

In a Metal Shell

Chapter 1: Awakening

"Can you wiggle your finger Will?"

Will did not know what a finger was or what was being said. He did not even know that his name was Will, but he felt something stir on his right side.

"Very nice," said the woman in front of him. The man beside her looked at Will intensely.

"Is he conscious now?" he asked.

"Oh yes," said the woman, "but his conscious self is like a newborn baby. He doesn't understand anything, and he may not be self-aware in the way a baby would be. We have to train his mind to build the connections between the living neurons and the circuits inside. For now we need to test all the moving parts of his body to check if everything works as it should. The artificial neural networks inside him will be in control until his living neurons have been fully trained."

Turning her attention to Will once more she said: "Now move your left foot".

After 2 hours of intensive training Will was somewhat able to walk. It didn't feel like it was him walking, but rather as if it was him being walked. He was then led back to his room. There were so many impressions, visually as audible. Then the itching started. At first it was a bit of itching on the left arm, then both arms, then the back, and soon the whole body. It felt unbearable, but there was nothing he could do about it. He felt there should be coming tears out of his eyes, but even if his artificial eyes had been equipped with tear ducts, he would not have been able to cry. Then his eyes started to burn. All his instincts told him to do something about the pain, but there was nothing he could do. And so the first thing he learned was how to endure. But the thing about chronic pain and chronic irritation is you never quite get used to it. And after 24 hours in hell when they came for him next the pain was still there.

"We'll be training his language module today," the woman said. It was the same woman from yesterday, and the man from yesterday was there also, along with a third woman. Will did not know that they were men and women though.

"Dorothy will be in charge of today's procedure. She will be explaining what happens in each step."

"First we switch on the language module. It is not yet receiving inputs from his living neurons." Dorothy tapped on her tablet. "There, switched on. And so now we test them to see if they are functioning." To Will she said: "Will, can you hear me."

"I hear you clearly," Will said. Will heard the speech coming out of his metallic mouth but did not know that it was him speaking. And in some sense it wasn't.

"Language module is functioning," Dorothy said. "Next step is testing it thoroughly. It has been trained and tested prior to insertion so it should work perfectly, but we want to be absolutely sure. And it has to be calibrated to work with the logic module and with the other modules"

Dorothy kept asking Will questions, and Will answered, only it wasn't him answering. And he didn't care much either, because all he could think of was the itching and the pain. When she was finally satisfied, she said:

"That's it, everything's working perfectly. Now we need to open the connection to his living neurons. Isabel should be here for this."

The other woman walked out of the room, and a while later came in with a third woman.

"Hello Miriam, hello Henry," Isabel said. They greeted her. Dorothy continued where she had left off:

"I will now open the connections to the living neurons." She tapped on her tablet.

A faint whining noise came out of Will's mouth. And after a few seconds it started to grow in volume.

"Something must be wrong with the connections," Dorothy said. "The neurons seem fine and healthy, although stress levels are a bit raised, which is to be expected."

"I'm not so sure about that," Isabel said. "Try sedating the neurons with a medium pain killer."

"Isabel, in all respect, this is outside your field of expertise," Dorothy said.

"Just do it for christ sake," Miriam said. "That noise is unbearable." The whining had now changed character and sounded more like a scream.

"Ok then," Dorothy muttered and tapped her tablet.

Will immediately felt the pain subside, and the itching go away. He stopped screaming.

"hmm," Dorothy said. "Will, were you in pain?"

It took a few seconds before Will responded. First the language module had to translate what he heard into symbolic meaning that was then translated into signals sent to the neuron connections. Then the living neurons had to make sense of the signals before giving response, which was in turn translated by the language module into speech.

"I'd like a piece of cheese to go with my bread please," Will said. Will did not know the meaning of what he said and why he said it.

Dorothy sighed. "This is going to take time. Isabel and I should start training his language skills. No need for you and Henry to stay for this," she told Miriam.

"Ok," Miriam said. "Henry, I will call you when there is progress if you still want to follow the procedure."

"I do Miriam," Henry said. "It is my job to get to get to know Will, and I think of this as part of getting to know him."

"Very well, we'll leave you two to it. Let me know how the proceeding progress." Miriam and Henry left.

Dorothy fetched a large box from a shelf. She opened a box and picked up an item from the box. It was a screwdriver. She held it up in front of Will.

"Will, can you tell me, what is this?"

"It is a screwdriver," Will said.

"That was spot on," Isabel said. "I thought it would take a lot of training before he could do that?"

"The question was a simple one that his AI circuits could handle, so his living neurons were not needed in order to produce meaningful response. He would still have been able to produce another response had he wanted to, but I assume that right now his mind is in listening mode so any signal that might have come from his neurons would be overpowered by the response produced by the AI. So this is a way for his neurons to learn. Learning by doing you might say." Dorothy smiled.

"Ah, so this is how we train his language skills," Isabel said. "That makes sense."

"Yes, but doing it this way would take too long, so I am going to show him some images instead."

Dorothy set up the whitescreen and turned on the projector. She then brought a laptop to where they were sitting and started a programmed session. One image after another was projected on the whitescreen while a voice asked the question: "What do you see on this image?" Each time Will answered, and he answered correctly every time. After an hour with the computer running images, Isabel said:

“I think you need to give him a break. As long as we can’t communicate with his biological core we don’t know how he is coping with all this. Even though he is partly sedated I think it is important to consider his stress levels.”

“Very well,” said Dorothy. “Let’s take 15 minutes break. But I am going to keep him in listening mode for the next couple of days while we train the foundation of his language skills. After that we can start testing regularly for comprehensible neuron output.”

Chapter 2: Learning

The next days Will was training language skills. He was aware of what was going on, but he did not understand. Days became weeks, and slowly he began to understand. Words and sentences started to make sense. Isabel would regularly ask him questions such as “Which colour do you prefer?” or “Would you prefer to do word training today or would you rather do grammar training?” The listening mode had been switched off for some time, and Will was starting to do things on his own initiative, like asking questions or taking a walk around his room, examining things, when one day Isabel came alone to his room.

“How are you doing Will?” Isabel asked.

“I am fine,” Will answered. It was more a reflex response than an actual answer to the inquiry to his wellbeing, as he had nothing to compare his present state of mind to. Each day was like any other.

“Do you remember what happened some weeks ago when you first woke up?” Isabel asked. “You seemed to be screaming. Were you in pain?”

“I..I was itching I think. And my eyes were...burning? It still feels like there is..blood coming out of my eyes. Is there? Blood?”

