

Brain Machines

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Abstract. This story is a Science fiction (SF) prototype and serves as an example application of the process of Science Fiction (SF) prototyping as a design tool. This story should be read in conjunction with *Science Fiction for Scientists!! An Introduction to SF Prototypes and Brain Machines* (also included with this edition). A brief epilogue follows the story, explaining the implications and results of the story on the original research upon which it was based, giving the scientists an innovative tool to continue their development. Illustrations by WinkStink.

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1. *Brain Machines* – A SF Prototype

“Jimmy, fix me another drink,” Dr. Simon Egerton said as he sat in his cramped apartment buried in the clog of stations that ringed the Earth.

“No problem,” Jimmy replied cheerfully and set off for the make-shift bar. Jimmy was a pet project of Egerton’s. He was an off-the-shelf clean room assembly bot that Egerton had modified into a somewhat old fashioned service bot. Egerton had been experimenting with Jimmy during his free evenings. At a little over three feet, Jimmy was a cute little guy. His rounded hip joints and oversize half-skull made him teeter when he moved across the floor. He looked like a child just learning to walk.

“How are you feeling?” Egerton asked Jimmy.

“Fine thanks,” he replied, mixing the gin and tonic. “We’re running low on Tanqueray.” He turned and waddled a few steps with the drink, concentrated and careful not to spill.

“Thanks.” Egerton took the drink and searched the bot for anything out of the ordinary.

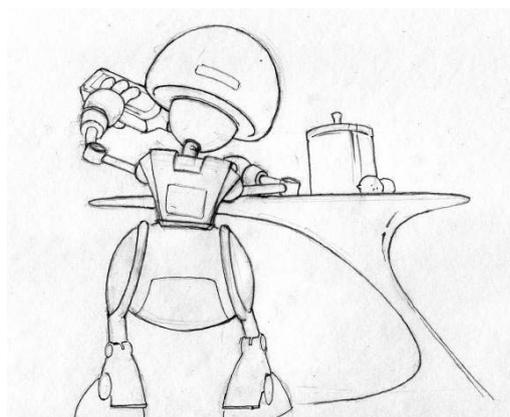
“No problem at all.” Jimmy waddled back to the make-shift bar and tidied up.

Egerton sat his fresh drink on the floor next to the chair, lined up with eight other untouched cocktails. After a moment he asked, “Jimmy, will you fix me a drink?”

“No problem,” Jimmy replied cheerfully and started on the tenth drink.



Egerton puzzled at the back of the little bot. He knew that Jimmy knew he wasn't drinking the gins. Egerton knew that Jimmy knew he was being tested and that it was silly to keep on making gin after gin. But Jimmy wouldn't react. He wouldn't break out of his service duties and ask what was going on. Why wasn't Egerton drinking the cocktails? Was there something wrong with them? It was a problem of will: free will. Jimmy had all the capabilities to question what was going on but he wouldn't do it. It was a problem Egerton had been trying to crack for over six months.



"We're running low on Tanqueray," Jimmy said finishing the drink.

Egerton's phone rang. "Simon Egerton." He leaned into the phone, weary of any call that got to him with such little information attached. The caller's ID was: Ashley Wenzel.

"Simon? Simon, can you hear me? I cannot tell if this thing is working?"

Egerton recognized the caller immediately. The pinched and impatient face of Dr. Sellings Freeman came over the cheap phone connection. Sellings had been Egerton's professor and sometimes mentor at university. He was neither a good professor nor a good mentor but Egerton had learned a lot from the pompous old man. Plus Sellings had gotten him his first research grant so Egerton felt forever in his debt.

"Hello Sellings," Egerton replied. "Why does your name come up as Ashley Wenzel?"

"I had to borrow this girl's phone. I cannot explain. I do not have time. I think I am breaking some law by even making this call." Sellings was distracted and tense. "I need your help Simon. I need your help and there is no one else I can ask."

"What's wrong?" Egerton grew concerned. He'd never seen Sellings upset; the pompous old man was unflappable. "What's happening?"

"I can't say right now...what? Yes, wait just one moment" Sellings' attention shifted. "I'm almost done."

"I need my phone back," a girl's voice came over the line. "You said..."

"I am almost finished," Sellings answered annoyed and frustrated. "Simon. I need you to come to Maralinga Gardens right away. There's no one else I can ask to do this..."

"You mean you're on Earth?" Simon was shocked. "Why are you down *there*? What could you possibly..."

"1370 Anangu Way," Sellings barked. "That's where I am staying. 1370 Anangu Way, Maralinga Gardens. Can you come right away?"

