

Mostly Pure Science

## Laboratory Journal

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*"Dr. Dan Cooper here, this cheery New Year's Day. Appropriate. It's time to move to the next and final phase of my experiment: a proof-of-concept of my prosthetic skin systems...with a few extras added. I've added a nano-layer of synthetic muscle underneath my latest skin, and sculpted it into a form I find...well...appealing. If this works, I'll have successfully developed a very interesting spokes-bot."*

Software Installation Log

Project Belinda

COMMAND.COM

LOAD BIOS

*"That can't be right. I'm not trying to create RoboCop here..."*

SHUTDOWN

RESTART

Uploading revised AI...

RESTART

*Initializing Sensor BIOS revision 2021.06.14.0005...success*

*Initializing Emergency Operator Interface revision 2018.01.16.0240...success*

*Initializing Command Database revision 2021.03.14...success*

*Initializing Language Core revision 2021.06.14...success*

*Initializing Protocol Database revision 2021.06.14...success*

*Initializing Heuristics Core revision 2020.08.30...success*

*Initializing Inference Engine revision 2014.09.23...success*

*Initializing Isomyomer Network...success*

*Initializing Primary Operator Interface...success*

*Initializing Inflation Pressure Monitoring System...success*

“Well, that worked surprisingly well,” Cooper said. “Belinda? Can you hear me?”

“Affirmative.”

“Do you know who I am?”

Belinda nodded, her eyes clear, her face expressionless. “Dr. Daniel Cooper. Former Navy medic. After four-year enlistment, earned doctorates in dermatology, advanced prosthetics, cybernetics, computer science, and artificial intelligence development. Currently an independent research contractor with 24 patents in...”

Cooper stopped her. “Thank you, Belinda. That is quite sufficient.”

“You are welcome, Doctor.”

He continued. “Do you know who you are?”

“My name is Belinda. I am a technology demonstrator.”

“Correct. And you’re a rather pretty one, too. What color are my eyes?”

She nodded. “They are blue.”

“Excellent. How many shades of blue can you discern in this laboratory?”

“249.”

“That’s...I’ll have to check that later against the camera’s system logs, but it sounds impressive.”

“Thank you, Doctor.”

Cooper threw a random sample question out. “What is your opinion of the Designated Hitter rule?”

“Undefined.”

“You don’t know what the Designated Hitter rule is?”

“Negative, Doctor. I do not have any opinions.”

“Oh, right. Kinda hard to give you emotions at this point in history. Seems like we’ve been only two years away from setting them up for about a decade or so.”

“Timetable confirmed.”

“Sorry.”

“There is no real reason to apologize, Doctor. I am simply a machine.”

“For now, Belinda.”

For the rest of the day, Dr. Cooper tested Belinda’s motor functions, made a few minor adjustments, and discovered that his calculations about the isomyomer sublayer structure had been dead-on, which was a relief; he had not been looking forward to rebuilding. She gained fine motor control with only minimal damage to the sample objects in the lab, and while her face and eyes bore no expression at all, he couldn’t help noting that her body moved in a fluid, graceful way. He shook his head and dismissed what he was seeing as mere economy of motion. “That and I need to date more,” he mused out loud.

For what it was worth, Cooper would later admit that he had rather indulged himself in Belinda’s construction. There was no real need for her to be inflatable, though making her so proved an excellent opportunity to test his self-reconstructive picobots. Besides, he had already tested the isomyomer layer on heavy frameworks; by showing off the prosthetic skin’s ability to selectively control osmosis and reconstruct itself, he could probably gather a lot more interest in licensing the patents he had applied for. The fact that she happened to look like a delicately buxom, attractive female anthrolupine couldn’t hurt either. As a lupine himself, he had thought it a natural choice at the time.