“Will, your eyes are not organic. They can’t bleed,” Isabel said. “What you feel are a kind of..phantom pain. It’s not real. Well, the pain is real, but it’s created by your brain, it has no real origin. I’ll ask Miriam if it will be possible to let you administer your own pain killer fluid through some kind of mind link function.”

“Thank you, Isabel,” Will said.

“Is there anything else I can do for you? Anything you want to tell me?”

“No. Well..no.”

“Please Will,” Isabel said. “If there is anything let me know. I only want to help.”

“Well..I..have the feeling that I want to touch you,” Will said.

“You can touch me Will.” Isabel took his metal hand in hers.

“I feel your hand, but..it doesn’t really feel like touching if you know what I mean.”

“Not sure I do Will. But it was right of you to tell me. We’ll have language training later today. See you then.”

“You’ll have to have the conversation with him soon,” Miriam said.

“I know,” Isabel responded.

“Soon,” Miriam repeated. “It seems to me you have been stalling. I’m sometimes wondering whether your emotions are getting in the way of you thinking clearly in this?”

“I’m a professional psychologist Miriam. I don’t think you need to worry about me. I know how to do my job.”

“Good. But nevertheless a warning: Do not get too emotionally attached.

“I’ll talk to him at next coming opportunity,” Isabel said.

“Welcome to grade school!” Dorothy said and switched on the projector. The words “Grade School level 1 – Math 1” appeared on the whitescreen. Will was excited.

“Thank you, Dorothy,” Miriam said. “I’ll take over from here. Will, you already know the numbers. Time for you to find out what you can do with them.”

Will learned math all day, first an introduction to math made by Miriam, then he continued with interactive learning at the computer. His logic and reasoning modules made sure that everything was easy for him, and that he progressed quite fast. At the end of the day he went to his bed and prepared to go into sleep mode when he heard a knocking on the door.

“Come in,” he answered. He had learned that this was the correct answer to a knock at the door. He had learned so much since he woke up the first time.

“It’s me, Isabel. I bring you a present.”

“A present? For me?” Will did not know how to react.

“Yes, Will. It’s a mirror. I’ll place it by the wall here.” Isabel took the man-sized mirror she was carrying and placed it like she said she would. Will was curious.

“Now stand in front of the mirror, Will,” Isabel said. “As you see it shows yourself in full figure. This is how you look.”

“Will studied his reflection in the mirror with great interest. It reminded him most of one of the images he had been shown that was labelled ‘robot’.”

“Am I a robot?” Will asked.

“Not exactly. Let me tell you something about yourself. Come, let us sit.” They sat down.

“You were not always like this Will. Once you were a man, looking like Miriam, Dorothy, Henry and me, well more like Henry because Henry is a man. You were in an accident, and most of your body was damaged beyond repair. The doctors kept you alive with machines, and a decision was made to save your life the only way it could be saved: By transplanting your brain into the metal body you see in the mirror. It was a delicate procedure, they had to cut the brain’s connections to your nervous system one connection at a time, replacing them with chip connections that were bio-welded to your brain, all the time making sure that your brain got the blood, oxygen and nutrients needed to keep it alive. The procedure was a success, except that you lost your memory. These last few months we have been retraining your brain in order for you to relearn what you forgot. And we thought that now you were ready to be told the story of your past. What do you think of all this I am telling you Will?”

Will thought that the story was amazing but made sense, and he somehow liked the idea that he was in reality a man and not a robot. And yet something, like tiny hesitations in Isabel’s voice, barely noticeable, that was caught by his reasoning module and made him vary. And he for the first time decided not to be 100% trusty and honest.

“It sounds amazing what you have done for me, to keep me alive. It’s an amazing story, but it makes sense to me. I can feel the questions build up though, like who was I, how was my past life, and things like that.”

“We’ll have answers to your questions later,” Isabel said. “There are photos of how you looked like before the accident, and we have details about your past life. I can tell you right now that you were a fighter pilot, and the accident was a plane crash. That’s it for now. I’ll leave you to get your sleep, and I’ll see you in the morning.”

The next day Will was shown photos of his past life as a pilot, and he found out that his full name was Will Johnson.

“We could tell you about your past family life too, and of your life before becoming a fighter pilot, but it would do no good Will,” Miriam said. “You have no memory of your family, and your family remember you as another person, so letting you meet your past family would only bring misery.

Which is why that after the brain transplant you were announced as dead. A funeral was held, and now your past life is in the past. You can't go back, but you can go forward. Henry?"

"Yes, that is right Will," Henry said. "I am an officer in the air force, and I want you to know that if you want to, and if you are willing to do what it takes and learn the necessary skills, we'll still have a place for you in the air force. Would you like that Will? You don't have to answer right now."

Will decided he would work to become a fighter pilot, mostly because he didn't know what else he should do. And because it was obviously expected of him. Henry trained his coordination skills through table tennis, real tennis, and various ball games. And in the evenings he would play video action games to train his reactions and fast thinking. In the school program he had reached high school. After some time Henry also introduced him to a flight simulator. Will immediately got a thrill out of using the flight simulator, and he quickly became quite good at it.

"It's probably because your brain still remembers something from your past life," Henry said.

It was evening and Will was on the way to his room when he suddenly decided to explore the facility. What he had seen so far was white corridors with doors into rooms. He had not seen any windows as the ones he had been shown on some of the videos he had been shown as part of his teaching. This was very much a closed little world. Will took a turn down one of the side corridors. There were more doors and more side corridors. One of the doors had the text 'Restricted Access' written on it in big letters. Will's first instinct was to leave it alone as he had left all the other doors alone, and especially this one since it was obviously off limit to him. Besides it was probably locked. But another instinct told him to investigate. Was it curiosity? He pulled the handle and felt that although there was a lock the door had not fully closed. It opened up and revealed another corridor. As he stepped into it the light switched on.

Will checked that the door could be unlocked from the inside and closed the door behind him. He proceeded down the corridor. Will opened the first door to the right and stepped into a large office, with bookcases lining the walls. A few workstations with computers were placed in the center of the room. He went on to the next door on the left. He entered a room with rows of long tables. On the tables were various laboratory equipment, like microscopes, petri dishes and various boxes with power cords connected to them. A few desks with computers was at the back of the room. Will walked there and sat down in front of a computer. He turned it on. A standard desktop appeared on the screen with several icons, and as he looked closer he found that one of the icons was named 'Project Will'. He clicked it, and started reading:

Summary

Project Will is an attempt to create a robot with a core brain consisting of living neurons on a chip. The idea of growing neurons on a chip and have it interface other electronics have shown good results, and so the green light have been given for implementing it into a robot. The robot is expected to be conscious, but the biological neurons are not expected to add to the robots skills or intelligence beyond what traditional AI could accomplish. However, as AI of that kind is forbidden by law since the end of the great mech war, this will be a work-around. The laws disapprove of biocomputing as well, but if the robot is presented as a cyborg instead, perhaps as the result of a brain transplant, the government should have no problem accepting it into the military...