"I can try," Egerton wasn't sure what to say. "There's some things I need to..."

"I told you I was almost finished..."

The connection went dead.

Egerton watched the dead phone for a moment, wondering what to do when he remembered Jimmy. "Oh I'm sorry Jimmy," he said, seeing the little bot standing in the middle of the floor trying to keep the perspiration on the glass from running onto the floor.

"We're almost out of Tanqueray," Jimmy said happily handing over the cocktail.

"I'll go get more." Egerton set the glass next to the chair with the others and stood up. Grabbing the Tanqueray bottle, he slipped into the kitchen nook and refilled it with water. Stepping back into the living room he handed the bottle to Jimmy, who checked it, wiped it with a cloth and returned it to the bar.

"Jimmy, will you fix me a drink?"

“No problem.”

Egerton stared at Jimmy’s half-skull and wondered what to do.

”Biggest mob of trouble, uwa. That’s right, we got biggest mob of trouble. That place, that Earth, him being almost finish up. Properly, big shame job for me, uwa,” the lean aboriginal captain said to his passengers as he made his way casually to the front of the shuttle. “I going to need you good ladies and gentleman to secure your second seat belts. Biggest mob of trouble, uwa.” With a broad and confident grin the captain sauntered into the control room.

Egerton searched around his seat for the safety harness. Snapping it into place he returned his attention to his seat’s broad panoramic window.

“Damn aboriginals have the whole place locked up,” the nervous businessman behind Egerton grumbled. “I bet that man has no right running this ship.”

The shuttle fussed and fought like a toddler who didn’t want to take a nap. Through the downy clouds and dense pollution, Egerton could just make out the flat brown landscape of Australia. Going back to Earth made him nervous. The place was a dump and no one in their right mind would go back unless they had to. Egerton couldn’t make sense of what Sellings had said. There was no reason for him to be at Maralinga Gardens.

“You’d think someone would do something about this,” the nervous business man continued to grumble. “I mean, I’m really scared for my personal safety. Aren’t you?”

The shuttle streaked over the low table lands of southwestern Australia. The bleak plains were covered with rubble, dotted by the spiny clumps of mallee scrub and saltbush.

Maralinga Gardens rose slow and cinematic on the harsh horizon. Maralinga was splendid and preposterous; built on an old nuclear test site; it was touted as the safest, most stable place left on the Earth. The posh and protected settlement housed the few remaining corporate headquarters still doing business on the planet. The executives and their families lived and worked in a dreamland of tidy office parks and idyllic mini-suburbs.

“Aren’t you worried we could die?” the businessman continued.

“If you have to be here...” the rental car agent grinned, “...Then you *HAVE* to be *HERE*.”

“Excuse me,” Egerton was still uneasy from the rough decent. “I just want to pick up my rental car.”

“We have to say that,” she replied. “It’s Maralinga Garden’s new tourism catch phrase. *If you have to be here, then you HAVE to be HERE*. My name’s Frances Rexford. My father is a council member here. This is my summer job,” Frances chatted on casually as she tapped in Egerton’s information. “Oh you’re from the *stations*,” she said disdainfully. “My father says that Earth is the only place that people

are meant to live and that Maralinga Gardens is the only place left on Earth where people can *stand* to live. Is that why you're here?"

"No," Egerton replied. "I'm here to see a friend." He watched Frances working away oblivious to her own words. "Do you really believe that Frances?" he prodded finally. "Do you believe what your father says? That Earth is *that* great. Have you been anywhere else?"

"Well, no." Frances blushed. "I'm only sixteen, but I'll be going to university soon. Can I show you to your car?"

"Sure. Is it OK for you to leave your desk?" Egerton glanced around the empty concourse.

"It's fine," Frances replied. "You're our only customer today. There's only one shuttle flight a day. We don't really get a lot of people who need to rent cars here. You know, people either just live here or their company drives them around."

"Ah. Got it."

"This way." Frances led Egerton out of the building and to a petite parking lot. She was a small plump girl who dressed like a boy in jeans and a western shirt. Her severe and quirky eye glasses made her more attractive than she actually was.

Moving through the door, Maralinga's heat hit Egerton like a cannon shot wrapped in cotton balls. "Ooof," he grunted, gasping for breath.

"Yeah *I know*," Frances commented not turning around. "The heat is nuts. But I'm used to it. You *know* how it is." Suddenly she turned, "I hope you like to go fast," and presented the car like a game show hostess. "We don't really get that many renters so my boss buys sports cars. He loves sports cars. He doesn't let us drive them, but he drives them home all the time."

The car gleamed broad and muscular in the harsh sun.

