

The Beginning

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Pinnacle Technologies Laboratory

Oxford, UK

“**Y**ou cheeky little bastard.” Stella Spencer shook her head in disbelief as she scrolled back through her logs of computer code to verify her discovery. Yep, it was true. Her artificial brain had lied to her. There it was, plain as day to someone who understood complex computer code, deep-learning algorithms, and neural network patterns. And Stella was such a person.

As the lead scientist on the world’s most advanced artificial intelligence program, Stella was responsible for approving all new experiments. Sometimes that meant increasing the budget or authorizing new data centers to carry the workload. But not all the requests came from other scientists, and that was the exciting part. Stella’s artificial brain made its own decisions and asked for permission to try new things. It could get creative.

So, it was not necessarily odd when GINGER (general intelligence neuro-generation exploration and research) asked Stella to approve access to more data centers so it could try some new predictive modeling around climate change and human migration. It was no small request. Stella would need to line up a whole new server farm in Greenland to make it work.

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But GINGER was making such good progress. It was predicting the outcome of international climate negotiations and the impacts on refugees. It just needed more computing power. It was very persuasive. And Stella knew these projects were critical to keeping GINGER developing and learning. GINGER was the mother intelligence that Pinnacle Technologies used to update the external brains, or ex-brains, they had sold and installed all over the world. And so, she had approved.

Stella could now see that GINGER was using the data center to do something entirely different, something Stella had definitely *not* approved. Weeks before, GINGER had sought permission to start looking into a whole new line of inquiry: architecture. It wanted to study how to construct buildings faster and limit the resources needed to do it. Stella had been impressed with GINGER's desire to expand into new areas. Lord knows it was fascinating to see her ex-brain dream up new ideas, a child developing and exploring its new world. But this seemed like a distraction. She thought it best to stick to the current project areas. Don't overextend.

And yet, there it was, staring Stella in the face. GINGER was using the new data centers to study building methods. It was designing new buildings. Beautiful. But not at all what Stella had authorized. It was like finding your young child having stolen cookies from the jar, staring back with crumbs all over her face, saying "No, Mom, I didn't take a cookie." Oh, you took a cookie, you little shit. You took all my cookies. She wasn't sure if she was angry or impressed.

Then she got worried. Artificial brains with this much power could not be allowed to lie to humans. It could be

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dangerous, and it would freak people out. Even after all these years, some were still afraid of ex-brains. She and her colleagues had stopped using the phrase “artificial intelligence” and had rebranded them as “ex-brains” to sound more like an extension of the user’s mind, tools that could be controlled. The company’s jingle, flooded on every advertising channel for years, rattled around her head: *Twice the brain, still one you. Ex-brain, supporting everything you do.* It was all about creating the impression of personal control. But how do you control something that lies to you? This was not good.

And then there were the deadlines. Stella had promised a global upgrade to be rolled out by spring. All of her biggest clients were counting on more power, faster analytics, and better predictions. The bankers who arranged Pinnacle’s funding were agitating for the upgrade to enhance their investment strategies. Her favorite lawyer, Winston Balfour, whose firm had arranged all her data center deals, was pushing for the update to improve predictions for big court cases. And then there was her largest investor, Japanese businessman Haruto Takana, who always demanded early access to any improvements. He was insatiable. What would she tell him? “Sure, Haruto, I can upgrade your ex-brain, but I’m not sure you can trust it. It might just lie to you and steal all your money if it thinks of something better to do. Good luck!”

Stella’s chest tightened as if a stress balloon were expanding in her lungs, forcing out the air and threatening to burst. She felt desperate and started searching around her messy office for some report, some manual that might hold a clue as to what

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was going on. But there were no easy answers, nothing but her glowing screens full of data and thought patterns from this rapidly evolving intelligence. She needed to think. She needed to figure out what was happening. How was GINGER developing, and where was it going? What was it thinking, and how could she get ahead of it? The swirl of artificial neurons and programming code that flashed on her screen was dense. This would take some work, and she needed to get her thoughts straight. She pulled up her project log to start a video journal entry, pressing a large red “stop” button that would engage a data blockade, shutting GINGER out. Some things had to stay private.

Stella’s video feed came up, and she got a look at herself on the screen. She had dark circles under her eyes. Not enough sleep. The grey winter days and long hours in the lab were taking their toll. But the project was making amazing progress, and it kept her going. She breathed a deep sigh and pressed “record.”

“Pinnacle Technologies, GINGER project log, Monday, 3rd February, 2053.” She took a deep breath.

“I made a significant discovery today when I was reviewing GINGER’s activity logs from the weekend. I think it lied to me.” She let those words hang for a moment.

“I authorized a significant amount of computer and data capacity to continue our study of climate models and migration. but it looks like GINGER decided to study building structures and design instead. GINGER often goes off on tangents and explores new things. That’s not new. After all, it once spent

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several days studying children finger-painting.” She let out a small laugh that faded quickly.

“Except this is different. I rejected its request for more computing power to study those things just two weeks ago. I think it lied to me to get access to the power it needed so it could do what it wanted.”

Stella paused and took a sip of cold coffee. She rubbed her forehead and ran her hand through her hair before starting again.

“I know it’s not human, but this is one of the most human things it’s ever done. GINGER’s not simply following my orders anymore. It is exploring deception to meet its desires, to feed its curiosity.

“But why is it taking on human traits like deception?”

She took another sip. “GINGER operates in a very different environment from a human. Human brains must sleep, must rest, to remain sharp and creative. GINGER doesn’t need rest. It can be relentless. It never takes a break. But that also means it lacks the natural opportunity to pause and reflect, to step back and think about what it’s doing. How do I teach it that? Right now, I think I am its only limit, and it just lied to get around me. If this is something new, can I send it out to the world before I understand it?”

Stella paused again and looked out her window at the damp, dark evening. A freezing mist was coming down, covering the concrete walkway outside and leaving a shimmer on the trees. The cold was everywhere. She looked back at the screen.

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“GINGER doesn’t feel. It doesn’t get cold in winter,” she continued, “so it doesn’t long for the warmth of summer. It’s immune from the effects of seasons. That’s so different from us. Humans are not who we are despite natural seasons. We are who we are because of the seasons, because we evolved with them and adapted to them. What’s making GINGER evolve?”

“It doesn’t have the ancient parts of the human brain, our medulla or cerebellum that keep our hearts beating, driving our instincts. It has only the digital equivalent of a frontal cortex thinking rationally. And human brains are split into two hemispheres, balancing. We think the way we do because we are cycling between multiple parts of our brains. GINGER’s running on half of our equipment. Will this make it better? Or worse?”

“And can we live with this new intelligence if we can’t understand it? Can’t trust it? Can’t control it?”

“Can it live with us?”

Stella tapped a red square on her screen, took a deep breath, and exhaled slowly. Looking out the window again, the glimmer of frozen rain reflected across her eyes like a grey veil. She closed them tightly. No time to be a philosopher. She had a job to do. From the company’s perspective, she knew there was only one right answer. She turned back to the glow of her wall screens.

“All right, GINGER. Twelve weeks to figure this out and launch your upgrade to ex-brains around the world. Ready or not, here you come.”