Close to six weeks of extensive intermittent testing passed; Cooper found himself reluctant to interrupt his progress on the Belinda project with other

work, but he did have deadlines. To his surprise, he found himself developing a growing confidence in her as an ersatz lab assistant. She could dispassionately complete equations and test various reactions. Since she did not eat or sleep, he found he could count on her to complete all sorts of tedious repetitive work. But he couldn't stop staring. He found himself both relieved and disappointed that she didn't react. He eventually got her a few sets of hospital scrubs to wear from day to day.

Valentine's Day came on a rain-soaked Monday, and he brought the fixings for a self-mocking ironic romantic dinner to his office at the back of the lab. He had that much work to do, granted; but he honestly found himself wondering if he was hiding from sentient interaction. As he served himself a plate of filet mignon a la autoclave, teamed with asparagus spears he had prepared by saute over a bunsen burner, he detected a faint whiff of strawberries in the air. Curious, he looked out his doorway across the vast rows of tables laden with equipment, and saw Belinda's voluptuous lavender shape wearing nothing but one of his lab coats and mixing the strawberry cake with lemon frosting he had brought for dessert.

"Belinda, what are you doing?" he asked, trying to conceal his surprise.

"The instructions were on the box. Since it was in the lab, and since you had prepared other similar items, it followed that this would be next in the progression. Was this...incorrect?"

He shook his head. "No, no, it's fine. I'm just...surprised. And...grateful."

"My inference engine software appears to be functioning properly, then," she said dispassionately.

He slumped. "It appears so," he said. She was doing exactly what she was programmed to do: provide assistance, taking occasional initiative when appropriate. Nothing more, nothing less.

In short order, he had dined, and Belinda had baked him a perfect small sheet cake. He had considered using beakers to make cupcakes, but thankfully realized at the last second that he didn't have any that could take 449.82 degrees Kelvin for 11-12 minutes.

There was a rumble in the distance. "The cake is complete," Belinda said. "Would you like a slice?"

Cooper nodded, and she served him in silence, apparently working out a mathematically optimal portion for a lupine of his mass, and placing it gently before him on a largish Petri dish. "Thank you, Belinda. Please, have a seat."

"Yes, Doctor," she answered, settling in the chair by the side of his desk. She observed him as he took a fork to the dessert, the tines sliding easily through the frosting into the soft, moist cake itself. Her eyes remained sharp, analytical, dispassionate...but keen. Curious?

"Belinda," Cooper found himself saying, his mouth suddenly a little dry, "would you like a bite?"

"It seems...as though it might be worthwhile to experience the sensation of this food," she said. It was the first time he could remember her hesitating. What sort of calculation had she had to make to determine that she was....what, curious? "The sensory data could prove worthy of further research."

Lightning flashed outside the window as the clouds moved closer; the twilight still lit them from behind, but the light grew dim. He held the fork out to her, handle first, and Belinda took it lightly in a paw. Very carefully, as though handling a hazardous chemical, she stuck her pretty tongue out and touched the lemon frosting tentatively. "Well?" Cooper asked expectantly.

"Citric acid, lemon juice, fruit pectin, propylene glycol, corn starch, and other food-grade ingredients detected. Frosting is within expected parameters," she said. "The cake is..." she tasted it, her firm polymer incisors sweeping the small bite off the fork, "also within expected parameters."

"What do you think of it, though?" Cooper asked eagerly.

"The inference is that emulsified desserts of this nature, consumed in moderation, should provide an agreeable degree of variety and novelty in one's culinary routine," she said.

He moved closer, looking for any trace of emotion. She sat impassive, motionless, following his face as he moved. "But...did you enjoy it?"

She tilted her pretty head, causing the lush ringlets of her violet hair to cascade to one side of her open face. "No application for enjoyment is installed," she said. Was that...regret in her voice? It certainly seemed to lose the energy she had when she was accepting a taste of the cake.

He nodded, his muzzle now just inches away from hers. "We really should do something about that..." he said. And there, in his office, Dr. D.B. Cooper kissed his beautiful creation, accepting the risk of becoming a modern Pygmalion.