Will did not read further. He was chocked, but he knew that he had to get out of the lab immediately, and then pretend he was never there or had not seen what he had seen. He shut down the computer and made sure to leave everything as he found it, then left the lab, walked down the corridor and stopped at the door leading in to the restricted area. He carefully unlocked the door and opened it slightly. He heard no sound, and so dared to open the door fully. He was

alone. He left the door as he found it, closed but not clicked completely shut, then walked to his room. It took a while before he fell asleep, and before he did, he made a promise to himself not to trust anyone ever again.

Chapter 3: Up in the Air

Will finished high school and then college level teachings, and then Henry took him through an intensive pilot training program. A more advanced flight simulator that was a replica of an actual fighter plane cockpit was installed. Will always looked forward to flight training as it always gave him a sense of freedom that stood in contrast to the usual sense of being confined – in the facility and in his own body. Henry told him that he was showing great promise in the flight simulator, and that he was, in the simulator at least, on level with some of the best existing pilots, and Will could not help feeling a bit of that pride that he expressed towards Henry. Eventually he passed as much of flight school as he could without any real practical experience.

“It is time for us to say goodbye,” Miriam said.

They were all gathered in the room where most of the schooling had taken place. Will pretended to be sad about leaving. In truth he saw this as new opportunities opening for him, although he had no idea what he could do to alter his destiny. But as he had learned from his time practicing chess, it is always a good idea to try and maximize your opportunities, even if you don’t know what to do with them at the moment.

Goodbyes were said and words exchanged, and then Henry put a cover around his eyes.

“This is a secret facility,” Henry said. “We don’t want anyone to know its location, and for your own sake it is better if you don’t know either. It will make your life simpler.”

They walked down some corridors and from what Will could tell from his sense of direction away from known locations. He felt they stepped into a very small confined space and after a short while there was a sense of pressure from underneath. Will assumed he was in an elevator going up. He had never been in an elevator before, but he knew about them from videos and movies.

They stepped out into what appeared to be another corridor, and immediately Will could smell that the air was different here. Suddenly he sensed, even through his eye cover, that brightness was increasing.

“There are steps down here,” Henry told him. Will stepped forward carefully and descended down a flight of stairs. At the end of the stairs he felt himself step on different ground, more yielding than the floors he was used to, and the sound from his footsteps was different too. He assumed he was walking on some grainy material although still on firm ground.

“We need to get into a car now,” Henry said. Henry helped him get into the car, started the engine and started driving. This was a new experience for Will. They drove for a while in silence, and then Henry started to speak:

“It will take some time to get to the military flight school, but that is fine because it gives me some time to prepare you for what you will meet once you get there. You should know that the first thing that will happen is that you will be the center of attention. Some will just be curious and ask you questions, but others will be reserved, or hostile even. The other flight school students have been briefed about you, and we have had a talk about it in order to disarm the worst animosity at the outset, but a bit of hostility may not be avoided. You will probably experience this as mocking. Don’t let it get to you. If it becomes a problem for you come to me, and I will help you in any way I can. We have a zero tolerance for violence, and given your ... body structure, you will have a clear

physical advantage that makes it very important that you don't react physically no matter the circumstances."

Henry continued: "We also need to give you a call sign. I was thinking about Iron Man. What do you think?"

Will thought for a while, then said: "I'm thinking about what you said, with potential mocking. Maybe it would be a good thing to select a more humble call sign. How about Tin Man?"

"Tin Man it is then," said Henry. He continued to tell about the flight school and to give Will all the practical information he needed, and then they drove on in silence for a while. Eventually Henry said: "I'm going to uncover your eyes now," and removed the cover from Will's eyes.

Will took notice of the position of the sun. He had a quite precise inner clock and so knew how long time they had been driving. He also made an inner note of how fast they were driving. It would be impossible for Will to later pinpoint the exact location of their origin, but at least, once they reached their destination and they got hold of a map, he would be able to calculate the approximate area. For what use he did not know, but it seemed to him knowing more was better than knowing less. He held back on his instinct to start asking questions about their location though. And he further noticed that they were driving through desert landscape. After a while they came upon some road signs, and Will also made mental note of what the signs said.

The flight school was located in a green park area. As they drove into the area Will noticed that people were staring at him, just as Henry said they would. Will was nervous, but managed to calm himself. People just had to get used to him he thought. They drove up to the central building which was the mess hall, Henry explained. "We might as well get this over with," he said. "I'm going to introduce you to the other flight students."

When they stepped into the mess hall there was high noise from people talking. Then slowly as people eyed Will the noise subsided.

"What, we have robots join the airforce now?" someone said.

"If that's my new mechanic I'd like to change my call sign to 'Skywalker'," another voice broke in.

"No Starbuck, it's the cylons coming!" a third guy said.

More comments like that kept coming until Henry called it to a stop.

"Everybody, listen up! This is Will Johnson, and he is not a robot, but a human pilot who was in an accident. And it is only thanks to some skilled doctors and engineers that he is standing before you now. His brain is his own but has found a new home in a mechanical body. He is going to join the airforce as a pilot once more. So I'd like you to welcome him and treat him as the hero he is, with the respect he deserves. And that's enough introduction for now. There'll be plenty of time later for you to get acquainted."

Henry and Will stepped out of the mess hall and headed towards the office building. Once inside they went through a hallway and entered a large room with a large desk and a large round table. Henry greeted the officers inside and then introduced Will. It was clear that they had been briefed about Will before their arrival. Then they all sat down at the round table. The other officers had all sorts of questions for Will, most of a practical character, like did he need intake of any kind, and what was his daily needs overall. And questions that tested his mental abilities. Will told them what he had been told himself, that his organic inner parts was a closed system that only required electricity charging on a daily basis, and a nutrients pack once a week. Also once a week his waste cartridge had to be replaced, allowing him to get rid of waste products in his blood streams. He answered the test questions to the best of his abilities, and judged from the looks on the faces around him that the officers were satisfied with his answers.

