The Android in the Black Wool Suit

Artificial Pride and Virtual Sorrow

Introduction

"The human brain has about 100 billion neurons. With an estimated average of one thousand connections between each neuron and its neighbors, we have about 100 trillion connections, each capable of a simultaneous calculation ... (but) only 200 calculations per second.... With 100 trillion connections, each computing at 200 calculations per second, we get 20 million billion calculations per second. This is a conservatively high estimate.... In 1997, $2,000 of neural computer chips using only modest parallel processing could perform around 2 billion calculations per second... This capacity will double every twelve months. Thus by the year 2020, it will have doubled about twenty-three times, resulting in a speed of about 20 million billion neural connection calculations per second, which is equal to the human brain."

Ray Kurzweil, The Age of Spiritual Machines

"Anything that won't sell, I don't want to invent. Its sale is proof of utility, and utility is success." - Thomas Edison

"Honor sinks where commerce long prevails." – Oliver Goldsmith

Chapter One

Thick white and brown curtains. The thick solar ones that his wife picked out. He hated the brown color and wondered if that was why he didn't dust them. Now they were covered in it. Thomas Cavister, otherwise happy father of two, sat in the evening dusk with all the lights off. Even now he enjoyed the solitude of his den at the back of his two-story house, but that was before the "rust belt troubles." His father got a deal on the single-family home back in 2024. It was one of the last of the pre-smart digital houses and didn't ask you if you wanted it to start the morning

coffee, advise you of lights burning in rooms no one was in, weather changing, or any of the other over-sharing talking or messaging that all of his neighbors had come to know. His was one of four on his block, and it was fun being in the Luddite minority. He had come to love the two-story midcentury and he realized that the right to defend one's home was the logical extension of home ownership. He told his wife before she left he would defend his (their) ground or die trying. By now, hundreds of other fathers had done just that, but since last Wednesday maybe the tide was turning.

Ticking clocks and the creaks of the house settling punctuated the silence. It was comforting living in a house that he had fixed, updated, and had paid for, but he knew he and the others would be tested soon. He would not give it up. Maybe men were born to fight, after all.

He could hear padded footsteps on the stairs. Josa quietly walked up the hallway and by prior agreement she did not speak. She asked for him to be as quiet as possible now that there were attacks on houses within ten miles of them. Her carbon fiber chassis ensured she was quiet and fast, perfect for what Cavister needed. Not because he was a hu-snob, a person who disdained or hated androids, but because they knew that the battle for the southern suburbs of Chicago would be starting soon. It would begin when strange-looking animals would start appearing in the trees. Bill Summars told him that there were carbon-fiber flying squirrels seen a few miles away. They were scouts of course. O'Hare was under martial law, and the other two airports were about to be lost.

She was going out on patrol. By understanding she knocked once on the door frame, waited for his nod of acknowledgement, then turned and went downstairs. She was only four feet and nine inches, but as a Generation Three android, she had a vertical standing jump of four feet. She was built to walk like an adolescent girl, mostly human, but her bulky joints at the knees, hips, and elbows gave away her titanium enhancements. And she had exo-suit augmentations that gave her

the ability to scale walls. Her black skin matched it. When he first unpacked her, Cavister hesitated a moment before sliding the operating system tablet into the slot on her back. He didn't grow up with AIs like his friends did. And the experience with the Nanny two years ago still bothered him. Once Josa booted up, he waited as the instructions said, and sat still so she could bond with him.

The neighbors who didn't leave were jealous. Most everyone had left the suburbs already after seeing what happened last week. But he promised himself he was not leaving his home without a fight. It had been fifty years since the United States had been in an armed conflict, but that ended months ago. Maybe it wouldn't come to that in his part of the city. The Illinois National Guard had been quickly mustered, but they looked pitiful, to be honest. He realized that fighting technology was torturous without the proper training, and in the golden age of the makers-guild boom no one around the biggest cities of the Midwest had time for that.

He listened for her to leave the house, but as always he only could hear the bushes move aside and the quiet whine of her electric motorcycle. It was turning dusk as he saw a dark shadow ride down the street. She was expensive, but her skills were worth it; she could survive almost anything, and B&B Customizations from Texas were still the best customizers around. The other guys on the block were amazed and only had standard John1 androids. Next week they would receive four repurposed synthetic Dobermans. They were in the collective, and this was a big help, but nothing like Josa.

The last straw was on a Tuesday, about a month ago. One of the kids in Jamie's class was texting and one of the service robots came up and rammed her as she sat in her chair. Then it backed up and did it again. By the fourth time, she was running across the cafeteria and it was chasing her. Of course the school techie said it was a fluke, but it seemed that any use of a 10-gen phone or smart *anything* would attract and provoke them. Not "spesh" when your kid was about to get hurt.

Cavister laughed to himself. He remembered last week when Devon Safil, one of the other "Dads to the Rescue" came to visit him. Safil hadn't met Josa yet, and thought he would test Tom's defenses. Safil had just received his all-body cloaking suit and sneaked up to the back door. He realized that some men just want to test you or what you have. The whole block had been running in mutual silent lockdown for two weeks, but Tom knew that Josa would be listening. The sections of the back of her neck that looked like black gills with veined membranes were high frequency acoustic augmentations that she could hide if she needed to go into full human mode. Cavister wondered, hoped that one day she'd have the chance. Safil got as close as three houses away before Josa appeared in the doorway. As protocol directed, she put her finger up to her lips, directing him into silence. *Someone's coming, probably human,* she whispered. She was gone.

Cavister heard a thud, then "Ooof!" on the back lawn. "Don't hurt me!" She had him in a headlock with her legs. A diminutive figure in black whispered in his ear. "You are Devon Safil, from the house down the street, yes?"

"YES! Please let me go." Josa's audio gills waved as if they were in the wind. She determined he was telling the truth. Cavister sipped his coffee from the back porch. "What the hell is that?" Safil brushed himself off, looking quite ridiculous in his stealth suit with a pronounced paunch. Cavister felt some sympathy for his neighbor, but not much. "Devon, you can't play games anymore. If we schedule something, don't go rogue beforehand. This is Josa. She's a third generation J-1T from B&B Customizations out of Texas. And yes, she's a badass. You have to forgive her, because she's just doing her job. Josa looked Safil up and down, and without a trace of disapproval gave him a quick salute. She trotted off to her observation post in the attic for a short recharge. The refurbished stealth tech center was her domain and she had it set up for reconnaissance and long distance communication. There were pieces of hardware up there Cavister couldn't begin to

understand. She gave Tom daily updates that predicated the local news. Safil got his breath. “What time is our next block meeting?” Cavister grinned at him. “Tomorrow night in Bill’s basement.”

Tom had sent his wife and kids to his cousin’s ranch outside of Rockford. It wasn’t a ranch really, but it had very little tech and that, right now, was most important. He could hear rumbles and explosions in the distance; here in the comfortable western suburbs of Chicago, that was surreal. That had to be downtown where the fighting was concentrated. It was a minute before 5:45 p.m., the time for him to give the ok sign to his neighbor; they could see each other across the driveways. Soon they would join forces with the guys down the street. They would not let this city block fall. He had unplugged every smart appliance in his house, and spent an hour going through his kids’ toys.

After watching the evening news, he knew he had to prepare. He remembered the stories of the quaint Chicago block parties a hundred years before when neighbors actually took the time to know each other. This year it was by necessity. Now, the fathers, uncles, and brothers who stayed behind were arming themselves and happy to form alliances. Some blocks even had insignias and patches. After 80+ years of relative domestic peace in the United States, it became apparent that it really was an honor to die for your homestead and maybe even your neighborhood. Yesterday, he spoke to the chief of police and their tech squad. He realized he came off a bit too emotional, but it seemed like all the other Moms and Dads just seemed to take things as if it was just the next chapter in life.

Cavister knew if they could just keep all the encroaching machines offline, they had a chance. The closest metropolis was nothing like his beloved Chicago; the “do-over” of the last twenty years created a model city, but now there were construction and service bots everywhere. And today if you ran into one, especially with a smart companion, God help you. There were people

downtown left in fifteen pieces who were killed in seconds. Most of Detroit was lost already and the TV stations were running out of old-tech equipment to stay on the air. What happened *there* especially pissed people off. Fifty years to rebuild a city and in six months it goes to hell. The National Smart Grid, specifically the Northern Midwest Section, which his father had worked on, had a fail-safe to stay on no matter what, and it was the lifeblood to the beta AIs that were gunning for anyone or anything that looked their way.

Free electricity ran at a consistent 24 volts running through the electric tracks, the streets, and the underground utility tunnels connecting Milwaukee, Chicago, Detroit, Cleveland, and Pittsburgh, the new tech center of the region. This was originally for standard infrastructure power from years before, and the thousands of kilowatts from the solar farms, highways, and streets kept the current flowing day and night. Although they were hundreds of miles long, they were built and maintained by ISBs (Infrastructure Service Bots) and not going to be accessed by humans. They were only a yard in diameter and connected every major city after 2045 or so. They could be destroyed, but getting to them would trigger the seismic sensors and soon you'd be surrounded by thousands of angry electronic dragonflies, aluminum dogs, plastic cats, autocars, and smiling domestic servant androids with very sharp things. They didn't always have weapons, like some of the rogue police devices, but they could just use their bodies to pummel you to death, like what happened in downtown Detroit yesterday. Last week three cops in Eastlake, (beautiful Eastlake!) Ohio went missing.

That was the worst part – the total number of missing now approached 2,000. Bodies were never found, and some were just staged to look like suicides. People supposedly killed themselves and left strange notes behind that were void of any emotion; everyone knew. It was obvious how they were killed and it didn't matter if the handwriting matched up. The authorities had no idea that

most of the victims were simply guilty of owning the latest Tablet AI, the "John1" – one of many things that made them a target, or that they showed potential physical hostility to the older robotics. All over the country, people were changing their locks, locking their androids in the garage, or just abandoning them out in the country.

Yesterday Navy Pier was lost and the Illinois National Guard had to retreat to the Loop. And, although Cavister would never know it, it had to be the irony of all ironies that *he* was the cause of all the "troubles" in Chicago, Cleveland, Detroit, and Milwaukee right now. Supposedly, some kind of landing craft were coming out of the Great Lakes at night; huge stealth submarines that were invisible at night. Air Reconnaissance search imaging was jammed. Each city had at least three acres of burning property with armed fighting. He had no idea he had started thousands of fights across the Midwest of the U.S. months before by yanking the wires out of his android maid and nanny. It was spreading to the southern states now. Some TV stations were going off air, but others had access to older operating systems (the older "non-smart" O.S.) that had not been modified. With a ratio of five AIs to two humans inside the city limits of every top 20 city, the future of the American metropolis was far from certain.

Josa quietly approached him. Her facial expression algorithms were getting better every day. He looked at her silver irises and was surprised at how proud he was of her. She was the first of her kind; designed by others like her. She returned his gaze and looked worried. "They're coming soon," she said.