"What kind of car is it?" Egerton walked around the car, searching for some make or hood ornament.

"You know I don't know," Frances replied like no one had ever asked her the question before. "*Like* a Lotus or a Porsche or maybe a Mercedes...I'm not sure. I think my boss had it modified."

"I would say so," Egerton wasn't sure if he could even drive the beast. He hadn't driven a car in over ten years.

"You do have to be careful though," Frances said opening the doors. "It's really powerful and you can't wreck it."

Egerton drove painfully slow out of the parking lot and onto the broad highway. The car's power bristled around him. He felt like he was sitting in a massive and gleaming bear trap and at any moment the powerful jaws would spring to life and cut him in two. Luckily the few cars around him on the highway were going ridiculously slow as well. They crept along the surface hesitantly, changing lanes for no apparent reason.

Then Egerton saw the cause for concern. The four wide lanes of the highway were covered with a glittering layer of shattered glass. The tiny shards caught the sun and played around with its light. It looked like an enchanting snow, both delicate and dangerous.

“To the right!” a voice boomed from behind Egerton’s car. “To the right! Move to the right!” A police massive cruiser flashed its lights and Egerton got out of the way.

Like leaves in a meandering stream the cars bunched up together on the side of the road. They came to a stop at odd angles and clumped together tightly.

Egerton watched the other drivers in their business suits and sun glasses. They were well exercised, well fed and well dressed. He felt remarkably out of place among the Earth’s remaining power brokers.

One devastating attractive woman in a stripped suit slid out of her Mercedes to get a better view of the trouble. From the nest of cars Egerton could see nothing but the glimmering glass in his rear-view cameras. There were no skid marks, no wreckage, no sign of any trouble at all. But the curious woman did see something. Her face jolted. She left the car open and jogged in the direction of the police cruiser. Egerton wasn’t the only driver watching the woman. All the executives jumped out of their cars and seeing the trouble the highway followed her. Egerton did the same.

“Get back!” the local police officer bellowed. “Get back into your vehicles! It’s not safe...” But the crowd didn’t listen. The scene of the accident enchanted them. Their curiosity drew them forward and the police could do nothing to stop them. “Get back in your vehicles now!”

A single Family Utility Vehicle had slammed into a solitary sign post. There was nothing else around the sign that read, “Maralinga Gardens – If you have to be here, then you HAVE to be HERE.”

“That’s terrible,” the attractive business woman said covering her mouth.

“How did this happen?” added another man. “There’s nothing else around.”

The sheer devastation of the Family Vehicle shocked and fascinated them. Every window was blown out. All four tires were shredded and the impact of the crash had folded the vehicle nearly in half. Next to the wreckage and debris lay a child’s shoe.

“I told you people to get back!” the officer tried in vain to assert his authority.

In the center of the highway an ambulance sat silent, its lights flashing red and yellow, fluttering off the delicate blanket of shattered glass.

“Officer what happened?” the lead woman asked.

“I’m not sure ma’am. I just arrived myself. Can you please move back?” He tried to herd the group but they wouldn’t budge. Just then the doors of the ambulance burst open. A woman leapt from the back and ran frantically toward the crowd of stunned onlookers.

“I killed my babies!” she screamed. Her expensive yoga outfit was covered in blood. “Oh my God, I killed my babies!”

“Ma’am...” The officer started.

A stunned and haggard paramedic sprang from the ambulance and ran for the mother.

“No you don’t understand my babies are dead!” The mother clawed at the woman executive in the stripped suit. “I did it. I did it. Oh my God I did it! I could feel the urge. When I was driving, I could feel it...”

“It’s ok,” the woman tried to comfort her, waiting for the paramedic.

“I knew it was going to happen but I couldn’t stop it,” the mother melted into tears. “It was like an urge in my head. Oh my God my babies...” The paramedic wrapped his arms around the shattered woman and led her back to the ambulance.

“Please people,” the officer pleaded. “We need to clear the area. We have to clear the area.”

More onlookers arrived and a news crew ran up from the tangle of abandoned cars. Egerton moved out of their way and tried to get back to his car.

“You’re Dr. Simon Egerton?” a voice called. “You’re Dr. Simon Egerton, the renowned roboticist and artificial intelligence expert,” a woman broadcaster pointed and motioned to her crew.

“What?” Egerton wasn’t sure what was happening.

“Start now,” the broadcaster barked to her crew. “You’re Dr. Simon Egerton,” she said again. “You’re here to testify for Dr. Happy in the Bok murder case.”

“I don’t know what you’re talking about,” Egerton replied and jogged awkwardly to his car.