A man who had been sitting in a chair near the door was waved to join them at the table.

"Steve Riley, meet Will Johnson, your new wingman," one of the officers said.

“Pleased to meet you Will,” Steve said smiling, extending his hand. Will shook his hand and applied pressure for what he thought would be a suitable firm handshake.

“Pleased to meet you Steve,” Will replied.

“Will will also be your next door neighbour in the living quarters,” the officer continued. “I’ll charge you with the duty of guiding Will to his room and introduce him to life in the camp. You two should get acquainted.”

As Will and Steve was leaving the office building, Steve asked:

“So what’s your call sign?”

“Tin Man,” Will answered.

“Hmm, who gave you that name?” Steve asked.

“I did,” Will said. “I thought it would end up in that alley anyways, and then I might as well choose one I could live with.”

“Yeah, well, it’s nice that the doctors could save you, I’m sure, but I guess life in a metal body is not easy, especially social life. For all it’s worth I’ll do my best to be your friend for as long as we are here.”

“That’s nice of you,” Will said. “I’m sure I will need all the friends I can get.” Will tried to say the last sentence in a tone of light humour, but didn’t think he succeeded. His own voice always sounded very monotonous, he thought. They walked to the living quarters building and to their rooms. As they opened the door to Will’s room, Will invited Steve inside to talk.

“I never got your call name,” Will said.

“I’m Starman,” Steve said.

“That’s a nice name,” Will said politely. “What’s the story behind that?”

“I’m into astronomy,” Steve said.

Will had 2 weeks of introductory teaching in which he had to attend theory classes while also receiving extra teaching aimed at bringing him up to date with the program. He had no problems learning the theory and was soon on line with any of the other students. On the third week he was ready for his first flight. It was a simple airplane model, not a fighter jet, and easy to fly he was told, if he followed instructions. Will climbed into the cockpit and checked that it was identical to one he had gotten familiar with in some of his many simulator flights. He was told to switch on the engine, so he did. He started out the runway, and accelerated. Then, at the correct speed he took off the runway. What Will felt then was a different feeling from that in the simulator. He felt a rush going through him, and for the first time in his short life he felt something close to happiness. Will continued to climb and felt himself being in total control of the airplane. It was a nice sensation.

He resisted the temptation to make some bold moves to increase the fun factor, and instead he simply followed instructions and went into cruise mode. Being up there, in the air, was pure bliss, and when he was instructed to land the plane he only reluctantly turned the plane around. Landing was the hardest part he knew, but he was 100% confident and in control. He came in at just the right angle and speed, but then a thought occurred to him. If he aced everything he would surely instill envy and suspicion amongst the other students, and maybe also make Henry and whoever else knew of his true origin nervous. Will adjusted the speed and angle a tiny bit, just enough so that the landing would not be perfect. He closed down on the runway and felt a bump as the wheels touched the ground. His first flight was over, but there would be many more to come. Will was close to happy. For the first time he had felt truly alive.

Chapter 4: The UN Inquiry

It didn't take long before Will was cleared for a more advanced airplane and was able to participate in group exercises. The others quickly came to respect his skills as a pilot, but on the ground he was never really part of the team. Since he did not need or was able to eat and drink he never went to the mess hall or the bar. And the others were not quite able to see beyond his robot appearance and recognize the human within. With the exception of Steve. They often sat in the evening talking about all sorts of topics, mostly scientific, and often astronomy, which was Steve's favourite subject.

Eventually they got around to flying the modern fighter jets. Will immediately felt comfortable in the cockpit, not frightened by the many controls, since he had practised countless times in the simulator, and he was quite good at remembering things. When he started the acceleration on the runway he felt the pressure in his back, but it didn't bother him like it would have if his body had been human. His mechanical body was able to withstand much higher g-forces than any human body.

As the plane lifted from the ground, Will began to explore the flight capabilities of the airplane in details. He was bound by the instructions given for the exercise, so he could not push the plane to its limits as he would have preferred, but there would be time for that later he thought. For the time being he could just enjoy himself as he was cruising through the sky. He flew up alongside Steve, slightly behind as instructed, and prepared himself for the dogfight, which he knew they would win. It was a great day.

Will quickly became top of his class, and words about him spread. One day he was called to the office building. Henry was there, along with two other officers and a few civilians he did not know. Henry told him: "Will, word of you has spread to other countries, who are now accusing us for breaking the rules of war. The accusation refers to a rule that states that AI or biocomputing must not be applied for military purposes. This is ridiculous of course, as you are a human being and not a computer or a robot, but the UN has initiated an inquiry into the matter, and so we have to go to the UN building to defend our point of view. You will be accompanied by me and a few other officers, along with some lawyers."

This was the first time Will had been outside of camp, and as they drove through the city he was looking out the window all the way, taking in all the new impressions. Will had been free to leave camp any time, but he knew that people outside would automatically mistake him for a robot, and so he stayed in camp. This was an opportunity though to see the world outside.

They went immediately to the big conference room where the debate were to take place. A lot of people from different countries were seated already. Miriam was there too. Will and the officers were led to their seats. Soon after the meeting began.

The chairperson started out, outlining what the dispute was about, then gave the word to the prosecutor. Although the meeting wasn't formally a case in a court, it seemed to be conducted as such. Several people were asked questions, including Will, and Will answered truthfully, except that he did not mention what he had learned about his true origin. He knew not what would happen if he did, or if anyone would actually believe him. Right now he got to be somewhat happy at least sometimes. Once both parties had spoken and all relevant people had been questioned it was time for the council to make a decision. Will and the others had to leave until a decision was made. Will asked for permission to explore a bit on his own, and permission was granted.

Will had wandered a bit away from the crowd and was looking out of the window when a man walked up to him.

"Hello," the man said. "My name is Roy. I hope I am not intruding, but I just could not miss out on the opportunity to meet the one whom all the fuss is about."

"Hello," said Will, "no, that is quite alright, just standing here passing the time anyways. Pleased to meet you." His only regret was that he had to turn his attention away from the window view.

"I am from the Martian delegation," Roy said, "and I am currently stationed at the Martian embassy here in New York."

"A martian? I have a friend of mine who will be quite envious when I tell him that I met a martian."

"I am flattered. But listen, I am curious, have anything else been done to improve on your condition?" Roy asked.

"I am not sure what you mean," Will answered, "The operation went fine I was told, and my vitals are as good as can be expected."