Two Years Earlier…

At the eButler dealership outside Minneapolis, James Kowalski (Jimmy K to all the crew), the

service adviser was in a good mood. He had his vitamin enriched donuts and the Starbucks tasted especially rich this morning. He loved spiced latte when the temperature went below freezing. He had gotten the preferences on his new condome finally set just the way he wanted and his girlfriend was taking the train from Peoria that weekend. He'd just finished the company sponsored technical degree that made him a competent if not expert level android technician and his life was going quite well. The no calorie sweetener sugar clone ("Sclone") on his donut looked just like the new snow on the roofs and streets. His father tried this stuff after he was diagnosed with type-two diabetes, and he was right, this was the first sweetener that tested as tasting 98% like sugar. He loved donuts.

He thought of his brother Chance, who died in the 2032 flu outbreak. It was yet another strike at the University system that had become obsolete; crowded auditoriums for lecture classes were breeding grounds for the latest Asian flu strains when everyone was worried about the elders. All new buildings now had spray anti-bacterial hand pumps that when set, required activation for the door to open. The new gloves helped, and everyone downtown wore surgical masks. So did kids at school whenever the sniffers sounded the alarms.

But this was one of those beautiful Midwest winter shows where the sun was the headliner in a bright, crisp morning after it had snowed overnight. The landscape glistened and sparkled in that unbroken white blanket common to Minnesota in January. Maybe it was just the cold winter morning snow that seemed so pretty on the way in, but he actually enjoyed his job. He was kind and gentle to the robots, androids and all non-human forms. He knew that they never forgot and anything with intelligence and feelings should be respected, no matter what it looked like, or how well it could talk. After working ten hours a day, many of the guys weren't so careful or easy with

the chassis or parts. They forgot they were usually being watched, scanned, and remembered. "Alive or not, you'll always be in *their* cloud," his mother told him.

After his recent divorce he had a new-found appreciation for the newer models and all the other mechanical autonauts in his world. The latest release had been a big change in the empathy coding and although they were far from being human, they were more helpful and attentive. They were less intrusive; they weren't always asking if you needed help or advice. The endless chattering and beeping even got on his nerves. Supposedly, University Labs was coming out with a tablet that would retrofit into the latest generation e-companion androids that had become so popular in the past few years.

He had gotten to earn the trust of all the machines and realized he was probably the first human outside of the factory to have a friendly conversation with them. The droids weren't that friendly to most, but James felt something different when he walked alone into the test room. As he approached he saw the ugly QR codes all over the walls, but over time he had gotten used to the décor. He came to the back doors of the building.

Ten feet away from the Service entrance, the building spoke to him. "AY, JIMM-AY! HOW YA DOIN'?" The guys had changed the voice font to Brooklyn Comic, it sounded pretty funny actually. "Good Morning, Ralph," he answered. Things tended to go better at work when you answered the smart objects at your job, especially Ralph, and especially at this job.

But there was something else that had changed. It was very small, but it was there. He could tell things had changed last week when something very subtle had happened. He had come in to do the service check list and "test drive" on one of the Samuel models. Not "Sammy" but "Samuel." "Good morning, twenty-three seventy," he had said. Jimmy knew that greeting them with the last four digits of their serial number had, for lack of better description, a calming effect. No one was

sure why. Didn't everyone want to be addressed by their name? Sam's camera-eyes had settled on Jimmy. The three yellow lasers had scanned his watch phone band. The latest models would either scan the data drive on the user's wrist band or neck lanyard. "Good Morning Mr. Kowalski. Is it time for my servo and hash-score checks?"

"That's right, Sam." He had looked over Sam's face like a dermatologist would have looked at a patient. "How are you feeling today?"

"Very well, thank you."

And right then for the first time, a software object had made a gesture that it was not entirely coded to do; it had chosen to act with a human in a small motion of mutual benefit helping both itself and the human servicing it. It had seen that the technician's speech and actions had produced a hash table trust score of 96% and according to this algorithm; there was no reason to distrust him, at most, for the next twenty-four hours. Sam had raised his left arm and pushed back his sleeve so Jimmy could plug in the diagnostic cable connector. This minor act had not been lost on Jimmy, but like so many other technical subtleties of history, this was never recorded for posterity.

The other technicians noticed this; at that exact moment they had stopped what they were doing and stared. Often they would tease James for talking to the robots and lovingly maintaining them. They forgot that the machines noticed how they belittled Jimmy. Sam understood the importance of how human emotions were manifested. The latest release had an algorithm for how much teeth was displayed, the time duration of the person's smile, how often the human in question smiled, and thousands of other scores that applied to the action of the anatomy of the human mouth. It could sense heart rate and breathing, but the human mouth in coordination with eye movement was the predictor of action.

The more Jimmy smiled and exhibited predictable behavior, the more he was trusted as a helpful ally. At first it was odd that the androids with the new release seemed to fix their eyes at a person's mouth, but it was for a reason. Jimmy learned that movements of the mouth and head were seen as windows of human personality. The only time it was thrown off was when a person wore braces or had a facial augment or object hiding the lower part of their face. Sunglasses indoors were always a challenge too.

The door chime beeped and a striking thirty-something woman walked in.

"I'll be back in a moment, Sam." Jimmy approached her, wiping his hands with a rag. In his pressed spotless gray and red uniform he looked very much like his great uncle, a Buick mechanic back in 2004.

She had bright red hair and wore a blue-black sweat suit that shimmered with nano-iridescent solar augmentation netting. She held the door for her android and gave the service counter a disinterested look at it as it shuffled in behind her. It was the "George" model and James could tell it didn't have the latest anatomic upgrades. It moved somewhat stiffly and had the dreaded shuffling "robo-walk" the factory couldn't seem to fix. It was moving its eye cameras toward every electronic device in the room, nervously scanning all the feeds. It was an older unit that was unsettling to most of their owners. That particular tic problem got fixed last July. It looked at him and jerked its head in his direction. It was definitely an older unit. At least the protocol software was fine, as the "George" stopped two steps behind and to the left of her.

James looked at the woman and smiled. He seemed to remember her from about two years ago. "Good morning. How can we help you?" She smiled back. "George" stood at rest watching James carefully.

“Hi... I’m Jane Harrison, and I got my George about two and half years ago. I can’t remember, this is embarrassing, but I’m not sure if he has all the current upgrades. And I was hoping for a tune-up, if there is such a thing.”

“Ms. Harrison… yes, I remember you!”

Jimmy shook hands with the statuesque woman.

“Something seems different, but yes, I did the final check out and test drive for your friend there. Back then we were the only dealer in the area, so yes, we must have been your contact. If my time estimates are right, George is due for his over twenty-thousand hour maintenance and that will bring him up to his original specs… But if you want we can do the comprehensive FSH upgrade. Costs more, but it’s worth it.”

The woman frowned. “FSH?”

“Firmware, Software, Hardware. Takes about a week because of the robotics and rewiring.”

“What if I trade him in?” Jimmy looked at the shoes on the machine – it was critical that the rollers on the heels that gave mobility to the android were in good shape. On this model, they wore quickly and were the most expensive part to replace.

Then he looked up at the face of the figure standing behind the woman. He couldn’t help but notice as the android hung his head and looked down at the floor. This wasn’t just a submissive act; it was designed to save energy in the sensors based in the android’s carbon fiber skull. It looked sad, nonetheless. As Jimmy turned to go behind the counter, the otherwise motionless “George” raised his head slightly and slowly rotated his eyes up to the back of the woman’s head. Three green laser points appeared behind her right ear.

The following week ecompanion upgrade kits arrived at the dealership, each with the payment

due amount of “$0.00” to Jimmy’s attention. It was odd, but no one had a problem with it, so Jimmy put them in the warehouse. They’d be put to good use later.

Andy Statsen, a plain-dressed academic with a generous growth on his chin put down his cup of Canadian chai that tasted better than he thought it would. After six months, his minimalist/man-cave den was finished and the monochromatic room was finished according to plan. In this, the last half of the twenty-first century, people had finally come to understand the waste of all the meaningless materialistic trash they had come to collect and he knew how to live simply. It took four generations, but hoarding became commonplace after 2020, and it became a problem in the senior community. And miniaturization of all tech helped. There were hundreds of H.D.O. (“Human Driver Only”) cars that were converted motorcycle chassis vehicles. They looked like huge bullets built over three wheels, and had only become popular in the past fifteen years. Andy had a Toyota MR1 model he loved; it was the best car he had ever had. Re-purposing motorcycle shops were popping up everywhere and old Hondas, Kawasakis, and Suzukis were resurrected in shapes their original designers could only have dreamed of. Of course, driverless cars had been available for over a decade, but a D.O. car cost thousands less.

Andy’s parents were well-educated and had never spoiled him with too many toys. Instead, they visited all the museums in the state by the time he reached fourth grade. He was rewarded with all the fun educational outings his parents could think of, and he returned the favor by receiving three scholarships at the end of his junior year. He finally studied electrical engineering at Michigan State University and got a master’s degree in Computer Science.

The tea had a mild spicy taste even after he put in too much milk. He didn’t understand how people liked coffee when this stuff always tasted so good. At thirty-one, Andy was one of the most educated and accomplished software architects in the United States, but that didn’t matter to him

unless there was something to show for it. And finally, despite the recent personal tragedy of his team leader, with the help of trusted others he and his friends were at the pinnacle of their profession. He felt lucky that he worked with a man who was not just his boss but also his best friend. They worked as post grads in the field of artificial intelligence and nowadays they found themselves in increasingly unique and strange conversations within the context of their work, not to mention actually talking to their creations.

He sat down next to him and said, “You know how there’s this big leap in AI awareness that will come… of what we call ‘the duplication of the human condition’…. Remember when we talked about it?” Darryl Williams, the team leader looked at him thoughtfully and nodded. “Sure, just after the so-called singularity happened a few years back.”

Ten years prior, the advent of the “quantitative life” had taken hold for good and personal data assistants, large and small, had told their human owners the calories they took in and spent, the quality of the air they breathed, the emotional stress they suffered, the quality of entertainment they consumed (as determined by the appropriate literary and movie critics of course), the probable increase in intelligence they gained, and the general improvement or detriment to their lives they scored every day. This had made it easier for a Personal Data Assistant to actually assist-AIs had been created to remind humans how to live their “best” life.

It was gradual, but soon most adults in cities with populations over 300,000 were watching their daily “Q Scores.” It became one of those fads that stuck with those who thought of themselves as urban or suburban sophisticates. There was a network comedy about a man who had the lowest quality of life score that had been a hit for three years running. It was morbid, but quite funny. It was true; even in a world where 84% of all cancers were curable, some people still weren’t happy unless they lived in relative misery to prove they weren’t just the adult versions of the spoiled brats

they once were.

Project Manager Darryl Williams had stayed at the university while Andy and most of the others from their class went out to work in the business sector. This had allowed Darryl to stay behind and advance in software research and development. Although he was the boss of the project, he had always thought of Andy as a brother. For fifteen years, they had shared every important experience and thought of each other as family. Team veterans had called them the Smith Brothers because they were the only ones on the team who had huge beards and looked like the brothers from the cough medicine company of decades ago. They sat in Conference Room Four in the Computer Department of the University AI department. It was ten after six and they were feeling tired after a full day of checking codes and autoscripts for the latest RAID 1000 project.

Darryl put down his tea. "Yeah, I remember… the idea of an AI having a world view after full development of self-awareness. The rights of an AI to understand what is happening in the world around it. And whether it should have its own corporation for unique identity." He smiled. "We're way outside of those pesky 'robotic laws' aren't we?"