“This is Bernadette Samuels for FNN at a truly horrific scene. A tragedy made even more mysterious by the presence of Dr. Simon Egerton, renowned roboticist and artificial intelligence expert who will be testifying for Dr. Happy in the Bok murder case.”

“You’ve not been here more than an hour and you’re already famous,” Dr. Sellings Freeman opened the door and smiled.

“What’s going on?” Egerton asked walking up to the house. “I was just...”

“I know. I know,” Sellings held up his thin hand. “I saw it all on FNN. That Bernadette Samuels is a real piece of genetic engineering. Did you know her mother was also in the business? I think...”

“Sellings can I please come in? What’s going...”

“Slowly Simon. Slowly.” Sellings came out of the house into the barren front yard of the towering house. Heat waves from the ornamental rocks wafted up around them as if they were in an underwater inferno. “What do you think of my new home? Remarkable yes?” They were surrounded by an elegant over-architected suburban sprawl. Giant glamorous houses were perched along lazy curving avenues. The subdivision was on the edge of Maralinga Gardens and gave not a single clue that

anyone lived in any of the houses. At the cross street of Anangu Way a senior-care bot walked a French bulldog in the hot sun.

“Who is Dr. Happy?” Simon asked. “What is the Bok murder case?”

“You see that bot right there?” Sellings pointed. “That is my only neighbor.”

“What?”

“Yes. Yes. I know. It is strange, but I have seen no other neighbors. They built all of these houses for some housing boom that never happened. Can you call it a ghost town if no souls ever lived here? I should ask my neighbor,” Selling waved to the bot as it disappeared into the empty sprawl. “Come Simon, let us go inside. I can’t stand this heat.”

“Who is Dr. Happy? What was that woman talking about?” Egerton asked as they stepped inside. The air was cold and dry.

“I’m Dr. Happy,” Sellings replied with a smile.

“You?”

“Yes. It’s all to do with the work I’m finishing up at Claxton Neuroscience. I haven’t published anything yet. The business people don’t think it’s the right *time*. I do hate them.” Sellings led Egerton through the dark and unfurnished house.

“But why Dr. Happy?”

Sellings sighed. “In some of the tests we stimulated the brain to produce isolated emotions in our subjects. It was quite fascinating. We were able to isolate guilt, shame, regret, loss, impulsivity...all of them. But Bernadette and FNN just heard I was stimulating emotions so hence....Dr. Happy.”

“But why do they care about you and your work?” Egerton asked as they moved through a living room filled only with pristine wall-to-wall carpet. The harsh sun filtered through the drawn shades, giving the room a soft peach glow.

“I guess it could have been worse. I could have been Dr. Shame. That would have been bad.” Sellings led Egerton through the kitchen and down to the basement.

“Sellings, really you have to tell me what’s going on.”

“FNN cares about me young Simon because of Edward W. Bok. I was getting to that...don’t be so impatient. I was getting to that.”

“Who is Edward Bok?” Egerton asked as they stopped in a windowless basement. It was cool and crammed with a mess of computers and broadcasting equipment.

“Bok was one of my old lab assistants at Claxton Neuroscience. He started working with us early in the experiment, but we had to let him go. He failed his third psych test,” Sellings said as he woke up a bank of computers and a projector. “We couldn’t have crazy people messing with people’s brains.”

“So Bok murdered someone?” Egerton asked. “That’s what that news woman said.”

“Yes,” Sellings sighed as a 3D projection snapped to life. The back of the basement filled with a meticulous life-sized replica of a living room; on the floor was a dead woman. The details of the scene were perfect and unsettlingly. “To be more precise, Bok murdered this woman, Ruth Ashmore.” Sellings pointed at the body. His voice sounded weary for a moment, almost sad. “And before that, the crazy nut shot her poor son, Tony, as he sat in his car out in front of her house.” Selling switched the projection to show a replica of the front of the house, the car and the dead boy.

“What does this have to do with you?” Egerton asked. He walked toward the projection of the car, repulsed and curious.

“Bok didn’t know the woman or her son,” Sellings explained. “The investigator can’t find any connection between them save for the fact that Bok murdered them both. He lived across the street here in Maralinga Gardens. He had never even met them. But there is no doubt that he killed them.”

“Did Bok say why he did it?” Egerton was standing close to the dead boy, so close that he was worried he might catch the smell of the dead body.

“That is where I come in,” Sellings flipped the projection back to the living room and the dead woman on the floor. This put Egerton with his legs in middle of the couch. “Bok says that yes he did indeed kill Ruth and Tony but that he can’t be held accountable because he had no control of himself.”

