, placing the bottle and glasses on the table, “to what do I owe the pleasure of your company? I usually drink alone. Have you come about the video?”

I nodded, gesturing for him to sit, and after we introduced ourselves, we began to speak about it. I made my feelings very clear from the start.

“Ah, that’s what they all think,” he said with a knowing smile. “If I were a European or an American everyone would be very interested, but you are the first to even ask. You think, like everyone else, that because I’m a Mexican we could not have invented such a thing.”

“Personally, I’m more doubtful because of your lifestyle, Dr. Carrasco,” I answered.

“Van Gogh was a drunk, Lewis,” he said. “Like me. So, when I show you the rats, and prove that it’s true, what can Johns Hopkins do for me?”

“I’m not authorized to offer you anything on behalf of the university or the hospital. I’m here because of my personal curiosity.”

“What will you do when you find out that my research is flawless?”

“If I think it’s real, I’ll put it before other trusted colleagues for independent verification.”

“Who would you call first?” he asked, pouring another shot of tequila for both of us.

“If you can replicate the video and back it up with a proper data set, I think I’d call Annie Czako to see what she thought of it.”

Carrasco smiled, gulping down the tequila in one quick motion, then turning back toward me. He waited as I followed suit. As I lowered my empty glass, he poured another shot for each of us.

“Now,” he said smiling as he lifted his glass, “one more for each of us, then I’ll introduce you to my little friends.”

It was incredible. His lab was cluttered with empty bottles of tequila, empty bags of animal feed, dirty glasses, and the cages smelled as though they hadn’t been cleaned in weeks. You could tell even his own university was dismissive of this man—his tiny office, his basement lab, no research assistants, no security. It was almost a confirmation of his status as charlatan, the crazy uncle the family kept hidden in the back bedroom at the estate.

Carrasco pulled up remote feeds on two old flatscreen televisions, like it was 2010 or something. Then he brought out one of his rats, chipping it in to a second-layer reality. On the other screen he displayed the feedback from the adjuncts.

“I call it ‘*el cerebro nube*,’” he said. “In *Ingles*, it’s like a ‘brain cloud’. One hundred percent *nanotechnology*. The cloud processes as a collective and operates both ways—input and output all at once. Watch.”

I looked up at both screens, alternating between watching the rat’s behavior in the artificial reality, its own independent signals, normal self-generative responses. Then Javier began to input signals for the rat’s body, which came to life in the physical world.

He began to describe the process: “I had to record trillions of individual signals in order to simulate the synaptic responses for individual actions—like translating a new language. A sophisticated game of charade, you might say. But now the computer can make the rat walk or wiggle the tail—whatever we want. And the mind doesn’t even know about it; it’s down below.”

Speechless. There was no better way to describe my utter shock. I kept going back and forth between the two

screens, and then to the rat in the cage. Javier took it out of the cage and placed it on the table. He put an exercise wheel on the lab bench beside the rat.

“Would you like to see her run, Lewis? I can make her run.”

“Very much so,” I said. “I want to see you the display the nucleus accumbens as you run it.”

“I’m not dangling a carrot, Lewis. It’s more advanced than that. The rat’s consciousness is below in the second-layer artificial environment.”

He wasn’t lying. There were no strings or mirrors. We spent most of the night in his lab. I watched the placement process in a new subject, a simple injection in each ear. We reviewed the properties of the bots in his ‘nanocloud’. Then we spent the remainder of the night talking about the adaptations he needed to make for the system to work in the temporal and frontal lobes of a higher-functioning mammal.

It was close to five in the morning when we decided to call it a night. He gave me a ride back to my hotel, and as I got out, he said, “So you’re going to tell Annuska Czako all about this night, Lewis?”

“I can’t guarantee she’ll believe me, Javier, but I can guarantee she’ll hear about it.”

He smiled as I shut the door, and that was the last time I saw him before he disappeared.

I literally pinched myself as I was staring into the bathroom mirror in my hotel room. It was real. I washed my face before heading back toward the bed. The light clicked on, illuminating the outline of that ghostly third man from the meeting with the CIA officers.

“I’m going to need those glasses, please, Dr. Andon.”

I sat on the bed across from the grave figure of that very serious man.

“So you can talk?” I said.

“When I need to be heard,” he answered, extending his hand.

I handed the glasses to him.