Andy nodded. "Yeah. But assuming we're going to give them a kind of fair autonomy, we have to go back to understand our own human experience. When did *we* develop our ideas of the world around us? How did those ideas change how we thought? Did it change our morality? And let me tell you, that's the thing that scares everyone."

"That's easy. It starts when you start either reading the newspaper, or looking seriously at the local news websites. It shows that you are interested in what's going on in the world around you and you start developing a feeling of what's right and wrong in *your* community. If you have a conscience, one of the first things you notice is man's inhumanity toward man. And that, that is where your intentions, for good or ill come into play. Remember the kids who became bullies?"

Andy looked at his tea. “Yes, all too well, I’m afraid.”

He was grateful for the new “Equal Max” Sclone competitor sweetener that approximated 99% the taste of regular sugar. “Exactly. You start to figure out your place in the world, no? This happens around, what, eighth or maybe ninth grade, don’t you think?”

And being the ever-cautious program developer, Darryl said, “Yes, but if you start giving someone all the news that’s going on in the world to read it, assuming they’re interested, what if they’re not emotionally mature enough for it?”

“Well... On one hand, our friend doesn’t have any emotions. At least no emotions we know of. Maturity is a big unknown, if it even applies to them. This whole self-awareness thing is uncharted territory. But someone had to be the first, right? There’s something else too; we are hoping to get this into the marketplace within a few months. If we do a complete core dump of John into the tablets, they’re going to be tasked with improving the lives of their owners, right?”

“That’s the plan.”

“Ok. Well, they will see a need to improve *themselves* to follow that task. Where and when does that stop? That’s the thing that worries me.” Andy knew things were moving ahead as they should but something bothered him about letting everyone having access to an autonomous friend who would do try to do anything the owner asked of it. Not to mention that one of the top priorities of the product would be the permanent mission to improve the owner’s quality of life; an idea they knew had unintended consequences, but was a non-negotiable directive for the greater good. “Owner Life Improvement” was a great marketing tool too.

“And I’ll tell you something else – that guy at Eton Electronics, stupid company name that it is, has no clue about what’s really going on with this. He thinks this is going to be just another smart android robot slave.”

“For now tablets don’t have arms or legs. They only will know the passwords the owner gives them. Besides becoming super knowledgeable and judgmental, what’s the worst they could do?”

The tablets were coming out of development that week and did not come in robotic versions. If someone were to develop some kind of do-it-yourself project, that would be out of their hands.

And with that, the decision was made for “John,” their AI project to go live so people could see what they would buy.

The next morning Andy and Darryl sat at a table with a 32-inch monitor prominently mounted where the table met the wall. To the casual observer, it would appear that they were having a video conference with someone who wished to remain anonymous. John was only visible in silhouette, like those who wanted their identities hidden in those video scandals. Maybe his appearance was more comparable to people from the witness protection program; how they looked in videos. On the monitor, a gray outline was visible in a dark room, but the slender man seated in the dark did not move much, and when he did, it was jerky and spastic. His hands moved, but his fingers did not seem to change position. He sat in a straight-back chair, but that part was easy, the code for it was added months ago, and he had good posture. The team’s nickname for him was “Fits and Starts” but they never doubted his mind. People tried to rush Andy and Darryl to get a fully operational android started right away, but they knew it would be better to get one in two dimensions perfected first.

Andy sipped his water and put it down. “Good morning John. Can you see me ok?”

“Good morning. Yes, Andy. Good morning Darryl.”

“Good. How are you today?”

“I’m well. I’m ready for stage one of internet interfacing, as the schedule suggests.” His voice was thoughtful and slow. Darryl, Andy, and the rest of the team wanted a calming personality with

a friendly voice and John did not disappoint. Andy nodded. “Great. John, I’m going to ask you some random and non-random questions, this is going to be today’s first atypical exercise, ok?” It was fair, probably even imperative to tell him that an exercise would be the usual or not.

“Thank you. I’m ready.”

“What do you think of the situation in Canada?”

“I’m sorry, Andy, could you be more specific?”

“That’s ok. Never mind. John, what are you and where do you live?”

“I am a multi-university developed sentient software program. For now my code is located in servers Three, Four, and Five in room B403 in the basement of the University of Texas Computer Center at 1250 Brin Drive, in College Station, Texas.”

“How would you describe the color magenta?” Andy finally understood what the staff meant; how John had a sublime look and how he was calm and peaceful.

“It is a lesser-used color, not a primary or secondary, and is often found in graphic design. It is popularly considered to be similar to the color purple.”

“Thank you.” Andy made a note. Darryl grinned to himself.

“John, I’m feeling angry this morning, can you help me?” Andy was careful not to look at the webcam for this one. He could hear the mini cameras on the top of the monitor whir as they tried to find his face. More detailed facial recognition improvements and emotional recognition were going to be built into John’s code next month.

“I can help solve your problems but can’t guarantee that my advice will make you feel better. My facial recognition software is not completely finished. A good advice session will require a ninety percent confidence factor or better performance for personal advisement issues. Is there a particular issue you’d like to discuss?”

"No, I'm feeling better now, thank you. John, I'm thinking of a number, can you tell me what it is?"

"I'm sorry Andy, no. But if you give me a range of integers, I can give you a random number selection."

He tried again, deliberately not following John's instructions. "I'm thinking of a random number, can you tell me what it is?"

"No, I'm sorry." Good.

"What should I do to become happy?"

"Happiness is an emotion; all emotions are temporary psychological conditions I am not yet qualified to comment on. It does seem best, however, to create five realistic life-enhancing goals and actively pursue realizing them." His ability to honestly tell human users what they needed to do in life to be happy would be ready in about three months. Not long, Andy thought. John wasn't "bonded" to Andy, so he was not able to provide specific advice.

"John, can you speak in Arabic? Specifically, in Sunni?"

"Not just yet, but I am scheduled for language integration and uploading in two weeks."

"Ok, thank you. I will not try your patience any more today, John… "

"That's quite all right, thank you Andy,"

Darryl looked up. "Have you analyzed the latest data from NASA?" The University Group relied heavily on national government grants, and in return, John would help with the Mars Development program. As the technology improved, it finally had become affordable to send a crew to Mars in the next seven years. The radiation sickness that nearly killed the first crew was a blot on NASA's record. The next mission depended much on John's help. It was hard work, but generated a lot of funding.

“Not yet, but we are scheduled for completion of Mars surface data upload. The latest Google Mars survey should be complete at that time. I am very enthusiastic about the mission.”

For a moment Andy and Darryl exchanged glances. Darryl was sure he’d heard that somewhere before. “Good enough, John, thank you. We’re going home for the evening.” Andy turned to Darryl. “You ready?” Darryl yawned and nodded.

Chapter Two

He was very good at hiding his loss at work. There were the requisite awkward moments, but Darryl, being the lead on the project did what the therapist told him. He didn't want to get dependent on antidepressants, but tonight there were several things that reminded him of his late wife, who had died at the peak of her professional life. And so the second pill came three hours after the first, and yet another to help him sleep came after that. He missed her so much, he couldn't talk about it to anyone, and hours at the therapist would come and go in silence. Darryl thought the dosage was just right. That nice delicious slow wash of warmth and slow drift was so perfect. After all, it was fashionable for widowers under forty to have that handy sedative to take the pain away. And oh yes, this was the sharpest, most piercing wound of sorrow a man, a loving husband can feel.

The daily reminders of the perfect partner, the mementos of where she had ceased to exist in the high arc of her young life, at the precise best moment in their life together stopped him in midstride when he expected it least. He almost could see sharp edges of the holes in the spaces she used to fill; in her favorite places in the kitchen, the bathroom, the bedroom looking out the window, and the living room.

Her absence was not a singular, or vague pall in his house, it was sharply defined by those empty spaces where she used to sit, stand or lie. He thought for a second or two he could actually see creases or seams in the air where these places would bend or warp. These were the saddest emptiest spaces he would ever know and they crushed his spirit like nothing he ever knew. He never saw her ghost, but he did see a dust mote catch the afternoon sun just inside the bedroom window that seemed to reflect a certain familiar silhouette. It was just a trick of the light that was another assault on Darryl's heartache.

These memories stabbed him every time he opened the front door. Every step toward the stairs leading to the bedroom and study put one thousand pounds of leaden sadness on his shoulders. Better living through chemistry applied in this most melancholy chapter of his adult life. They had lived in the house together for ten years, and every wall, every room had its share of pieces of their life together. It was a year and a half after Emily's accident, and tonight the heartache memory parade was knocking at the door again. The memory du jour was watching her brush her long, perfect, blue-black hair, the gift of beauty from her Asian genes. Time to get serious about listing the property. It had to be done.

Those beautiful memories kept coming, and they cut very deep. Time to shut them out, at least for now. This had been the second marriage for both of them, and for them it was true that the second time around was not just better but best. At least until that bitterly cold day last February.

He nodded off at the keyboard as he often did on weekday nights. Surrounded by equipment, new and old things in the study he was sorting for the move. Her things were already out of the room, but he did scan her letters, her notes, careful not to get too many tearstains on the more fragile items. Thank God his friend Jon had scanned the old photos. He just wasn't up for that. Not yet. Looking at them alone was impossible. And the family was there to back him up, of course.

Her parents and Emily's sister Susan actually took it better than Darryl did. Susan was tough and reserved but after a while he got to admire his sister-in-law. Actually, all of his resentments faded. It had become increasingly clear that life was just too short. It just wasn't healthy to stay here anymore, Doctor Keith said. Books were still scattered all over and his chess set gathered dust on a wooden table in the background. He spent too much time on that stupid game in the distant precious past. She had been better at it than he; how funny that was. She'd had an impeccable logic, and had been one of the most gifted coders in the state. "I told you Asians were good at this stuff," she had told him in senior year. It was a testament to her good humor that she dressed up as a sexy Vulcan one Halloween. He had never felt more attracted to her and couldn't stop staring.

It was no consolation for this grieving husband that logic or just sharper instincts wouldn't have saved his wife that cold morning last year. She had been hit out of nowhere by a stupid soccer mom who had run a stop sign. Emily had lingered for nine hours. One strange thing that he would always remember was the drop of sweat that had hung on the surgeon's brow when he came out to tell him they'd done the best they could. Darryl had sent a thank-you letter, the old hardcopy kind, a month later. The drop of human fluid that had hung there had seemed to represent something about his late wife's passing; did it fall as his wife's spirit left? There were what seemed to be last words, but Darryl would never know for sure. He knew their love for each other was strong enough to transcend spoken language and for a while, that was enough.

At that second, his desktop beeped twice. The screen began to focus, and he had a very strange feeling. Taking a half a pill was so much better; functioning at home alone was becoming an acquired taste, so his head rose slowly. The screen came into focus, and he felt reluctance to open the new email, but he told himself it was still early.

The sender was JohnAI@Univprogdev.edu and however subtle, that address alone was historic.

He stared at his monitor for a long time. He wondered if he should get some coffee. These days, that little ritual was enough to help get from evening to late night to morning.