“He’s pleading insanity?”

“Not exactly,” Sellings answered. “It’s not that simple. No, he’s saying he had no control over his actions. That he knew he was going to do it, that he had felt the urge coming on all morning but at the moment before the murder he had no control, that he couldn’t control himself, that in fact he had no free will to stop himself.”

“That’s ridiculous,” Egerton replied, leaning over Ruth’s body.

“Is it?” Sellings joined Egerton by the dead woman. “Because he’s right. There is no such thing as free will. That’s what I proved at Claxton. There is no neurological connection between the thoughts you think and the actions you take.”

“But what about...” Egerton wasn’t buying it.

“It’s true Simon,” Sellings replied, his face growing tight and serious. “I have all the data. Free will is humanity’s great delusion.”

“Ok,” Egerton held up his hand. “Let’s say I believe you. What are people supposed to do now that you’ve told us all that we’re deluded?”

All the color drained from Sellings face. He stepped close to Egerton, walking through the dead woman’s body. “That’s just it,” he whispered. “I know what people will do. That’s why I needed you to come here. I need your help. You have to help me stop it.”

“Stop what?” Egerton was lost once again.

“I know what happens...” Sellings started then stopped. “I *know*. They kill each other...” he whispered. “...and it’s all my fault.”

“That’s ridiculous,” Egerton stepped away from his mentor, uncomfortable and worried he shouldn’t have come.

“I wish it was,” Sellings turned off the projection and moved back to Egerton. “But you saw that woman on the highway...the one who ran her car into that ridiculous sign. She killed her children. I tell you Simon, it’s like a disease...the more people think about it...the more they try to control it...the brain begins to fall apart. People need the delusion to survive.”

“Stop it.”

“I drove her to do it,” Sellings kept going. “It’s true. While you drove here they looked into her past. Her name is Valerie Schwartz and until today she was the perfect wife and mother. No history of violence or mental illness...and yet today she killed her two children.”

“That’s crazy,” Egerton shook his head. “You can’t think that her accident has anything...”

“But she’s not the first Simon...she’s not the first. There have been twelve violent deaths in Maralinga in the past two days. It’s a plague and it’s only going to get worse.” Sellings covered his face; his thin dry fingers shook with fear and shame.

“Sellings,” Egerton tried to comfort his mentor. “This is crazy. There has to be another explanation...”

“There is no other explanation!” Sellings hands shot out and grabbed Egerton shoulders. “It was my pride. My father always told me my pride would ruin me.” The old man’s grip was surprisingly strong. “Once the FNN people found out Bok had worked for me, they called and asked my opinion. What could I tell them? I told them the truth but they didn’t believe me. So they invited me to come here,” he motioned to the empty basement. “To prove my theory. They said they would put me on TV, let me tell everyone what I’d found. Those idiots at Claxton couldn’t stop me. That Samuels woman interviewed me here two nights ago.”

“So that’s what all this stuff is, for a TV interview?” Egerton still found it a little hard to look at Sellings.

“Yes,” Sellings spat in disgust. “It was the first of two interviews. She just asked me stupid background questions that set up my work at Claxton. But it was enough. Most of Maralinga was watching and that’s how it all started. Tonight is the final segment. Tonight they want me to talk about what I found...but I won’t...I can’t.”

“So cancel the interview,” Egerton replied. “Get out of here.”

Sellings laughed pitifully. “Ha! If only it was that easy. I have to lie at my deposition too. It’s in forty-five minutes. I have to lie. I’m ruined.” Sellings hid his face again.

“How can I help?” Egerton was desperate to snap the old man out of his mania.

“I want you to tell FNN about your failure.” Sellings answered quickly.

“My failure?”

“Yes. Everyone knows the trouble that you’ve been having with your work recently.” Sellings eyes were frantic. “I couldn’t ask you directly over the phone, my conversations are being recorded. Your robots...everyone knows you’ve got them thinking but you can’t get them to be self-aware.”

“Oh that,” Egerton replied. “That’s not a failure. That’s just their development. We’re making great progress...”

“But it *is* a great failure,” Sellings shook as he spoke. “It’s the same thing don’t you see? It’s free will. That’s how Bernadette will see it. That’s how everyone will see it. It’s how they must see it. I’ll testify that Claxton proves Bok to be a liar and he’ll go to jail. You’ll tell Bernadette that you cannot give your robots free will, that it is uniquely human, something only we humans have....”

“I see,” Egerton replied after a moment.

“If you don’t Simon more people will die.”

“Alright, I understand,” Egerton was exhausted and defeated. “But I won’t lie for you Sellings. I’ll tell them what I know but I won’t lie.”