"Oh I am sorry," Roy said. "I did not mean to be rude. It is just that on Mars we have some very skilled bioengineers who might have been able to restore your body. I am no scientist so don't hold me up on this, but believe me, they can work wonders. Should you ever find yourself on Mars you should pay them a visit." Roy smiled, and Will tried to read his face but could not.

"I'll remember that, should I ever find myself on Mars." Will tried to say it in a light tone, but deep inside a small flicker of hope had been lit.

The council finally reached a decision. Will was allowed to stay in the military and work as a pilot since he was considered 'a human being with body parts replaced by mechanical parts due to injury and severe handicap'. Henry and the other officers were satisfied, and they all headed home to the base. Will again looked out the window as they drove through the city, but this time he wasn't paying much attention to what he was looking at. Instead he was thinking of Mars.

Chapter 5: Astronomy

From now on, Will started to take greater interest in Steve's favourite subject: Astronomy. Steve had a telescope and enjoyed to sometimes watch the stars and planets at night. He was only happy when Will expressed interest in joining in on the starwatching.

"Where are the planets tonight?" Will asked one night when they were out watching. Steve pointed out the planets, one by one.

"And Mars is the one closest to us?" Will asked. He already knew the answer, but wanted to steer the conversation towards Mars.

"Next to Venus," Steve said. "That is, the Moon is much closer, but that is not a planet."

"How close exactly is Mars to Earth?" Will wanted to know.

"Well, that depends. They are both orbiting the Sun but at different angular velocity, so sometimes they are closer than other times. But when they are closest, which happens about every two years, they are roughly 55 million kilometers apart."

"And there are people living there?"

"There are several settlements on Mars, originally representing various colonies. Today Mars settlements have all joined under a common government. The people there live primarily underground, since the atmosphere of Mars is too thin to protect against meteors from space. Some terraforming has begun, but terraforming takes time, most likely millennia. An artificial magnetic field has to be built, and then huge amounts of water and other resources has to be brought in from somewhere else in the solar system, primarily the asteroid belt."

“So how do people travel between Earth and Mars? Well I assume in a spaceship, but how exactly does it work when Mars and Earth are only close every 2 years? That must limit the amount of travel somewhat.”

“There are space ferries going to and from Mars for a period of a few months every 2 years. Those are big spaceships carrying cargo as well as people.”

“So if one were to go to Mars one would just go to a spaceport and get on a space ferry headed for Mars?”

“Not exactly. The space ferries actually travel between the Moon and Mars, not Earth and Mars. They are not built for going to and from Earth’s surface. Earth’s gravity is simply too big and the atmosphere too dense for that to be feasible. So if you want to go to Mars you need to get on a passenger spaceship to the Moon and then on a space ferry from there. But why do you ask? Are you planning a trip to Mars?”

“Nah, I was merely curious,” Will said. He hated lying to his friend, but he had to be careful. “Now tell me about Venus.”

Chapter 6: Escape Velocity

Will continued to increase in skill and was soon acknowledged as one of the best pilots in the world. He still held back on his performances, but he couldn’t help himself getting a little competitive. He often itched to see how far he could take his skills, wanting to push the airplane to its limits. One day he was called again to the office building.

“Will, there is no more this school can teach you,” Henry said. “You have been offered a job as an elite pilot, within a special group of extraordinary fighter pilots. In war time you will be flying on critical missions, and in peace time you will be training other pilots, and you will also be testing new and experimental airplanes.”

“It would be an honour to be part of this special group sir,” Will answered.

The new job was a huge step up, and for most pilots something they could only dream of, but for Will there was not much joy in the high income and the prestige. He was still only really happy and alive when he was up in the air. But the job opened up to new opportunities. The industry was developing a new type of fighter plane, and Will was following the progress with great interest. The company behind it called it a spaceplane fighter and described it as a fighter plane that doubled as a spaceplane.

Will investigated everything he could get on the new spaceplane fighter from the internet, and he also looked at planetary orbits and Moon orbits and sharpened his knowledge and skill in 3D geometry and how to calculate trajectories.

The spaceplane, it seemed, had rocket engines as well as advanced jet engines. It used hydrogen as fuel and scooped up oxygen on its way up through the atmosphere to be used together with the hydrogen in the rocket engines once the plane would reach space.

Will started to hold back a little less when he was competing in the air, and soon he had positioned himself as leader of his group. And so, when the time came, he was in position to point out himself as the one to test fly the new spaceplane fighter. His major argument was that he would be better suited to test the aircraft to its limits given his high tolerance to g-forces. It was a rational argument and so no one questioned his decision.

It was a bright sunny day when Will was walking up to the spaceplane fighter to get seated in the cockpit. In the days leading up to it Will had been calculating and recalculating fuel use and

trajectories and checking his results over and over again. In the end he had to tell himself that he would never be 100% satisfied with the certainty of his results anyway, and that he had to use the last evening to relax and calm himself down. But as he sat down in the cockpit, his usual pilot confidence kicked in. He was ready.

Will drove the plane to the runway, then braced himself. There was a series of security procedures and tests that he had to run through, and then the countdown started. Because it was a fighter plane for military use, it had to be manually controlled. It was not even allowed to build in autonomous systems for safety, except for automated landing that could be turned on once the plane was below a certain altitude.

Will turned on the jet engines and immediately felt the acceleration. He steered the plane upwards and into the planned direction. It didn't take him long to break the sound barrier, and the numbers on the speed display kept increasing, mach 2, mach 3, and it kept going. The engines switched mode at the correct number, and he felt acceleration go up. Everything was as planned and on schedule, but it was time to change that. Will steered the plane upwards and increased air intake for the oxygen filters. He would need full oxygen tanks.

"Tin Man, you are getting a bit out of course. Your trajectory is too steep. Please correct course," Will was told over the radio.

"Tin Man here, just testing the plane to its limits," Will responded.

"Negative, Tin Man, you are to immediately abort the test flight and return to ground..." Will turned off the radio and continued to climb while increasing velocity. Then, at the correct velocity he switched to rocket engines. The colour of the sky turned from blue to black. He was in space. Will noticed the relative positions of the Sun and the Earth, and started to slowly turn in the correct direction. Once he was satisfied with the trajectory he was on, he leaned back and took it all in. He was in space. And there was no turning back now.

The Moon started to come into view. Will did a slow course correction until the Moon was in his front view and right in front of him. Then he looked at the fuel display. The course correction had used up a good deal of fuel as was to be expected. He had to strike a balance between reaching escape velocity but not empty the tanks completely. It was a critical balance, in that because the spaceplane was not designed to go to the Moon, there was little room for error or waste. But flying to the Moon was exactly what Will intended.