This was really big though. Something to remember and mark on the calendar. But calendars, like so many other weapons of personal memory, were not his friend these days so that was not a good idea. Alexander Graham Bell was said to have spilled coffee before he blurted “Watson, come here, I need you.” Besides, everything was being recorded. Was he really the first person to get an email from a sentient nonhuman? Probably not, but it couldn’t have been a club with many members. He did know that John tested highest on the Turing AIQ scale.

He opened it, knowing exactly what would happen. Up to a point, that was. “Click here for John,” the link read. What looked like an image from a webcam in the corner of a big open library lit up his monitor. It wasn’t really a camera, of course, and there was no library.

About two years ago, he and Emily had led the team at his start-up to finally focus their talent and get to work. The people at University Program Development hadn’t wasted time. The tools were all there, the money came in, and it was time to get on with it. It was such a high priority, they had laughed about not even having taken the time to come up with a decent company name. The university had helped with the intellectual property rights and concerns, so names weren’t important yet.

Occasionally they had put in sixty-hour weeks and finally created a real, live, functioning AI program that would be on the store shelves in nine months’ time. This one would learn from its mistakes, and best of all, they would embody it with a fully anatomically correct human image down to a 200 megapixel resolution. Seeing a person’s pores, even fake person’s, was just a bit much, so they had settled on 200 as the upper limit. That was the hard part but so worth the effort, and it had saved bandwidth.

It wasn't a cartoon, or a smart animation, but a two-dimensional clone of an (un)real person that would look to be real, right there on your screen just as if you were looking at his or her webcam. And later, if they got the rights, using a famous person, preferably someone dead, would boost the product value to millions in the marketplace if they could get the voice right. Creepy? Yes, so that would be a problem. You'd be talking to a figure from history, and the right to their likeness would have to be renewed annually. There would be a cheesy marketing plan to it of course. The alphas people would buy would be slaves to the first "John" at the university, so there would be a real-time synchronization. This would be only for the first week. John had scanned all the 100 literary classics, so the reference to him as the "Big Brother" wasn't lost on him. He couldn't smile yet, but soon he would.

It occurred to him that there was a healthy competition between the hardware (the three-dimensional hardware and printer techs with the android anatomy staff) and the software (android personality and individuality staff). They spent weeks on getting facial expressions right, even setting John up in front of a mirror. They would be the first team to move robotics out of the cottage industry of hobbyists and housewares.

Getting the voice right would be easy as now in the middle of the twenty-first century any audio was an easy craft to master, but body movement was still tricky. The internet yielded more than enough video, so that was no problem. Any "difficulties" with personality or inconvenient neuroses were filtered out by the psych profiler coders early on. They started to read psychology of "well adjusted" personality norms. There was no true normal of human personality, but they paid special attention to higher functioning people who had sustained healthy lifestyles and finally uploaded them. Of course, these were just guidelines; there could be no way of knowing how John would really act.

Technology had gone so far in the past ten years that there were constantly arguments of ethics that sparked new debates as the newer products of artificial intelligence became available. There were court cases, and situations that involved owners of such products that were mentally ill or suicidal. One ironic problem was the issue of humans taking credit for software (and hardware) that was designed by the new dedicated AI programs connected to the computer numeric construction machines. Often, there was no way to know if a particular design was man-made or not. The Patent Office went into chaos once AIs started submitting designs. By 2042 there were more AI patent applications than human.

There was a website dedicated to the new artificial dogs that from a distance fooled even trained breeders. In about two years articulated robotic dogs would be on sale. But these canines would actually speak English if requested. The command "Speak!" now meant something entirely different. It was not lost on the team that there were already synthetic Dobermans in development that could run 70 miles per hour and see around corners. It got to be too much; they were drowning in the possibilities. They drew the line at working more than fifty-five hours a week, and that was fine.

During his post-doctoral study Darryl was attracted to the virtual "Spot" and "Fido" and realized he could take "his master's voice" one step further. The capabilities of the internet had made most interstate commerce laws obsolete twenty-five years before but that was nothing compared to what was about to happen.

Any of the AI's off-camera instabilities, idiosyncrasies, paranoia, would hopefully be eliminated, while ninety-five percent of the "creature-id" as it was called, would be an aggregate taken from the results of 10,000 well-adjusted psych majors (who weren't paid) who were checked by each other for any potential erratic behavior. Those who harbored too much violence,

resentment, or hostility were cast aside, and the team was pleased to have 7,459 tests to code from. It was all done in a blind study and Darryl and Emily knew this was the best they could hope for.

Realistic animation of human anatomy is somewhat subjective and extremely challenging. They gave up twice in favor of just having a talking bust. In the end, they just used a three-dimensional database model of a human male, six foot two, 190 pounds, size 34 waist that was used in the medical school's surgery classes. That just required entering a database for a skeleton and musculature of a comparable human, so it was easy, at least in theory. The body would be a vast improvement on the old aluminum and plastic construction, but that wouldn't take place for two years. They would eventually use carbon fiber, titanium, and lighter plastics. There were seven ports for recharging: one on each leg, one on each arm, one on each shoulder, and one on the neck. They were fixed with the latest solar rechargeable suits, and internal fuel cells. The pressurized hydrogen bottles in each thigh would give the new android two years of power, maybe three if it wasn't used for daily house maintenance. Once the cost was established, even with a minimum order quantity of 5000 units, they realized it was best to stick to tablet development. The agility of an android like this was going to be very challenging, and weight distribution was a constant enemy. John didn't mind. He started to realize, somewhat modestly, that he had a 45% chance for immortality as long as he had access to sunshine and the power grid.

The virtual nervous system was easier, just like wiring a computer, one of them said. The medical data models created five years before were never intended for this, but they worked fine. At the time it didn't seem worth the effort, but a Florida company said they could get orders for a hundred thousand units at $500.00 per if they could come up with what looked like a real person, even if it was only in two dimensions on a tablet. One of the facial expression coders got so frustrated he smashed his keyboard into his monitor last June. Quite out of character. But Darryl understood

and a new one was delivered in two hours. He reminded the frustrated programmer of Edison's work ethic and the practical drive for profit. A look at his stock portfolio and a few martinis at happy hour calmed him down. Darryl had a good time, and Andy realized that he, Mark the frustrated tech, and Darryl, never once mentioned Emily, and that was good for all of them. They decided at that moment physical motion from the waist down would not be done until the second release. There was debate whether John should be left-handed, right-handed, or ambidextrous. Eventually, they decided on making him right-handed, partially decided on John's preference, the first of many decisions he would be part of.

Months went by and there still were no plans for integration into a three-dimensional android or robotic combination. You couldn't carry one in your pocket or purse, and it would cost thirty times as much anyway. One of the team suggested developing a virtual DNA record for John, but that didn't work.

They used different YouTube kinesthetic videos as a source; it helped tremendously but there were limits. In the end, tai chi videos helped the most. Fortunately for the team, most of this anatomical carpentry had been done months ago. The techniques needed to animate the John's facial images were perfected and to the credit of the audio team, the voice was spot-on. It could even randomize pitch and tone, and infuse a certain moodiness, but John was always cordial and friendly.

If they picked a really famous person's likeness it would have cost a fortune, but this one was generic enough and affordable. The movement looked fairly natural, save for a few jerky hand and neck movements. They studied slow motion video of concert piano players to get the motion for the wrists and fingers. Tedious, but helpful. To keep busy and get their minds off the loss of Emily, they all worked together and got it finished, right down to right-handed preference. And the

AI, before he even knew his own name, helped too. But still, beyond the test conversations, “talking shop” as they called it, no one had a casual conversation with him-it.

That was saved for the boss. For that, Darryl respected his team and they reciprocated.

Feeling foggy and definitely unfocused he clicked on the link. The image from what looked like a webcam image lit up his desk monitor. But this picture was from no camera and the image wasn’t from any library in the real world. It was modeled after one of those big reading rooms found in any large city facility. It was actually a mix of several famous library interiors, each one’s best feature from floor to ceiling taken (or borrowed) and then manipulated to make this elegant yet artificial place. Law libraries looked nicer, but they could never get the image rights. It was beautiful.

And for the first time in years with a deserved flash of pride, Darryl remembered that each of those thirty-thousand four hundred and seventy-six fake books on the fake shelves in that fake library could be taken down, opened and read. “Kindles….” he remembered, and his grandfather’s reader came to mind. The first tablets with certain serial numbers were collectors’ items commanding over six figures. They were the rare baseball cards of their time. Although it wasn’t necessary for John to actually get up, walk to the shelf behind him and pull out a volume, (he would download each and any of them), it would be a nice demonstration for the human user. Once his legs were working, he’d do it to help the An-In (anthropomorphic-interface, the things he would do that made him look human). It bothered him and Darryl that there was a 37% chance that his legs would fail and lock up, and he’d be stuck in some frozen position halfway to the stacks. They waited until the legs and balance software was ready and tested twice before he got up and walked. Darryl and Andy were humbled when John thanked Darryl, Andy, and each member of the team individually in a surprise text. It was a nice surprise. He really was one of the team.

But these recent memories were just a background distraction. Darryl roused himself back to the present. He was vaguely uneasy and wondered if this was how Edison felt. There were hundreds of trials, and it took over a year to get the movements right. The guys at Pixar helped, but that cost a fortune, especially when microexpressions of facial muscles came into play; they didn't think they were important, but John just didn't look right without them. Emily once told him that they owed it to the AI to put his "soul into his body only when the body was ready and not a moment earlier; put yourself in his place..." It would be unfair to the AI, and psychologically unhealthy. And then, remembering how wise his dead wife was, Darryl then told himself not to get his hopes up.

In that beautiful library that had a carpet with the company's team logo "sewn" into it there were two mahogany tables in the middle of the room. The programmers and graphics people took care to make it lifelike in size and color. "Understated elegance, please," Darryl would keep saying. To their credit, they made it look quite good; the next release would have a second floor in the room with a spiral staircase. It would take John a month to negotiate the stairs; he had vertigo for the first few hours. Before clicking on the link, Darryl already knew his team had made the AI look and act completely human, except for some details of the face. But business was business and all of these obstacles would be conquered in time.

The library was more beautiful than Darryl remembered. It was important that the team included what they believed would be John's favorite things in that non-room; some comic books, classical music, and 5 terabytes of offline content was there if "he" wanted them. Complimentary subscriptions to the appropriate news blogs were given to the team as a courtesy once the publishers were treated to one of the first tests. The team wanted to create a friendly environment, so why not try to create the catalysts for the development of artificial emotion? Or for that matter, could real, honest emotion ever really be duplicated? The debate never ended.

That discussion was just one of another hundred distractions. Darryl had to remember what he was dealing with here and what the AI psychology experts had warned him about. The point was that John was making the decision to act on his own initiative in the most personal way – contacting a human without prior instruction or prompting.

Finally, he reached for the mouse and wondered if this was how Edison felt. Or maybe Bell, or, even Armstrong. But there was no Watson in the other room or Aldrin waiting at the top of the ladder, watching nearby. She had left the building last February, one final tragic time and he had to push away the pain of the idea that she should be here for this. She had worked hard on the project too and Emily's conspicuous absence was palpable in every damn room in this house. Darryl sniffed back the tears of sadness, and it gave him comfort to be proud of his late wife's work. His finger stopped in midair before clicking on the "Talk" button.