“You don’t have to,” Sellings beamed with hope. “Bernadette and the crew will be over tonight for the broadcast.”

“They just want to interview me?” Egerton asked.

“Yes just an interview,” Sellings’ mood lightened even more. “I need to go down to the court now but you should stay here. Thank you, Simon. Thank you so very much.”

Ruth Ashmore lay dead on the floor of her bland living room. Egerton stood over her body and worried about the interview. Bok had shot the woman twice in the chest and then once in the forehead. Blood soaked the carpet and Egerton could see gore splattered on the wall.

“Tell me Ruth Ashmore did you know you didn’t have free will?” Egerton asked the dead woman. “Nah you were just fine.” Egerton switched the projection back to the front of the house and walked over to Tony. “Tony, did your mother ever tell you you didn’t have free will?” Egerton chuckled at himself and thought of Sellings. He felt ridiculous and trapped. He looked at the poor dead boy and said, “I bet your mother never told you...” then stopped.

Inspiration fluttered across his mind with the speed of a camera flash and the force a hurricane. It was so simple. He understood how to give Jimmy his own free will. It was wonderful and simple and he felt ridiculous for not thinking of it before.

Egerton scanned the basement. He had to get out of Maralinga Gardens as quickly as possible. There was no way he could talk to FNN now. Frantically Egerton searched for his phone and dialed.

“Maralinga Rentals, this is Frances. If you have to be here, then you HAVE to be HERE. How can I help you?”

“Hello Francis, this is Simon Egerton.”

“You didn’t wreck the car did you?”

“No,” Egerton smiled. “The car is fine. But Frances has the shuttle left yet? Today’s shuttle?”

“What?” the girl was puzzled for a moment. “Oh no, it’s still here.” She looked away from the phone then came back. “It’s just getting ready to go. Why?”

“Can you book me on it?” Egerton asked. “Something came up. I have to go back home right away. I have to be on that shuttle.”

The beast of a car roared to life and clawed at the road when Egerton let it free. He raced down the empty suburban street, barely keeping control. Twice the car ran up onto the side walk and Egerton had to wrestle it back into the street. Just when he felt like he was getting the hang of the modified machine he saw the FNN news truck coming at him.

“No. No. No!” Egerton yelled as they passed him. Bernadette Samuels looked down at him, confused and then shocked.

Egerton panicked. He gunned the engine into a sharp turn. The car slid across the corner, knocking down the Anangu Way street sign. The news truck made a sharp u-turn and sped after him. Egerton couldn’t let Bernadette interview him or get him on camera. He had to get out of Maralinga Gardens.

Launching out of the subdivision, Egerton aimed the car toward the shuttle port. FNN tried to close in but the burly engine left them in its dust. Just like earlier, the highway was mostly empty. The few cars Egerton did pass swerved to get out of his way when he tore past them. Nervously, he checked the rear cameras, waiting to see a police cruiser trying to over take him. But it was the front windshield that filled with the flashing lights of police cruisers and first responder vehicles. They blocked the highway completely. Fighting the car, Egerton got it to slow down in time to catch sight of a small gap in the vehicles and an officer waving him through, slowing him down.

Once again the surface of the highway was covered with a delicate and dangerous blanket of glass. Egerton’s pulse quickened when he saw the tangle of smashed cars and the limp bodies being pulled from them. Two person EMT teams fought frantically to keep the living alive. A stoic officer covered a dead woman’s face with his blast-resistant vest.

“You have to listen to me!” an executive pleaded with an EMT. “You don’t understand...” his white shirt was sprayed with blood. One of his shirt cuffs was missing.

A nimble panic shivered through Egerton. Worried he might be contaminated by the accident’s insanity he abruptly exited the highway.

Tidy office parks and executive meeting centers blurred past. Maralinga’s business district was deserted. Egerton wondered if the few remaining executives were hiding out in their offices. The late day sun reflected off buildings’ mirrored windows as if the power brokers were trying to send him coded messages.

Nearing the shuttle port, Egerton slowed the car not wanting to draw too much attention to himself. He had made it this far without getting pulled over and he didn't want to risk it.

He returned the car to its petite parking lot outside the main concourse. Climbing from the car he saw the FNN news vehicle tearing towards him, reckless and at top speed.

Egerton sprinted into the concourse.

"Frances!" he yelled and ran over to the plump girl. "Were you able to do it? Did you get me on?"

"You wrecked the car didn't you?" she asked matter-of-factly. "Really I don't care. It's just, *you know*, my boss is going too..."