Chapter 7: Moonbase

The spaceplane was now just drifting, and if Will's calculations were correct he was now slowly leaving Earth's gravitational field and would be captured by the Moon's gravity in a few days. Luckily the plane was equipped with a music player, and Will grabbed a memory stick from his pocket and plugged it in. Three days would pass quickly this way, he thought, staring out on the stars. He felt the sensation of freedom filling him. He knew there was a long and dangerous path before him, and that success was far from guaranteed, but in this moment it didn't matter. And it wasn't just the music or the spectacular view of Earth from space, and the stars, it was most of all the glimpse of hope in the shape of a glowing orb in front of him, a glowing orb that they called *The Moon*.

Three days later he was fast approaching the Moon. He had to aim not right at it, but at an angle so that he would go into an orbit. From there he could decelerate and gradually lowering the altitude until he could land the plane. That was what the remaining fuel was for. Landing the plane would not be a simple procedure though. On Earth he would have landed like he would a normal

plane, using the air friction for slowing down before landing. But there was no air on the Moon, and so he had to rely on the rocket engines, meaning he would have to fly backwards, tail first. Because the plane was not designed for landing backwards, and because the surface would likely not be smooth and suitable for landing a plane, it would be a delicate procedure. He had only one thing working for him to make it possible: The low gravity.

Will turned the plane around and waited for the right moment. Then, just as he was as close to the Moon as he would get on the trajectory he was on, he turned on the rocket engines. It seemed to work: The plane was breaking just enough for the Moon's gravity to lead him into a more circular orbit. He waited until he had a better idea of the orbit, then did another turn and fired the engines once more. That brought him much closer to the surface, and he started to see the surface features in more detail. He was looking for an area where the ground was relatively flat. The fuel meter was very close to zero, leaving only fuel for one more burst of the engines. Unfortunately, his plans for landing involved two bursts. It looked hopeless, and he was starting to get desperate when a crazy idea came to mind. Will did not waste time, but switched on the engines, turned the nose downwards, still flying backwards, then emptied the fuel tank in one big burst, causing the plane to start falling towards the ground. Will saw the plane approaching the ground, first slowly, then faster. In the moment before the plane hit the ground Will pushed the eject button. The cockpit roof flew off and the seat with Will in it shot upwards with great speed. But because the plane was in high speed downwards it negated most of the upwards velocity, and Will ended up floating upwards 5-10 meters before gravity started bringing him downwards. He quickly loosened himself from the chair, pushing the chair downwards and thereby further breaking the fall. Still he hit the ground hard, but not too hard for a body made of metal.

Will was not wearing a space suit, but as he was told, his body was designed for him to survive empty space, although not without a strain on his batteries. If he was right in his calculations the international Moonbase shouldn't be far away. But which way? Will turned his face against Earth and then looked up at the stars. He knew roughly how the sky should look like from the Moonbase from his studies on Earth and from that he could work out a direction. He started to walk but quickly discovered that jumping along was a smarter way to travel. After a while he saw the distant lights from the Moonbase, and not a moment too soon. His batteries were draining fast.

As he closed in, he saw the big metal construct that was the beginning of the dome that was to cover the entire crater in which the Moonbase was located. He climbed the edge of the crater, and the full Moonbase came into view. He had studied the layout on Earth, so he knew what was in the different buildings. He decided to go for the greenhouse structure, where he likely had the best chance of getting in and hiding unnoticed. He carefully walked down the crater being careful to stay out of the light and avoiding any cameras he could spot. Luckily nobody was outside. At the greenhouse he found the door, pushed the airlock button and stepped inside. He closed the door, found a big bag in one of his pockets, removed his clothes and put them in the bag. Then he pushed the button that would fill the air lock with air. As the pressure started to go up his battery drain slowed down. But he was dangerously low. He waited for the pressure to reach max, then opened the door to the inside. It was a gamble, but he could do nothing else than hope that nobody was inside. Luck was on his side it seemed. He stepped inside and closed the door to the air lock.

The first thing he did was to look around for the cameras that he knew would be there. After some inspection he concluded that all cameras were focused on the plants and could be avoided with some effort. The next thing he did was to locate a power outlet. Quickly he found the right plug adapter in a pocket of his clothes and plugged himself in. He was safe, for now.

Chapter 8: The Space Ferry

Will had been lucky so far, but he knew that his luck wouldn't continue to last if he didn't find a good hiding spot. He also needed to charge his batteries, so he waited for as long as he dared, then started to explore the greenhouse facility in greater detail, being careful to stay out of the view of any cameras. Eventually he found a small storeroom where some of the boxes offered a nice cover. Now he could plan. He needed to get on the space ferry, but he also needed not to be seen. The cargo bay would seem to be his best bet, but how to get in there? If only he knew what cargo would be loaded onto the ferry, or better yet: If he had access to the moonbase network with a login, then he could probably add cargo to the list himself.

Will waited until he was sure the greenhouse was empty, then made his way to one of the computers, all the while being careful to avoid the cameras, and then he looked around. It didn't take him long to find what he was looking for. Along the ceiling there was a tube, a perfect place to put his pocket device. He activated the motion controlled camera in the device and placed it pointing at the keyboard of the computer. Then he went back to the storeroom to hide. He waited about a day before he went back to get the pocket device. Again he was in luck: Someone had actually logged into the computer, and he was able to make out the key presses from the video, which gave him a user name and a password. He used them at the login screen, and then he was in. He found an icon labelled 'logistics' and clicked it. As he expected it contained a system for registering boxes going on and off the various space vehicles, including the space ferry. He had noted the number of one of the boxes in the storeroom which he found big enough to fit him, and now he added the box number to the list of boxes going to be loaded onto the ferry. Then he logged out and went back again to the storeroom. He then emptied the chosen box, crawled into it, and then placed the items he had pulled out on top of him, trying to cover himself completely so that a quick glance into the box would not reveal his presence. The computer had revealed the next scheduled flight of the ferry to be in two weeks. He put himself in hibernation mode and waited.

When he woke up again he instinctively knew that the box had been moved. A quick look at his pocket device confirmed it. According to the time schedule he would be in space now, enroute to Mars. He adjusted the timer and went back into hibernation mode.