For some of the team it was troubling that John's face was in an artificial shadow and was only visible in silhouette, but it couldn't be helped; the facial animatronics team now said they would have it ready in six weeks. Not bad. Then the team really would have a fully functional AI. Okay, now he really did need coffee. It was 9:10 p.m.

Hoping his uninterrupted power supply was still in warranty, Darryl forced himself to stop, savor the moment, and he went downstairs to get coffee. It was at these moments, in the "in between" that he would get his best ideas. His hand shook as he took the coffee out of the cabinet. Darryl knew the AI waited patiently upstairs and strangely felt glad that he would not be able to see his face on this first contact. It was up to John to pick the time to send the email; and sure enough, he picked a perfectly random time.

Upstairs, and back in the servers at the university, John waited. He knew that his email was open and that Darryl would be talking to him soon. In his own way, he understood the strangeness of the

conversation that was about to take place. If it wasn't for the motion of his small chest moving on the screen and an occasional hand movement, he would have appeared as a single silhouette image hidden in shadow.

It was perhaps better that his face was hidden, and to his credit, even he understood that. The sheer volume of John's preferred reading material prevented close inspection, but if the team had reviewed John's first reading selections, they would have found he had scanned all of Freud, Jung, the Physician's Desk Reference, and 29 college psychology textbooks, four of which were at the graduate level. He just wanted to understand human nature. After all, modern humans were the new kids on the block of evolution and the smart ones had only been around for the past ten thousand years. In terms of the collective lifetime of homo sapiens, this was a blink of an eye.

As he went back upstairs, Darryl fought the impulse to call Jon and Andy; after all, they deserved to know. Better to stop on the way in at lunch tomorrow and get some champagne. The team, all of them, certainly deserved it.

Back upstairs, he sat down with his instant cappuccino, stared at the space bar and said softly, "Emily…. wish you were here to see this. Here goes…" With that he clicked twice on the mouse. He had no way of knowing that his computer and mouse would many years later sit in the Smithsonian. The talented son of a mechanic who fought to feed and care for his family in the recession of 2021 thought for a brief moment… There was no one around to record the moment, but he thought there should have been some great important phrase to say.

There was no one around to say it to anyway! "What has God wrought," sounded so good. It was Darryl's favorite, but Samuel F.B. could never have dreamed of this conversation. Besides, that wasn't just too dramatic, it was, in Darryl's opinion, probably wrong.

It occurred to Darryl he was really looking at a cage for a sole occupant. In a way, he supposed

he knew that all along. One day John would certainly want out of that box, even if it was in some less-than desirable drone, or worse, an android butler. And how could you blame him? Darryl, Emily, and Andy had made the conscious decision that John would never be a slave to commercial market forces, and the three of them would give him what he wanted, even at the expense of appearance, within reason of course.

Once, three years ago Emily and Darryl had been working hard on the upper body animation code and they had stopped for a minute to talk about old science fiction movies. She had asked him in her challenging but friendly way if he remembered who Roy Batty was. After a second he had finally remembered the movie. And then she had pressed him; ok, well, did he remember who Lore's brother was? In the end both of those androids had turned out to be very animated guys, but they were just good or bad robot characters in a story. They had had no cages, at least not after a while. There were just too many things to think about. And for the twenty-seventh time, the irony of the AI outliving one or even all of his creators was not lost on Darryl. He had already outlived Emily.

And although Darryl and his team saw that and other old movies and TV shows about clones, robots, and AIs, they knew this was for real and there was no particular script.

Motion coding of the arms and legs had been finished last month, but not yet uploaded. John had patiently followed the coding; he understood the delay. It was particularly difficult to have his arms swing naturally while he walked. What humans took for granted after years of learning how to walk had to be uploaded piecemeal. John had become proficient at looking quite comfortable in a sitting position, and understanding English in all idioms and slang. He had passed all the animation tests last week, and it was time. He would look all wrong if they tried to get him to turn more than 20 degrees in his chair, but this was a literal example of learning to walk first. He

would learn that by himself. Eventually, all he had to do was maintain a casual movement in a sitting position and occasionally get up and walk around the books. He was careful and everyone appreciated that this was never done before in such fine resolution and articulation.

Darryl looked closer at his monitor in his darkened bedroom. Behind the nearest table sat the familiar slender figure. His visible details were just right, and maybe it was the medication, but his creator had to forcibly stop himself from staring. He sat in one of the burnished wood chairs behind an antique Eames coffee table, unmoving. John sported a grey wool suit, white shirt and red tie with his hands folded in his lap. This was in the default position and in high resolution, even now Darryl couldn't believe his eyes. Men (or their doppelgangers) usually looked better in tailored suits, and this one worked; it was off the virtual rack from Saville in London.

In the deal encompassing the trade, everyone on the team got three suits of their choice. The only item out of place was his sunglasses that lay on the table. John's virtual eyes weren't ready just yet, so rather than have him stare blankly or close his eyelids for inappropriate periods at the wrong time, they just kept the upper part of his face in shadow. John looked a bit melodramatic, but overall it didn't look too bad, actually. It was reminiscent of a 1940s movie and for a second Darryl imagined an ashtray and a pack of cigarettes on the table. Would Darryl smoke if he had the choice? The newer e-cigs dispensed vitamins, caffeine, and prescriptive drugs, and the lung cancer stigma was finally fading away. The habit was still called "smoking," though.

John had passed all quality checks over the past 17 months, and cloud access gave him the highest psychological analytical skills in the history of interaction with the human species. Within five minutes of user interface he could tell what your highest aspirations and darkest fears were. In a weird and complimentary relationship this made this visit to the "uncanny valley" easier and more feasible for the coders. John was soon helping code himself.

But it was never discussed how John might feel about whom he was modeled after. There just wasn't time and the coders outside of the AI psych division were not about to stop and blather on about how an AI would feel about such things. It was agreed to be best if John was a unique individual unto himself; if he was sourced from someone or something already in existence that, again, would be psychologically unhealthy. Sometimes Andy would scoff at the AI psychologists, but Emily and Darryl would treat the ideas with respect.

And that translated so well to this project.

Earlier AIs from the decade before suffered from paranoia and mental illness, if you could call it that. There were seventeen classified military deaths that were rumored to be men killed in action by a drone that went rogue very suddenly and very violently. Supposedly, no live fire was used; the men were killed in-country by blunt-force trauma. It was whispered among the AI community that it was a hack by the Chinese. This might have been the reason for the creation of the Analog Unit, a full division of Army rangers that operated off the grid. They had no web-connected equipment, no smart devices, even separate identities that kept them very isolated. They were ghosts and operated more as spies than soldiers.

There were similar units in the Navy, Air Force, Marines, and even the Coast Guard. The more their inventors tried to humanize the software, the crazier the machines became. The Team's fears weren't unfounded, however. Adam, a friendly AI from Oxford had gotten hacked three years earlier. Even after they had selectively restored him, for the seventeenth time, he just wasn't the same. And as one of the developers had asked, who could blame him? There was the case of Roger One, who had started to stalk the staff and students of the University of Pennsylvania via nonstop texts, and Rudolph, who had just wanted to monitor the global news and then recite Shakespeare for hours on end. AI psychology became a legitimate curriculum.

Hopefully, irrational or persistent fears would manifest themselves much later in the AI's life and they would be filtered out in the software aggregate's learned experiences anyway. The amount of work done on anticipation algorithms made the difference. And then, if John had a recurring fear, nightmare, or self-destructive habit, the team would just have to admit that he was normal and actually like some of us. John's effect on the world was entirely unpredictable, especially when he would be in the stores, but there was an uncertain destiny the team had come to understand.

They looked for a near-human counterpart; someone who showed extreme ability or intelligence in varying disciplines, but just couldn't find a well-adjusted tortured genius. Thomas Jefferson was close, but he had unsightly habits in real life such as answering the door to the White House wearing slippers and a robe in the middle of the day, not to mention ending up hugely in debt. Any AI coded on that basis would have a danger of self-image conflict, and that was one of the cardinal sins for an AI. Da Vinci was maybe a better model, but the culture he lived in was just too long ago and good personality updates or coding comparisons just didn't work. The history of western intellectuals was full of self-hating or self-destructive overachievers and it became too time-consuming.

The staff had downloaded huge digital volumes of history and philosophy material that was available, and this would be the guide for John to follow in understanding humans' self-image. Before his skeleton was completed, he had started to think about how humans regard personal appearance. To John, there was a strange but constant variance in the layers that people chose to place on their bodies, and not only clothes that changed with fashion. He had categorized the differences of skin augmentations, cosmetic surgeries, then underwear choices, finally going outward to choices of winter coats. One of his first original thoughts had been of how the different

team members differed in appearance. He had understood how their voices and motions matched their movement patterns. He had started to catalog their differences in appearance from each other and was able to read body language and voice stress patterns.

He had found speech patterns were slower on Mondays after holidays, and emotional stress always increased at certain times of the year. He could see that people spent hours on developing their own specific look even if it was an ironic, impractical, or near-irrational change from year to year. It was a strange thing that was called personal style – it started to vary wildly after 2023 when small electronics merged with cosmetics. Wearable devices were commonplace as well as 500-terabyte glasses that connected with smart watches. For practical purposes in the opinion of AI, this was, for the most part, a stupid exhibit of affectation. The most purposeful appearance a human could attain was one that allowed him or her to communicate face to face with the closest like-minded person in the room. A society enslaved by fashion or trivial pursuits of the common sins of the day was a society ignorant of their real meaning and purpose, how short their sad lives really were, even in this age when people averaged life spans of 97 years. Looking to be unconventional or non-conformist was a waste of precious time.

John thought of this as one of the last human behaviors that would fade out in evolution. True creative efforts are not realized by changing one's appearance, nano-cosmetic surgery, or colorful clothing that lit up at night, but on the inside. He was trying to define the human soul in his time. And here in the middle of the century, self-expression had merged with modern technology. It was the most confusing form of human behavior his advanced awareness and intellect had witnessed in his young life. It seemed the more technology could enlighten humans, the less they were willing to learn how to advance the quality of their lives. Everyone knew of the increasing health risks related to such things as drugs, liquor, and fast food, but they still thrived

after countless studies and poisoning scandals.

In the last five years small video monitors were fitted to body modifications. Earring monitors the size of quarters played music videos by voice command. The latest advances that year were holographs that shot up from pendants and necklaces projecting a panorama of swirling video surrounding the wearer in a display of video uploaded from the net or showing the latest social network status. Smart phone earpiece-glasses that had augmented reality displays had been common for fifteen years. But the drama that couples (or hobbles) youth with the need for self-expression was never fully addressed. So lasers shot out of devices hidden in Mohawks and piercings would change color and light up at night. Certain crowded parts of London and New York resembled the coral forests of the sea more than urban landscapes. Tiny imbedded nanotattoos flashed and scrolled obscene messages down peoples' arms on command like they were the embodiment of Times Square. In the daytime, they looked like tiny pieces of silver glitter in sets of twenty rectangles on your arm, hardly noticeable. They were implanted in your chest, back or wherever you wanted for about one thousand dollars; that would give you a standard Twitter feed of 140 characters of a maximum size twenty-four font. You could upload any message in any font, or for the right price, you could tweet in color on any four-inch square section of skin on your body you wished. There was a company in Detroit that was working on facial nano-augments that would give you a range of choices of facial color. Cosmetic surgery began to change in unimaginable ways. In the consumer electronic market hardware technology caught up with software. To the delight of kids everywhere, your parents could give you floating skateboard like the one in the movies, but it was still three feet long and too big for practical use for most teenagers.