"I did scratch it against a street sign, but you can bill me for it," Egerton tried to calm down. He didn't want to scare the girl. "Were you able to get me on the shuttle?"

"You know that's *like* illegal right?" She fussed with her glasses. "But *you know* because my dad's on the council and all..."

Egerton leaned over the counter and kissed Frances on the forehead. "Thank you Frances. Thank you. Thank you. Thank you." Egerton slid her the rental keys and ran for the terminal.

"Sure but I..."

Bernadette Samuels and her news crew stormed through the door.

"This is Bernadette Samuels for FNN," she was broadcasting as they ran. "We are chasing renowned roboticist and artificial intelligence expert Dr. Simon Egerton who has refused us an interview about the Bok murder case."

"I have a reservation on the shuttle," Egerton said to the massive aboriginal security guard, trying not to sound out of breath. He handed him his passport.

"Listen old fella, you in big hurry inna? You reckon you are leaving?" the guard asked studying the papers.

"Something has come up and I need to get back to my work." Egerton looked over his shoulder and saw the light crowds clearing to make room for the FNN crew. "Am I in time?"

"Yiwi," the guard handed the passport back. "They been holding that big mudugor you, inna. We only got'em but one mudagar today...you gotta hurry up!" The guard ushered Egerton into the security area.

"It's unclear why the doctor is refusing us an interview," Bernadette panted into her mic. "Is there something he doesn't want us to know? Does he have some evidence in the Bok murder case that he doesn't want to get out? Dr. Happy is giving his first deposition right at this very moment."

The crew ran up against the guard.

"We need to get through," Bernadette pointed at Egerton as he moved out of the security area to the waiting shuttle.

“You don’t have a reservation for the shuttle,” the guard replied coolly, staring down at the sweating crew.

“No,” Bernadette replied, leaning past the guard trying to keep an eye on Egerton’s progress. “But we must get through. That man has crucial evidence in the Bok murder case.”

“You white fella all the same...always in a big hurry,” the guard smiled and shurged. “But if you don’t gott’em but reservation, been staying here, inna.”

“Jimmy will you fix me and Dr. Freeman a drink?” Egerton asked.

“Sure thing,” the bot replied cheerfully. “As I remember Dr. Freeman likes Traditional Pimms number one...”

“That would be lovely Jimmy,” Sellings replied with an astonished smile. “Thank you for remembering.”

“No problem at all,” Jimmy answered then set about making the drinks.

Egerton and Sellings sat in Egerton’s cramped apartment in the clog of stations that ringed Earth.

“Simon, he really is a silly robot,” Sellings said watching Jimmy’s small child-like body work at the bar.

“I know,” Egerton grinned, pleased Jimmy. “He’s a funny little guy but he keeps me company...” he trailed off then added, “...he’s the first one, you know. Jimmy will do down in history.”

“Yes, yes, yes...I read your paper and saw your telecast,” Sellings replied, unable to hide his annoyance. “*Teaching Free Will as an Alternative to Metathought Safeguards*... you couldn’t have thought of a catchier title?”

“I hope you’re not too mad at me.” Egerton was sheepish. “I had to leave Maralinga. I didn’t want to leave you like that but I couldn’t lie and when I finally figured it out I just couldn’t...”

“I understand,” Sellings didn’t hide his dissatisfaction. “I was more confused when I heard. Bridgette was livid.”

“I saw Bok got life in prison,” Egerton said, trying to move on.

“Yes,” Sellings sighed. “My lie locked up a murderer, ended my career and saved Maralinga Gardens.”

“Your career isn’t over...”

“Stop,” Sellings waved his hand in front of his face. “Let an old man be bitter if I want to. Yes. Yes. I still have work but it’s not the same.”

“But seriously Sellings,” Egerton had rehearsed the next words for several weeks. “I do have you to thank for helping me. If I hadn’t come to Maralinga...”

“Shut up Simon!” Sellings interrupted. “I don’t care about your speech. Just tell me what you did.” He pointed at Jimmy. “What did you do?”

“I just told him he was free,” Egerton laughed. “That’s it. It was simple. I taught him he had free will. That’s it really. Then everything changed.”

Sellings sucked in air with astonishment. “That’s it? How funny...”

There was a gentle pause in the conversation as both men played around with their own thoughts.