When he woke up the next time he climbed out of the box and found himself in a very big dark room which he assumed to be the cargo bay. The space ferry wasn't going to land on Mars he knew, since it wasn't designed for high gravity take off and landing. Instead, the passengers would be transported to the surface in a small shuttle. It would be hard for him to sneak aboard the shuttle undetected, but there was another option he knew. Part of the cargo that was lightweight and non-sensitive was not going on the shuttle but was dumped onto the surface using cargo landers. Those landers were nothing more than a heat shield, parachutes and a few braking rockets, so for a normal person to get down that way would be close to certain death, but for someone with a metal body it might be different.

It took him a while to locate the cargo landers. He would not be able to sit inside the cargo box, because even if he could figure out how to open the security lock he would not be able to close it from the inside. But it seemed he would be able to fit himself into the space between the box and the heat shield without touching the shield.

Will decided to explore a bit more. He found a door and quietly opened it, and found himself in a hallway in what he would assume to be the crew area. The hallway was bare and constructed in some hard, lightweight material. He started walking and soon came to some stairs leading downwards. He decided to go down.

At the end of the staircase was a door, and Will opened it as quietly as he could. When he stepped through he knew that he was now definitely in the passenger area. The hallway here had wooden walls, and there was a carpet on the floor. There were doors on both sides along the hallway that Will assumed would lead to passenger cabins. It was very risky for him to be here. He had decided that if he met someone he would pretend to be a service robot, but that might still raise questions so he hoped that he would not. He could of course have stayed in the cargo bay, but he felt that for the sake of his own sanity he needed to get out a bit. And it wasn't long before he found what he was looking for: A stairway leading further down. He knew about the overall structure of the space ferry from studying drawings of it on the internet back home, and he knew that walking down would bring him closer to the outside of the big wheel that by turning delivered the artificial gravity of the space ferry. And he was right: At the end of the staircase was a dimly lit room with a big window in the floor. A window to the stars.

Will sat there for as long as he dared, taking in the view and wondering what was out there amongst those stars. Would there be any living, intelligent beings on other worlds, or were we truly alone, a unique phenomenon, brought into existence by chance and nature? And could he truly count himself as being part of this, part of the 'we', being what he was? As he walked back to the cargo bay he wondered what awaited him on Mars when, or if, he got there. But one thing was certain: It was his only chance for a way out of hell, and he was determined to keep going no matter the odds.

He stayed in the cargo bay until he saw that it was time, that they were approaching Mars, and then he strapped himself to the cargo lander. He had to be careful not to get too close to the heat shield. He hang there for a long time, but then suddenly the airlock in front of him started to open, and the lander glided into position within the airlock. The door closed and Will could feel the air being sucked out of the room. He heard the outer door open, and then without warning the lander was shot out of the airlock. Will almost passed out from the forces at play, but he managed to stay awake, and soon he was in empty space, drifting towards Mars.

Mars was not visible to him, as the heatshield blocked the view, and he had his back to the heat shield. There was nothing left for him to do now but wait, and hope. Eventually he felt something stirring, and he knew that he was entering the atmosphere of Mars. He quickly started feeling the forces braking the lander, and after a little while he started feeling the heat. It was feint at first, but then as the edges of the heat shield started to glow, the heat quickly became immense, and soon it was unbearable. Will felt himself losing consciousness, and the last thing he heard before passing out was the gentle swoosh from the parachutes that were unfolding. Then all went black.

Chapter 9: Wasteland

Cate was staring hard out of the front window of the pressurized vehicle as it was bumping along over the rocky terrain in the Martian dawn.

"I can't see a thing," she said. "Please hand me the binoculars, will you Nico?" Nico, her field team-mate, handed her the binoculars.

"Oh, yeah, there it is, I see the parachute now, and there is the lander and the payload. But wait, there is something strapped to the lander, seems odd."

Cate and Nico kept driving towards the lander, and as they got closer Cate again looked through the binoculars towards the site.

"The thing strapped to the lander appears to be a robot of sorts. Now I am really curious. Did someone order a humanoid robot? And if so, why is strapped to the lander?"

It didn't take long before they were at the site, and they both put on their helmets, depressurized the seating area and opened the doors. Then they went to look at the lander and cargo.

"It sure looks like a robot," Cate said. "Please help me unstrap it from the lander." Nico and Cate freed the metal body from the lander and dragged it out into the sunlight. Then, as if the movement had stirred something in it, it started to speak.

"I'm.. not a robot.. human.. seeking asylum," Will managed to say. Cate was spooked at first, then quickly replied: "But how can you be human?" But Will had passed out again.

"Clearly it is either delusional, or this is just a sick joke," Nico said, "You can see for yourself it is a robot."

"Nevertheless I think we are obliged to take it back to base, and it is also the right thing to do in any case. You may be right, but there is something very odd about the whole thing. Please help me get it inside. And look, there is a small power socket there, for a standard plug. We should try to power it up once we get it inside." Cate and Nico carried it inside, plugged in a power cord, and then went for the payload. Once the payload was loaded they went inside the seating area, started pressurization, and when it was safe, they took off their helmets.

"We should get back in a hurry," Cate said. They turned the vehicle around and started driving. Cate turned on communication with base.

"Hello Cate and Nico, how are you doing out there?" It was Phil at the control station.

"Hi Phil, we found something unusual. We are going to need a technician and a medical personnel when we get back, please tell them to stand ready."

"What happened?" Phil answered, "are you alright?"

"Nico and I are fine, but we are bringing back a robot that claims to be human. I can't see how that is possible, but I think we have to investigate in any case."

When Cate and Nico rolled into base, the technician and the doctor stood ready by the airlock. Cate and Nico did not waste time with the cargo, but hurried up getting Will to the airlock. Once inside, the technician took a look at the metal body.

"It doesn't look like any model I know of," he said.

"Let me have a look at him Niel," the doctor said.

"Sure Sonya," Niel replied, and got out of the way. She studied Will carefully. "Hmm, I see no organic parts," she said, leaning over him. She was about to get up when Will's arm suddenly grappled her wrist, and Will said: "Please, Roy, ambassador, asylum." Then he fell unconscious again.

Sonya was startled, but soon came to her senses. "Someone call up the embassy on Earth," she said, "and I want one of you to help me get him to medical. I want to perform a full scan."

When Will again gained consciousness, he was lying in a bed in a room with medical and lab equipment. A group of doctors were gathered in the center of the room. One of them noticed he was awake and came up to him.

"Hi Will, I am Sonya. How do you feel?" Sonya asked.

"A bit hazy," Will answered. "But I think I'm ok."