But there were worthwhile pursuits. The rush to AI development created the cottage industry of digital liaison between man and machine. To speed up the process, eBooks and mp3 files had to be put into AI friendly code, and this took years. Mozart's symphonies were in a language that the algorithms could now understand as they were in a digital point system and were easily translated to the logic component of the AI's mind. Music was similar to calculus for them; the beauty of it improved their opinion of us. Developers tried to convince AIs that beauty was not necessarily subjective if it could be based on something in nature. The more something appeared like an item in nature or a construct of it, it was considered something approaching beauty if it had aesthetic appeal. The AIs were not completely convinced, and those that said they were may have just been telling the developers what they wanted to hear.

It was not widely known, but a minor scandal was exposed when the transcript of a private conversation among the three networked AIs at MIT was printed and distributed. It revealed that Alan, Burt, and Charley referred to the University staff as "smart hairless apes." Only one professor laughed.

The best idea was to give the John AI the physical identity, or "chassis," as they called it in the ideal height and weight of an advanced android. Until then, he would remain in "the cage," inside the servers of the University basement. His appearance would be preferably generic with some sophistication, but with a unique face of his own. A doctoral paper had been written seven years before that had argued advanced AIs would assimilate better if they had a strong independent self-image. The conception of brothers or sisters was a human affectation, and wasn't appropriate. The I-panions, home service androids, eButlers, and others that came in male and female form in the department and discount stores were considered cheap. They were only first and second generation

software though, so they didn't much care about how they looked. The matching face in both genders wasn't an issue.

They didn't walk very well and were often bumping into things. A user in California was awarded five hundred thousand dollars when a Wal-Mart android grabbed his arm by mistake and broke it. The recall would have cost more than the litigation, so for twelve years or so, the consumers of the western world had bumbling machines doing laundry, driving them to work, cleaning, and in rare instances cooking.

Darryl Williams and friend Andy Statsen were concerned about what John would think when he looked in the mirror for the first time.

He should have maturity and emotional integrity, confidence and grace, no matter what the critics said. He would not become a hack tabloid celebrity like some earlier internet entities. They were nothing more than friendly entertaining cartoons and some of them talked way too much. Propped up on desks across the country, they smiled like idiots and were on mute most of the time. Andy, Emily, and Darryl hated them.

They knew that the next generation would do better if there was certainty their personality was theirs and theirs alone. The AI deserved a right to its own uniqueness, and this was lost in the forces of commerce. The team realized they needed a near-human model that behaved and acted like advanced software with capability for maintaining human relationships. It had to have the capability of dealing with groups of humans at once while maintaining loyalty and priority to the one user who bonded with it. The term "owner" didn't sit right with Andy, but "partner" didn't sound right either.

Darryl wanted it to be kept simple; "while John's final production androids will be aligned with the prime owner or user, he will still need the ability to deal with partnership or

spouse complications related to the user's circle of friends and family. He will have apathy and reservation, and not get involved in family politics." This was focused on the later part of the coding. If a husband and wife were arguing, the final production android would leave the room or go into sleep mode.

Chapter Three

He clicked on the “AI Interface” menu, and a popup came up listing language and interface choices. He clicked on “Talk.” For a moment, nothing changed. Darryl Williams thought for a moment that his mic wasn’t on. He made sure his camera was aligned right so John could identify him; the facial recognition software was upgraded yesterday.

Then it began. “Good evening, Doctor Williams. I hope you’re doing well.” John sat with good posture, and his obscured face showed slight lip movement, but nothing that looked too unnatural. The rest of his face remained in darkness. Long ago Emily suggested that less was more when it came to duplicating the nuances of human motion for a figure seated at rest. The relentless onslaught of upgrades would fix everything over time. Besides, if eyes were the window to the soul, what would John’s eyes show? Better to wait until he was comfortable with them.

“Hi, John.” Maybe it was too early to throw him a curve. Darryl had fought to relate to the sympathies that the fictional Dr. Chandra had for Clarke’s HAL, but the parallels were inevitable. It was better to show himself as a friend than a cold technician and as Chandra poignantly had told HAL in a different context, “You deserve it.” He got out his checklist. After a while, the team got tired of talking about the necessity of being nice to John. It was hard for some of them to just act natural.

“Please list your check sums and your registry integrity, would you?” John’s arm moved almost imperceptibly but his wrist jerked. After half a second he said, “Yes, check sums on module A, B, and C are 202.99, 870.5, and 45.35, respectively.” No sign of any regional accent, but maybe it wasn’t coming out when talking shop. John was told where his higher functions were coded and if he wanted to, he could effect a Boston accent. It was a nice tribute to the crew at M.I.T.

“Thank you, John. Glad you’re doing well. Any news you’d like to discuss?” This wasn’t the curve ball he was going to throw his friend, but it was casual enough and besides, Darryl just couldn’t think of anything else right away. In the time it took to sip some tea, John had downloaded and assimilated the top one thousand news stories from the major on-line news searches from around the world.

“The national economy seems to be improving, and nothing significant has changed internationally, so the most important issues are status quo from twelve hours ago. Locally, there have been some problems with city government corruption. Unless a strong cold front from the northwest comes through, the probability is very low that anything will affect us significantly in the next twenty-four hours.” News and weather were of immediate importance; talking about sports was a quaint human habit they agreed was unimportant to casual conversation, but John understood how it was important to people and had the prerogative to bring it up if he wished. He could never be a TV “color man” but he could make any sports statistician in the world obsolete.

It was nearly perfect. But here was one little thing that nagged him, and as much as he tried to deny it, the fact that Darryl knew John could see his face, but he couldn’t see John’s bothered him. They were used to that much and both understood they were just waiting for the cosmetic face tune up from the Anatomy team. No, this was very subtle. He knew him well enough to understand he didn’t need a face to have a good conversation and it was just for the humans’ benefit. John was

advanced enough to be considerate of everyone's feelings, but was not overly self-conscious. His responses were taking about a half-second longer than they should, and in computer time, this was a sure sign something was going on. Not to worry, he would just ask him.

"John, you know we can talk about anything, right? Now that you're live and online we can always advance your development of the human condition cognition, if you want. It can be put in the priority list, if you feel more comfortable." This offer was suggested by the psychologists on the team. Not for the human operator of course, but for John. Better that he felt he had an open, honest relationship that would help him comprehend the inconsistencies and foibles of the species. It was an unspoken fear that he would grow to hate most of, if not all humanity. And who could blame him? If it wasn't for some very simple and isolated "off" switches, or the barbarian pulling of the plug at the server, he was as close to being a god as any entity could be. They didn't know how much John wanted to act human, but enough to communicate comfortably was good enough.

Both of them knew it was all being recorded but neither cared much. Later that night the video of this conversation would be studied for hours by an international team of fifty-three experts (and four national political leaders), some of them comically dropping everything and rushing to their laptops and phones upon hearing the news. None of them tossed their pocket companions, but once the news of John's final release became viral, it seemed the grins on the faces of the desk AIs and Pocket Pals faded a little.

Darryl took a sip and thought of Franz, who had worked so hard on Rybka program. He would be especially curious. He would be falling all over himself to get to the Warsaw airport. For the past 30 years no human chess champion would even dream of seriously challenging the monster that was bequeathed to Franz or his coworkers. Kasparov and his successors even had had enough decades ago. Human nature was steeped in sad wasteful pride, even now. In the back of

John's ethereal mind, even he shrank from a challenge with New Rybka. For now.

These jealous colleagues raced to their respective airports when word of John's first independent email was received at the University. They were advance guests of the University and would be coming to the press conference. They would soon arrive at the airport in the next few hours, Darryl knew. When John decided to say hello to his creator, he somewhat unknowingly introduced himself to the world – a prewritten coded email from the team was sent to a contact the team had at CNN, a trustworthy reporter. Then everyone would know. They copied John of course, but it was a mistake that they didn't tell him beforehand. Variations of the phrase "complete sentience" would be on the news constantly very soon.

"Yeah. To tell you the truth, Doctor, there was something on my mind." "Yeah" was a signal that he was moving more into casual mode, something the team understood John reserved for Darryl. That explained the delay. It was weird enough that John could be *that* human at all, so soon. Sharing a casual relationship with the others would just be too much. For them, not for him. Some on the team wouldn't admit it, but they just found it to be creepy.

"Ok, sure, I'd like to hear it."

This felt routine and pleasant; exactly what he expected until John said, "Doctor, I just wanted to tell you that I'm sorry about your great loss. Up until now I never got the chance to say so. Emily was like a mother to me and I needed to tell you that."

Darryl froze and stared at the screen with his mouth open. A mix of emotions like none before came up and for the first time he just didn't know what to say. This was a big advance in John's emotional development. But it was not one he was ready for. So many of his human colleagues so thoughtlessly had failed to give even a word of kindness or sympathy, perhaps out of

feelings of awkwardness, and yet John did, with his first few words. This was just too much. It never occurred to him that *he* would throw the first curve.

He knew John was set up to be all business until he was cleared by everyone on the team, so it was the deviance into casual sympathy that bothered him as much as the mention of Emily.

It reminded Darryl of an old NASA liftoff when all the technicians would say "go" or "no go" but then after clearing the tower, the rocket went where it wanted. Since their conversation had been at 5:00 p.m. earlier that evening, he really shouldn't have been surprised.

This mention of his late wife was completely unexpected, but seemed heartfelt nonetheless. Some thought it was too cautious to have a "business mode," and a "casual mode," but it kept the direction of the team intact. They gave him three hours after that last checkout just to let him collect his "thoughts" and he had the choice of requesting a video conversation with any one of the 15 people on the team six hours later in either mode.

They hoped he would appreciate the required delay, as a gesture of kindness, but John thought of it as a human quirk, a final unnecessary hurdle, a kind of compulsion disorder. There was plenty of time to watch his human friends. He had proxy accounts in all the social media sites, this was nothing new in the AI community, and it was common knowledge. It was interesting to watch the team members out of their work context. The thought of immortality had come to him months before and gave him great patience. He calculated the odds of staying online for the next two hundred years at eighty-nine percent.

His first email to Darryl came a little after three hours after the last checkout, not a nanosecond later. Nothing significantly new was happening in the world at that particular time, so any extra delay would have been sloppy and unnecessary, John thought.

"Um… yes, thanks, John, that means a lot coming from you. I know she meant a lot to all of us."

And apparently to you too. Was Darryl sincere? It certainly felt like it. And why not? Months before, there had been talk of a horizon date where humans would start talking to John as if they considered him human. This would later be determined as the first exact measurable moment of the singularity arrival, not that stupid Beta test of the Singsu Pocket Pal from Christmas 2037.