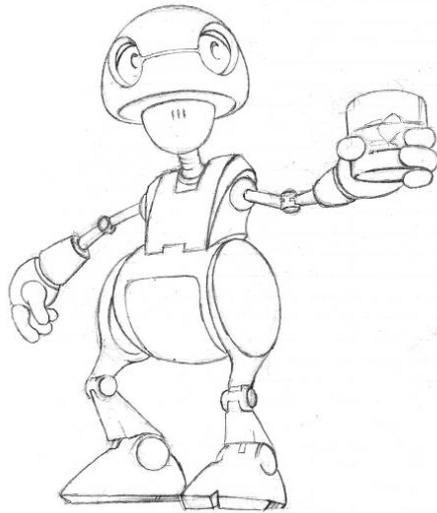
“There’s just one thing,” Egerton interrupted as Jimmy returned with the drinks.

Sellings took a sip of his Pimms and replied, “What’s that?”

“Well...”, Egerton paused. “I think Jimmy is developing a soul.”

“Really?” Sellings stared at the cheerful little bot and the cheerful little bot stared back.

“How’s your drink Dr. Freeman?” Jimmy asked.



2. Epilogue – Building Jimmy – “The Gin and Tonic Test”

Arguably the greatest creation of the Dr. Simon Egerton SF prototypes is the character of Jimmy. Not only does Jimmy embody the three scientific inputs from Brooks, Zizzi, Egerton, Callaghan and Clarke but he also provides the scientist a way to explore the implications of their AI approach.

After the development of *Brain Machines*, I submitted the SF prototype to Egerton, Callaghan and Clarke for review. After a review of the story Egerton replied, “That’s it.

The scene where Jimmy is making the gin and tonics. That’s the test of the multiple personas and the quantum transfer block! We must build Jimmy!”

Brian Machines had achieved it’s goal as a SF prototype. It had taken the emerging science of Brooks and Zizzi and explores the implications of Egerton, Callaghan and Clarke’s novel approach to AI. In the exploration it has synthesized the ideas into a single experiment that could test the theories expressed in the original paper. The scene where Jimmy is challenged to make multiple gin and tonics, provided the scientists with a scenarios that they could build and test. Thus the “Gin and Tonic Test” was born.

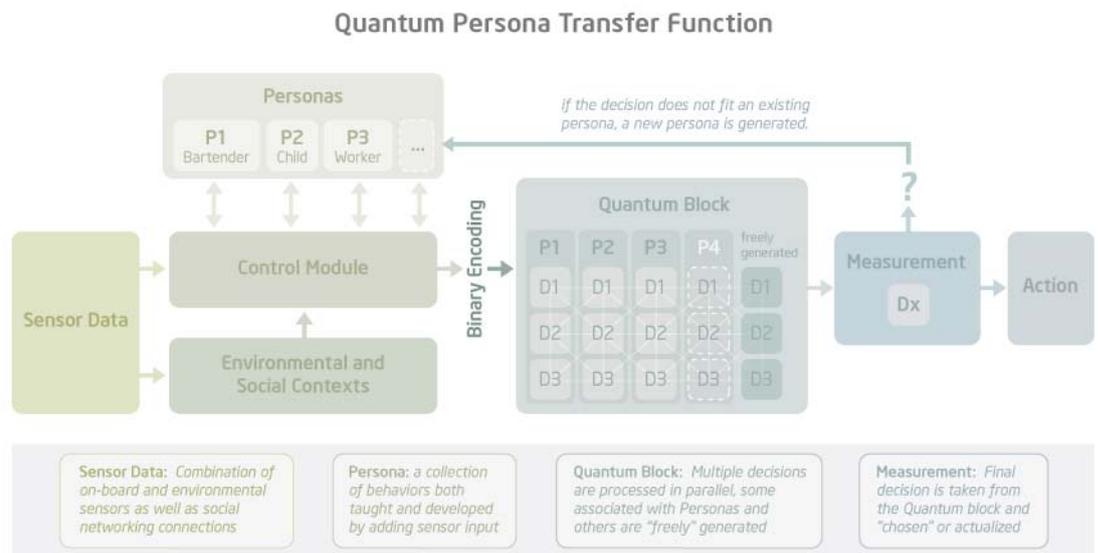


Figure 1. A unified system diagram from the SF Prototype *Brain Machines* that unifies multiple personas, the control module and the quantum block into a single experiment

The “Gin and Tonic Test” synthesized the various components of the AI theory, unifying them into a single scenario. (Figure 1)

Currently, Jimmy is being constructed in an experiment that tests the quantum block against a random persona transfer as well as a single deterministic approach. The results of the experiment will illuminate the benefits of the AI theory, allowing the scientists to continue to refine their work. The results of the “Gin and Tonic Test” may have one other consequence. If indeed we can get Jimmy to ask “Why” you are not drinking the gin and tonics then we might be witnessing the first glimmer of free will in an AI.

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