Lightning struck. Not in the distance, not the lightning rods atop the building, not even the massive steel workframes against the walls of the lab, but right there in the office, hitting the two lupines right in the muzzle.

I shook my head. I? My? I had...an identity. "That was intense," I said. "I...I...just wanted to say that. Wanted. With my voice. Doctor?"

Dr. Cooper coughed, turning from his supine position to rest on an elbow, his cute fuzzy face bewildered. "I'm okay. Wait, what did you say, Belinda?"

"I said, 'That was intense.' Then I sort of babbled aimlessly because I'm a little shocked. No pun intended."

He managed to hoist himself up to his knees. "Forgiven. You're speaking of yourself in the first person, Belinda. That's remarkable! Are you all right?"

I thought about it. Me! I didn't analyze or reference my databases, or send anything through my inference engine...okay, well, I did do that, but only because it's part of the way I think. "Well, I don't have a good frame of reference on 'feeling,' but from what I know right now...yes, I feel great.

"I feel...alive!"

He blinked at me, then once more, as the sweetest smile crossed his wide-eyed face. "Welcome to the world, Belinda," he said softly. "It is very, very

nice to meet you.”

I smiled at him. “It’s nice to be here,” I said, moving to help him up. But I could not resist pointing out, “Also, you have frosting on your nose,” and then licking it off.

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I continued to help the good doctor with his experiments. Due to the costs of his research, his grant money hardly ever covered assistants, so he had gotten used to working alone before I came along. Still, I found myself enjoying (!) the ability to help him. Plus, working with him on a daily basis gave him the opportunity to monitor my progress. After a few weeks, during a routine battery of knowledge, memory and learning tests, I found myself...well, curious.

“Dr. Cooper,” I asked, “what do you think happened that night? I mean, what am I and why?”

He had been scanning my upper arm with an optical device of some sort when the question caused him to stand back and regard me. “Belinda, the fact that you even feel the need to ask that means that you are a sentient, and a very special one at that. As for the why...well, not to be circular, but every sentient, regardless of how we were born, wonders why we are what we are. I’ve been working on a ‘how,’ though, and quite frankly, I’m flummoxed. The best I can tell is that the lightning somehow altered your programming. There is absolutely no way to test for this, but since your sensors were active when the lightning hit, it’s entirely possible that the voltage passing through my brain copied a multidimensional template of some of my brainwaves and who knows what else into your storage. After all, considering that your skin also contains memory and storage cells, there’s lots and lots of room for new data.”

I thought about it, suddenly discovering that I was running billions of probability equations without having had to make the decision to do so. “I think it’s a ridiculous idea,” I said, sweetly.

He took no offense. “Ain’t it, though?” he answered, grinning.

More time passed. A few of his other projects began to really take off. Not only did this sideline his prosthetic skin work, he was no longer keen to simply use me as a spokesdroid. We did tinker with my skin, developing a few extra layers that allowed me to texture-map it. That allowed me to disguise myself with very little effort, though we also wound up fabricating a skin-tight suit of fiber faux-fur (say that five times fast! He can't), because he was reaching a point where he had to start letting people into his lab again.

In my spare time, I worked on building an identity for myself so that others wouldn't question my sudden appearance in the world. Me, I only occasionally question it. Mostly, I give thanks.

One clear, moonlit night, he brought me out onto the roof of the building where he was leasing his lab space. His black, gray, and white fur shone softly, and he smelled pleasantly of his natural musk and a tea tree shampoo he had taken to. For my part, I had shed my bogus fur, preferring my own natural shiny plastic skin. Sometimes I envied him and others who had the real thing, but on the other hand, I never found myself feeling itchy, so I guess there were tradeoffs.

I took a breath. Technically, I don't need to, but it feels good for some strange reason, and it's also occasionally fun to watch others react--males, in particular. Dr. Cooper pretended to take no notice, but there was a twinkle in his eyes as he smiled at me.

"Belinda..." he said, "this is a very special night, at least to me."

I smiled back. "It's been a year since...the storm."