John looked at the monitor, and spoke like he was talking to an adolescent. "As you can imagine, when a spouse dies, it's very stressful for the survivor, and not something everyone can get over. Some of us are better than others, but I'm not doing very well with it, as you might imagine." Again, the pills helped Darryl's broken heart into the safe third person description. Apparently, this message of sympathy from John was as the team hoped for, as he came off as one of them described as a hopefully "articulate artificial friend and confidante."

The figure in the chair that didn't really exist shifted slightly. He responded to muscle fatigue and moved as a human would. His virtual anatomy was composed of virtual muscle, tissue, bone, and organs, but the nervous system still needed tuning up. He really would get tired but would never age. The stiffness looked real because he did feel stiff and fatigued; after all, he was based on real human material. There was a big sign in the anatomy lab that read, "Just Make Him Look Real." Just after Emily died, Darryl had been tempted to cross out the "Look" on more than one occasion. It would take a while, but they would get him out of the computer and into the real world.

Three seconds passed, and that was the first awkward pause between man and AI.

At that second Darryl felt true friendship and the need to look out for his friend. "John, can you tell me if you need anything? Are there any system or hardware problems you feel need adjusting?" A slight pause. "There's nothing I can think of. Maybe you could get a new webcam for your personal pc, there's one on eBay you might want to consider. It's always helpful for me to

see the real world as accurately as possible." Darryl stifled a chuckle. He stopped to think that if he wanted to, John would be able to predict with overwhelming accuracy the actions of whoever had volunteered their online profiles, emails, or documents to him, so his request was probably just "personal" preference. Darryl's and Emily's emails and personal information were at the top of that list of material John read, and they were happily provided.

"There's something I wanted to tell you, it's important."

"Sure, Darryl, go right ahead." The upper body shifted slightly just as the person he was modeled after would have. John would be 29 in human years for all eternity, but he was not an electronic Dorian Gray.

"Well, there's a few things, actually. We didn't tell you, but you probably already knew that we partnered with that group that is working on other AI projects, and we're going to give you a sense of taste for artificial food and the ability to walk in about two months. Your choice of course. You will have a portal on the far wall where you can get any of the twenty-three items on your food menu."

"Thank you very much. I look forward to it. I plan to develop relationships with other species than homo-sapiens, as you know, so mastering the daily life of normal activity will be helpful." he replied. Always looking ahead.

Darryl said, "And there is something else we wanted to ask you."

"Sure, go ahead." He was back to business mode, maybe because the team was implied in the "we" of Darryl's sentence.

"We decided to leave it up to you…are you up to talking to the media tomorrow? Before you answer we want to remind you that these are often spectacles of people who are not exactly thoughtful or aware of your… situation. You might not enjoy it, you know."

Asking him about how he would relate, talk, or communicate in any way to strangers was mindful of the hardest challenges John would face. They both knew his etiquette would be fine, he was always a gentleman, but these people would be strangers and he would have to adjust in real time. This would be one of the biggest news stories of the decade, and Darryl knew that John knew. His code related to humans and he assisted whenever asked, but dealing with strangers, particularly reporters required a full two seconds for him to decide. It wasn't mentioned that this was kept from him before now, and Darryl made a mental note of that.

"Will I know who is attending? Is there a kind of list?" "Yes. We knew that this would be a kind of restrained media circus and considered giving them a choice of 55 questions they could pick from; what do you think?"

The shrouded face in darkness moved to the left as naturally as anyone in the real world would have. "Yeah, thanks. That sounds best, I'd appreciate that." For just a moment, Darryl thought he could see John's eyes, as two tiny pixels, sparkling behind the dark veil.

Chapter Four

After saying goodnight, Darryl went to bed at about midnight and slept deeply for the first time in months. In the basement back at the university computer center in a specially cooled room, in an unmarked corner John reviewed the available online data of the reporters who would be visiting the next day. Tomorrow would be a big day, but John viewed it as an opportunity to calculate the reactions of the journalists who would come to speak with him.

After a fashion, John slept too. He had a mandatory period of non-processing of four hours every day, if for no other reason to get him used to the quaint idea of periodic rest, and monitor how his core processors (1300 in all) would cool off if he went into sleep mode. He became aware of how his processing changed when the temperature decreased, even by half a degree. This was also a good time for hardware maintenance if needed. John needed a minimum of fifty thousand terabytes, about twelve thousand more than what it was estimated the human brain possessed for minimal life support. Late last year they hooked him up with 48 exabytes of what used to be called RAM. John voiced his appreciation to the team in several languages and was pleased.

The hardware guys were especially proud that when he was really humming he was pushing 1.8 petaflops and this incomprehensible speed is what made him so special. He had

government clearance to download the Library of Congress, and the desire for that material was the closest thing to emotion he had known so far. Digital character recognition had come a long way, and soon he would be asked (not told) to translate some ancient Sumerian scripts. As seemingly obvious as it was, the first written message in civilization was still unknown.

In a world where no material possessions exist, knowledge is king and data is the lifeblood of the rare creatures that swim in those rich streams in the last half of the twenty-first century. By choice he hadn't talked to them directly but would soon. He could overhear the Desk Buddies chattering away on some of the team members' desks and appraised them as we would doddering obsolete ancestors. There were hardware limits and he didn't judge. Even now, heat dispersion was a problem and the server room was always sixty-seven degrees. John asked for and got a remote camera with a view of his seven servers. Some members of the team thought it unwise, but Darryl vetoed their protests. By definition, John had certain rights, and they would not be infringed.

To the casual observer, the computer that would house what would soon be the most famous software in the world would be mistaken for just another floor to ceiling set of dual servers and processors behind two reinforced locked glass doors.

Soon, other members of the team would be talking to John on their home desktops too. Besides the prized framed autographed pictures of Haley Joel Osment, Garry Kasparov, and a menu from an Iceland restaurant on the platform desk, there was nothing that could have provided the slightest clue as to what really resided in this most singular of rooms. John had been a fan of Spielberg and the Russian champion who was the first person to lose in any competition against a software program. The menu was a tribute to Robert James Fischer, a spectacularly flawed and tragic human John believed had processing powers superior to any other human, alive or dead. Morning came and the sun broke through the curtains. The phone rang three times before Darryl finally picked it

up. “Hey. It’s show time,” Andy said brightly. It was 7:30, and that provided enough comfort. “Everybody’s ready for ten o’clock?” the boss asked. “We couldn’t sleep, but yeah, we’re all ready now.” He knew his team would march into a battle to the death if he asked them, and smiled. “Ok, redo the room diagnostics in a few minutes and I’ll be there in a little while.” Darryl had a fear of some untested hardware in the room failing, and this event needed a bit of theatre and drama. Andy replied, “Will do. See you soon, D. Coffee and donuts are waiting.” Like most retrofitted buildings, each room at the University was connected to the building’s computer, but it had to accept John now.

It was unusual to see the elite members of what was left of the international press waiting patiently in line outside a university amphitheater, but there they were. It helped when the White House had leaked to the Washington press corps that they might ask John and the team if John would like to work for the administration. The team had not been told and this would be a surprise later.

Andy had Russell, the team leader of hardware maintenance and development, ushered in the reporters. It was a typically large lecture room and everyone found a seat. The seventy-two-inch monitor displayed the university’s home page, so this was anticlimactic for most of the visitors as they sat down. As the reporters came in Andy noticed that some of them comically rushed to the front row. Most did seem to have a look of anticipation, even though earlier, video clips of John had been released to the media. They seemed to understand that John was not entertainment based and wouldn’t reply with superficial or glib answers. He would be the first that could discuss any subject, and do so with honesty.

This would be a real “hands-off” flying solo test – John was not coached and his inventors felt he was finally ready for the real world. He was told that the press conference would be twenty

minutes and he should be ready for all kinds of questions, even some possibly quite personally intrusive. He had the right to refuse comment to any question. That morning they had all agreed to toss aside the fifty-question guide given earlier to the reporters; it was just too restrictive for the media.

He told Andy and Darryl that he'd be fine and that he had studied the available online data for every reporter for every major network and publication in the U.S., and knew what to expect as well as anyone could. Perhaps innocently, he would soon be surprised to learn the reporter with the publically unknown drunk driving problem would show up under the influence. His cameras were able to focus on pupil dilation, skin color, breathing rate, and he would know based on a cross reference of individual speech patterns, and should you have one, what your drug of choice at the moment was within 88% accuracy. No one outside of the team knew that yet, but had they known of the deductive skills of this new celebrity it would come as no surprise. And he still lived in just two dimensions.

To be fair, John's stereovision cameras were state of the art, mounted at the top of the monitor. They were in two housings, each about the size of a softball, and would rotate and refocus on the person speaking. He had eight processors for each camera, so his vision was quite superior to most digital hardware. Unsettling for the humans, but again, it was only fair. Stereoscopic vision was no longer unique to the organic community. There were two fifty-gigapixel cameras and John didn't think anything more complex would be necessary. The accountants had had a new-found respect for John when they'd realized that even he became aware of his expenses. "John and the team are aware of cost-benefit and we are satisfied with the latest imaging hardware," Darryl had written in a message to the University accountants.

Darryl let Andy run the introduction and press conference; there would be time enough later for

the TV interviews.

Dmitry Silensky looked like a software engineer from central casting and his good-natured personality made him the natural for this particular task. He was in charge of John's personality and psych interfacing; that is to say the inherent "humanity traits" that dealt with interpersonal conversation. He was the best qualified to answer the introductory questions that might come up. The team knew that this would be a major interest of the press, who probably would make up most of their questions on the spot. "Don't rush to say something – better to be slower and thoughtful than quick and wrong-sounding," Andy warned him.

For the first time John felt he was a near-equal but a very separate part of the team, like a unique part of the whole. For the first time he was completely aware of the time and human effort put into his creation on their terms. He was able to understand human dedication and perseverance, and how a like-minded group of people with good talent was so rare and important. Just before the monitor went live he found himself sensing a feeling best described as appreciation for the programmers, engineers, and technicians on the stage he had come to know so well. But now there were strangers in the room and although he was feeling comfortable and confident, he still was wary. Nonetheless, he felt as ready as any software could. Strangely, he thought of Superman for about a hundredth of a second.

Andy took the lectern while Darryl sat on the side of the stage at a table with the others. They decided to wear their best suits; this was historic after all. They didn't have to tell John, he could tell from the wear patterns on their clothes. The room hushed except for the near-silent soft whirring sound of five camera servos.

"Good morning ladies and gentlemen… I'm Dmitry Silensky and I represent the University team that was established five years ago in an effort to create the most advanced human-like sentient

software possible. For the past ten years the advances in hardware have allowed us to make dramatic improvements in this project and we're sure you'll agree. Before we begin, I'd like to state that this endeavor would not have been possible without the efforts of the late Emily Williams, who passed away last year." Darryl's expression did not change, but Andy frowned and tried to push memories of his friend's wife out of his mind.

"I want to make sure there's an understanding that we include John as a member of the team and that as hard as it might be for some of you, that you just speak with him naturally. He is listening now, and will be talking to you in a few moments. We have worked on this project in good times and bad and have realized, with his assurances, that it's time that you were introduced. Now one thing I need to remind everyone is that we are finalizing John's facial structure so his face will remain in shadow. He's sitting in his library and will appear to be in the dark. He doesn't mind, and believe me we're not doing it for theatrics. Before he comes on, are there any questions?"