“It’s very dangerous technology he’s working with, isn’t it, Dr. Andon?”

“It has the potential to be dangerous, yes.”

“And real?”

“I’d have to replicate the process—independent verification and all that—but yes, from what I can tell, there’s nothing fraudulent in that video.”

“Your nation appreciates your service, Dr. Andon. Do not discuss what you’ve seen with anyone. We’ll know if you do. Your flight is at noon. There will be a car and a wake-up call.”

He got up and left, leaving the door to slam shut behind him.

“Nice to meet you too, buddy,” I grumbled at the door, and it couldn’t have been more than a minute before I was sound asleep despite the excitement of the long day.

The following evening, when I finally got home, my wife greeted me with a smile for a change.

“It’s been a long time since you were at the hospital all night,” she said. “Isn’t that for the younger doctors, Lewis?”

“Believe me, I’m not going to make a habit of it.”

“There’s something different about Emmie,” she said. “She looked happy today.”

“And where is she now?” I asked.

“She’s gone out to meet a new friend. Isn’t that great news?”

I smiled, though I had reservations about this ‘new friend.’ I hoped it wasn’t what I thought, but I knew

Carrasco's disappearance was big news that week, almost as widespread as the rat video had been. Certainly it caught my attention when I learned that he'd gone missing. The speculation in the media was that he'd drunk himself into a stupor over the fallout from his 'fraudulent' rat video. He vanished ten hours after the university fired him. He wouldn't have been the first person to succumb to the pressure of the world's scrutiny. But that wasn't what happened to him.

Tuesday of the following week, I was at lunch at the hospital when I got a video from my daughter.

"I'm sorry, you guys, I love you, but what's best for me may not what's best for you. It's my life to live, though, not yours." Emmie was smiling.

I only cared about two words in her farewell message to us: 'to live.'

She'd gone off with her new boyfriend on the back of his motorcycle, and no matter how much my wife tried to persuade me, I had no intention of pursuing our daughter. She would come home if she wanted to. Emmie was out there living: that was the only thing that mattered.

It was a hard loss, but preferable to a dead daughter, and it took several months before things started to feel normal again. I'd almost forgotten about that night in Tampico.

I was on my way to the car after another normal day at the lab, when a black car pulled alongside me. The door opened. I didn't recognize the man inside.

"Dr. Andon," the young man said, "a mutual acquaintance is requesting your presence. Please come with me."

I looked inside the vehicle. My wife was seated opposite the well-dressed young man in the back of the car, so I got in.

“How would you like to take a sabbatical?” the man asked as the car began to move.

It wasn’t a request.

Seven hours later, the younger agent from that strange morning months earlier was showing me around a horse ranch in eastern Montana.

“What exactly do you need me to do?” I asked him.

“Someone will be along to fill you in on all the details in the morning,” he said. “Your team’s top-notch, Dr. Andon. I’m sure you’ll be more than satisfied.”

My wife didn’t quite know what to make of all this, but she was surprisingly willing to go along with the whole thing, content in the spirit of the adventure. And she liked riding horses; it brought her back to her childhood.

The girl who showed up the following day looked very familiar, yet I couldn’t place where I’d seen her before. She introduced herself as Katie, but somehow I knew that wasn’t her real name.

She brought me into one of the barns on the property, and with a voice prompt, she opened a staircase that led to a laboratory in a secret bunker. It seemed so ridiculous at this point that I wasn’t surprised by anything—especially Javier’s presence in the lab below. It made sense right away: there’d been a nearly-empty bottle of tequila on the counter in the kitchen the night before.

“The man tells me you Americans get all the good toys first, Lewis,” Javier said with a happy smile after we greeted each other. “So I thought it best to get in the car.”

I smiled at Javier, nodding as I looked back over at the young woman. She was the right age now, almost thirty, and her hair was different, but it was definitely her.

“I know who you are, Lily,” I said to her. “I thought you went to jail.”

“The American government doesn’t let minds like ours languish, Dr. Andon,” she answered. “Not at university and certainly not in prison. I did twenty days, and then I came to work.

“But please, call me Katie, and welcome to the team.”

“So where are we with the frontal lobe?” I asked.

“Coming right along,” Javier said, smiling. “And the man wanted me to tell you something when you got here, Lewis – from one friend to another.”

“What’s that, Javier?” I asked as we all sat down.

He smiled. “Your daughter is very happy in her work.”