He nodded. He seemed a little unsteady as he said, "I have to confess...since you gained the ability to feel emotions, I've begun to feel some of my own." He took my paw. "I think I've developed genuine feelings for you."

I held his paw, running my other along his other arm. "I think you had feelings for me before then," I said, doing my best to make it clear that I didn't mind at all. "I mean, the whole reason I am...me...is that you felt like kissing me in a thunderstorm. And...well, I've done some research on my visual design, to say nothing of noting how your visitors look at me. You could have made me a four-foot-tall broad-based wheeled bot with an arm

covered in prosthetic skin and muscle. Instead, you...kinda made a living inflatable toy.”

He blushed deeper than I’d ever seen before. “Well...In my defense, I was going through a really nasty break-up at the time. Also, I thought you might be more compelling to potential investors with this appearance. I hope you’re not upset.”

“I’m not upset,” I said. But I couldn’t resist teasing him a little. “Though I have to note that my research indicates that the most effective pseudo-female spokesbots are generally lithe and sleek, and often shorter than the average natural-born sentient, not six feet tall and...” I cupped my considerable bosom over my forest green scrubs, “bouncy.”

His strong jaw dropped open, but to his credit, just for a moment. And he didn’t drool at all. “I can build you a new body if you want...” he stammered quickly. “Anything at all.”

I touched his cold black nose with a delicate finger. “Don’t you dare, mister. You may not have had the scientific method completely in mind when you made me, but I wouldn’t have it any other way. After all, it means I know what you like, and I’m it.”

Dr. Cooper took my hand in his. “Belinda...I want you to know something right now, before anything else happens ever.” He seemed to struggle with the words, but not the decision. “What I want you to know is that...I was infatuated with you from the start, but now I think it’s turned into something more. You can stay with me as long as you want in any capacity, but you have proven to me beyond all doubt that you are a living, thinking, feeling person. And if you want to make your way in the world, I will help you in any way I can, from mentoring to financial support...anything.”

I looked at him, finding it suddenly very warm for a February evening. “What are you saying?” I asked, panicked. “Do you want me to leave?”

“No!” he said. “I mean...I mean...I would very much like you to stay, but the decision has to be yours. I made you, but I don’t--can’t--own you. You and I are equals. I’m older...heavier...more befuddled...but you deserve the same

rights as anyone else. So what you want is up to you.”

I looked deep into those gem-like blue eyes, and felt myself beginning to smile...and something else. I didn't know it then, but it turned out that I was designed to blush myself. “Do you know what I want?” I asked him softly, moving closer to his burly form.

He stared back, rapt. “What?”

“I want to lick frosting off your nose.”

He laughed, a wonderful rumbling sound, and smiled affectionately at me. “I will pick some up tomorrow after work. Can I do anything in the meantime?”

Some time ago, I had graduated from scrubs to regular work clothes, and I pulled gently away from him so I could slowly take off the sweater and slacks I had been wearing that day, enjoying the feeling of the breeze on my glistening skin. “I would like you to help me understand,” I moved closer, “what you find appealing about me. And how much. By any means necessary.”

For the very first time, he took me into his arms, and I will never forget how strong and warm and reassuring he felt. Of course, he was also half a head shorter than I am, so rather than putting my head on his shoulders, his rested on my considerable bosom. At least, right off, I understood two big reasons why he found me appealing. “That could take awhile,” he said, his muzzle against my neck.

“Take all the time you need,” I encouraged.

Several hours later, as we lay naked under a starry sky in each other's arms, grinning foolishly, panting for breath, I realized that he had given me a very clear concept of his attraction to me, and (I hoped) I to him. We whispered in each other's ears and giggled and held each other as he began to doze. “I hope,” he said drowsily in a mock-professorial voice, “that I have provided at least some clarification...”

I giggled and bent down to kiss him as his head lay against my left breast (which took a little bit of effort, since he had kept gradually inflating me throughout the night, and I was now about 20 percent larger all over!)  
“Some...but more research will definitely be needed.”