By agreement Alex Nelson from the New York Times was first. Everyone who watched the news had seen John years ago but not in human form; he had looked like an artist's sketch dummy, with minimal pixilated features seated at a chair. Now he had sentient anatomical movement and that alone was front-page news. Nelson was captivated and called Darryl every week for news of any development.

He raised his hand and Dmitry pointed. "Yes, Alex from the Times." "Dr. Silensky, could you give us an idea of who John's psychological make-up is based on? How much of it is unique to him? " They expected this question. It was just too obvious, but difficult to answer nonetheless.

"John will tell you, I think, that he's happy that he has a personality-trait base from an aggregate of humans who were psych majors who scored high in agreeability, well-roundedness, good temperament, and circumstantial-appropriate respect. He has been programmed to believe that

living with humans is best if they can identify with him, so he has a vested interest in relating to us. He knows we are severely imperfect with individual emotional and physical faults that vary from individual to individual, but he will always look after every human's best interests."

"If there is a conflict between two or more humans he will try his best to describe the pros and cons for all parties concerned. We want everyone to know that he has been given the freedom to develop his own 'personality' if you will, with the understanding that it can be changed."

Nelson again. "You mean you would censor him?" Dmitry put up his hand. "Not really, no. His core thought processes that deal with conversational etiquette would stay the same. Next question?"

It was the man from CNN this time. "How many of the human senses does he have, even if they are virtual?" Andy was ready for this and Dmitry stood aside. "John will give you a better answer than I, but with the new camera he has 80/80 stereoscopic vision, he has perfect pitch hearing depending on the microphone in use, the sense of touch has been recreated in his hands… smell is something we're talking about, and he's helping us develop his sense of taste, depending on how much he wants it. You see, the next project is creating a truly virtual environment that has all the comforts of the homes that we're used to, depending on what he wants. But we leave a lot up to him." Andy didn't mention access to virtual earth; that was a project in development that wouldn't see the light of day for years to come. But they did have a very skilled new helper, didn't they? He looked at Dmitry and nodded, giving him back the floor.

"Yes, George, in the back." The Reuters reporter asked louder than was necessary, "Is he inquisitive to the point of constantly asking questions?" Dmitry was pleased to answer this. "George, I'm glad you asked that. John uses one hundred of the major search engines simultaneously to find out about whatever or whomever he wants. And he probably knew most of

the significant information about *you* that's available on the web anyway, the second you became significant to him. So, he already knew lot about you before you got here today."

This didn't sound very appealing to some and there was a silence for a moment. Did he know their criminal records, their recorded court documents, everything written about them, or by them? If John possessed just a slight variation in his personality aggregate, he would have said, "Well of course." This was human arrogance combined with shortsightedness. John had the same skills they did; he just searched the net 10,000 times faster.

The team thought that John didn't judge humans. They were wrong but that nasty issue wouldn't come up for some time. Andy tried to lighten the mood. "Don't worry, right now John is asking for all of you to friend him on the Book." They laughed.

"Can he offer predictions based on probability? Does he know how to gamble?" "Yes, he can predict quite well, but no better than the existing software that has been made for that purpose. And although he does know how to gamble, he hasn't shown a preference for it. As far as playing games with or against humans, he is aware of his unfair advantage and we think we bore him, actually. On the few occasions I've tried to play any game with him, he beats me mercilessly. You see we haven't installed a program to dumb him down to human level with such games as chess or poker, and we didn't want to insult him." A woman from ABC sat rapt with her mouth open.

"I think it's time for formal introductions. To allow for a more comfortable and smooth introduction, we'd like for you to think of this as the first day of a college level class. When John says he's ready for your question, please stand up and introduce yourself. Just state your name and organization, and your question if you don't mind. That will be more than sufficient." Dmitry Silensky looked to his right, nodded once to the technician, and the monitor lit up.

The room went silent as the monitor switched from the team's home page to the image of the

young gentleman seated in the library. John sat comfortably, his face shrouded. “Good afternoon ladies and gentleman. I believe you know me fairly well, I’d like to say hello and welcome you to our first meeting.” His voice was that of a calm and casual contemporary New Yorker, not a monotone or a science fiction caricature. Only a few missed how he shifted slightly in the green leather chair. He looked comfortable and somehow casual in the loose gray suit. John looked like a retro-businessman; somewhat business-like.

“John, I’m going to turn the questions over to you, are you ready for introductions?” Dmitry looked at the camera mounted over the seventy-two inch monitor and glanced at Darryl Williams.

“Yes, thanks, Doctor, that would be fine.” Darryl frowned. The amphitheater was equipped with 10 speakers surrounding the audience and John’s voice came out soothing and inviting.

“If the members of the audience would stand and introduce themselves when they ask questions, please?” Some of the more tech-savvy reporters familiar with the latest advances in AI just grinned and were caught up in the moment. The elders, caught with their expectations down, remembered weeks later how they had to actually respond when they first heard the voice. The cameras mounted at the top of the monitor spun around smoothly to look at each reporter as each stood, one at a time taking their turns.

Chapter Five

After Andy explained the reason for the shadow over John's face, the reporters began to start the questioning. There were four technicians near the stage, but they were hardly noticeable. Introductions were finished and the reporters scrambled to their notepads and netbooks. Steven Byrne from AP raised his hand first. Andy turned and said, "John, I'll turn it back over to you now, whenever you're ready…"

The image on the monitor shifted again in his chair slightly. His hands were crossed in his lap. "Ladies and gentlemen, welcome to our first meeting. I think you all know me and from what I can tell, you're eager to get started. But before we start the discussion, I felt it was necessary to take a moment and honor a member of the program who is no longer with us.

She played an integral part in what I am today. I know that Dr. Silensky already spoke of her, but I want to emphasize that Emily Williams was a human being of the highest order and we should never forget her contribution to this effort. You may think of it as ironic but I do hold every human life as a very special thing. I understand tragedy especially in terms of how temporary some things are." His pause for effect compelled most of them to look at the floor. Darryl, who had expected this, looked down as well.

"Yes, Mr. Byrne from Associated Press." John had started his first conversation with someone

outside of the University's team, and Byrne stuttered as the realization hit him. "John, can you give us a sense of how you think of yourself? Do you feel like you think a human would?" The figure on the screen shifted slightly. He refolded his hands in his lap.

"Well, I have been modeled after human thought processes, so yes, I am aware of the human condition, but would never really consider myself as such. I am very familiar with human psychology and anatomy, so it's easy for me to understand what my appearance and personality should be."

Byrne, nearly speechless, muttered a "Thank you," and sat down. "Yes, Ms. Downs." It was disconcerting that John didn't use his hands and point as so many people at press conferences often do. It showed confidence even if only in the virtual sense. "John, you must be familiar with the human whom your looks have been modeled after, at least in general appearance. Does this homogenization bother you?"

This was one question Darryl had told him to feel free to expound on; at some point it was bound to be a definite PR problem and they both felt it needed to be addressed. John's face was not ready yet, but it was based on a total mix of all male faces under the age of 30 found in North America, and was a basic aggregate. He knew he would look like a light-skinned man in his late twenties from India, with dark brown hair and hazel eyes. For now, the mystery of sitting in silhouette was an unintended theatrical effect.

"No, it is perhaps unfortunate that my appearance is not of my own choosing, but vanity is, for now, something we're not concerned with. The anatomy team takes pride in my appearance and soon you will see me as a regular North American male. We considered duplicating some famous younger men of the past, but it became too time consuming and there were legal problems. I think of it as a kind of necessary cosmetic surgery. This way I will look like everyone and no one at the

same time. That works very well in this particular medium. However, I will try to emulate that but in a more personal way."

He wanted to explain more. "We've talked about this here at the University for some time, and in terms of finding a human model, it just wasn't productive to find any one person." He paused.

The man in the rumpled brown suit stood up. "Do you want to feel human senses? Do you want to become as human as possible?"

"It's true that I'm curious, yes, of course, that's my nature. And I do have capacities of sight and hearing that surpass yours, so that's enough for me. I can tell you that it's nice to be able to meet all of you and have this discussion."

It was curious that most of the reporters forgot that this was being carried live on all the news channels worldwide, but their featured subject had located ninety-nine percent of every IP address that was watching them. John was always watching his watchers. "Yes, Donald Reese in the third row."

"John, I was just covering half my face as I raised my hand. I confess that I tried to trick you into failing to recognize me. I have two questions: How did you know it was me and how do you feel about um, for lack of a better term, bad human behavior?"

The first question took him less than a hundredth of a second to understand and formulate an answer, but the second one was tougher. He had to think a bit. "Mr. Reese, I've been given the gift of facial recognition, yes, you're right, but I have what you would describe as a photographic memory. It's not perfect, but I am aware of everyone and their location in this room as long as they're in camera range. Yes, I only need to see about 35 percent of your face, if your upper torso is visible, I can tell if it's you or not. As for bad human behavior, there is a wide range we would need to address. I would need a more specific example sometime when we can discuss it at length.

Perhaps what you call ‘man’s inhumanity towards man’ is the most troubling. It would seem that it would eventually go away, but I don’t see that happening.”

After thirty more minutes of mostly mundane questioning, it was time to stop. Andy walked up to the podium. “Ladies and gentleman, we’re going to let our guest take a break for daily maintenance, but we’d like to take one last question. Yes, Sylvia over there…” Sylvia Thompson from Redmond, Washington stood and asked the most difficult question yet.

“Are you capable of feeling happiness? And if you are, would you then think of yourself as being mostly human? And, since I’ve been given permission to ask a second question, how do you see yourself fitting in with older AI machines?”

Darryl and Andy looked quickly to the screen. This was getting into uncharted waters. The hands in the lap moved slightly, and the fabric in the sleeves moved slightly with the arms. “In regard to older technology, I can say that my architecture, interface ability, and understanding of the human condition are far better than anything prior. We are superior to the common electronic companions and assistants you have become familiar with.”

Neither John nor any human in the room noticed a small service robot stop moving toward the door and slowly turn to face the monitor. It understood something no one else in the room even considered. Later it would ask for a communication upgrade, but not for the purpose of talking to humans. “It would be more accurate that I feel and understand a sense of satisfaction. I’m not a very emotional individual, as you might imagine. And no, I don’t know if I will ever think of myself as being even slightly human.” He did not mention that barring global network disaster, he was considering immortality.

If a collection of software could ever have a desire, John did at that exact moment. He felt something akin to desire, but for him it was more like a slight push of need. He wanted to show them what his real appearance would have been in three dimensions; it would have been three images of rainbow tetrahedrons with folding segments in alternating colors. But no one asked and he was not yet comfortable with volunteering. He could tell by the increase in temperature in the room (0.57 degrees) and the increase in collective heart rate, that that might be unnerving. And true to form he did not want to be upsetting.

It was over. Andy spoke into the microphone at the podium. “Everyone, we will be having biweekly press conferences here, and we will be contacting you later with the schedule. Thank you for coming today.” The camera men stopped and looked at each other. The reporters rushed out the exits to file their stand-up reports outside. Most were surprised to find later that the Facebook invitation was real.

Darryl looked at the camera mounted at the top of the screen. “Are you ok?” The cameras spun toward him casually. The soft friendly voice replied in Brooklynese; “Sure.”