"We spoke to Roy at the embassy on Earth, and he said that you are a human who had your brain transplanted into a metal body. Your case was up at the UN council. However, that conflicts with what we found when we scanned your head. We did not find a brain. Instead we found what appeared to be some encased chip cards with tubes connected to the encasing and some sort of box. Are you aware of that?"

Will hesitated. "I found out," he finally answered. At the facility where I first woke up they told me the story about how I was in an accident and had a brain transplantation. I later discovered the lab where they kept the equipment used to make the biological part of my brain, and the computer files

that described what I was and for what purpose. The chips have biological brain cells on them, and the tubes transfer blood to the neurons. The box contains the pump and the life support systems I would think.”

“You said that you wanted asylum,” Sonya continued. “Can you tell me a bit about why?”

“I was a tool. I was quite sure that if I told anyone about what I had found out I would be terminated, because what they have done is illegal according to international law. My only hope was to escape to a place where they could not reach me, and where I could be safe. Also...” Will hesitated again.

“Yes?” Sonya said.

“Also I wanted to ask you if it would at all be possible to...give me a real body. I mean, a biological, human body?” Will dared not hope for a positive answer. He almost wished he had not asked right after he did, but then again, he knew he had to.

Sonya was thoughtful for a while, then said: “I’ll have to discuss it with the other doctors before I give you an answer to that one. In the meantime, let me walk you to your personal living space, and then I’ll introduce you to someone who can let you get acquainted with the place here, and the people on the base. And I almost forgot to say this: Welcome to Mars,” she said, smiling.

Chapter 10: Reckoning

Henry was walking hastily through the corridor of the underground facility. When he entered the dimly lit main hall he immediately addressed Miriam who was standing a bit away from her desk, seemingly doing nothing: “Miriam, my intelligence source tells me Will has reached Mars. We have to shut down the whole thing, erase all files. We...”

Too late Henry discovered his mistake when a man stepped out of the shadows. He was dressed in a UN military suit.

“Good evening, officer,” the man said. “This is a UN inspection. It would appear that you have had some illegal activities going on here. And I’m afraid that cleaning up and erasing files is too late for you. We already found your secret lab and some incriminating evidence. It was nice of you to drop by, I wanted to ask you some questions. And based on what you just said it would appear that you have something to say.”

“I have nothing to say,” Henry said angrily. “This is a military base, and a government facility. By what authority do you trespass without permission?”

“By UN authority, which was given based on solid intel about your operation here,” the UN officer said. “And I would advice you to cooperated as we have permission to shoot and kill should it become necessary.”

Henry felt the anger being replaced with fear. He stood silent for a moment, weighing his options. He looked at Miriam who shook her head, as if to tell him she couldn’t help him in this situation. Then Henry said: “Very well, I want a lawyer to be present at the interview.”

“Given the severity of the case,” the UN officer said, “a lawyer is not permitted. And the questioning will not be an interview, it will be an interrogation. I need to ask you to put your hands on your back so Andrew here can handcuff you.” Another UN soldier stepped up to Henry, holding out some handcuffs. Henry had no choice but to comply. He felt everything crumple inside.

Chapter 11: Transformation

“It will be a tricky thing,” Beatrice said. “We can’t just build a body around the chips in his head. He will need a real brain to control and interact with his body parts.”

“And another thing is, those mechanics sustaining his neurons won’t last forever,” said Manson. “I agree, if we are to succeed, the first thing to do is to build a real brain around his existing neurons. But how we are to do that, I have no idea.”

The doctors were all gathered in the conference room discussing Wills case.

“I believe it can be done,” Sonya said. “I have an idea. What if we transfer his neurons to a chip material that will slowly dissolve, and then start to grow more neurons around. The brain will be sustained by the chip mechanics at first, but as it starts to grow, we’ll have to switch the blood supply to the newly formed arteries. Then we can start growing the other organs around the brain stem. We’ll need a cleanroom of course, and everything will have to be completely sterile. I’m not saying it will be easy, but I think it just could be possible.”

“I think we should do the attempt. Even if we don’t succeed, the amount of scientific knowledge gained from the project could very well justify the great amount of resources spent.”

There was general agreement on giving the project green light, and the meeting was concluded.

“I won’t lie to you Will,” Sonya said. “The chance of success is slim.”

“I don’t care,” Will said. “There is no real future for me in this body. I have impulses as if I had a biological body, but I haven’t, and so I can’t respond to them. It is a living hell. I want it to stop, and I am grateful beyond words that you are giving me this chance, but no matter the outcome it will be for the best.”

“Very well,” Sonya said, “we will start the preparations then.”

A few months later Will was called to the lab. He had to go through several rooms first, going through various sterilization procedures. When he finally entered the lab, Sonya and another doctor, both in plastic suits, were leading him to the patients table in the center. He lay down on the table.

Wills metal skull had been prepared for removal, so it was easy for the two doctors to take it apart, revealing the mechanics inside.

“I’m going to sedate you now,” Sonya said. That was the last Will heard before he fell into a dreamless sleep.

Will woke up. He had a feeling like if in a kind of hazy dream, everything being a bit unreal, but not unpleasant.

“Will, can you hear me?” Sonya asked. Will tried to speak, but nothing came out.

“Blink if you can hear me, Will.” Will blinked.

“You have been given a drug that calms you and gives you a pleasant feeling, to ease your awakening,” Sonya said. “We have been artificially stimulating your new body, to keep your vital systems active, but we now need your help to further activate your body parts. It will take time and a lot of training, because your brain will have to learn how to control all the different parts of your body. Right now your life systems are being supported by machines, but eventually you should be able to keep them going naturally. The first thing we need to do is train your breathing. Are you ready?” Will blinked.

It was a long and hard procedure for Will to gain control of his new body. From the beginning his blood was cleaned by a machine, because his liver and other inner organs had not been activated

yet. At first he had to learn how to move his muscles. This was done by activating the muscles through the reflex system, which again would tell his brain how it felt like when a particular muscle was activated. Once he was able to move his muscles by will, he had to slowly start to train them and to build up muscle mass. One by one, his inner organs started to work on their own, and Will was removed from the bed and suspended in elastic strings, in order for him to be able to train his whole body, and to build up strength and flexibility. He was also training his vocal cord to give him voice, and then he had to learn how to speak. He knew the words and how they sounded, so in that regard it was easier than it would be for a child, but getting out the right sounds when he wanted was not easy.

Once he had gained a bit of muscle control he needed to start taking in sustenance. It was fluent at first, but it provided training for his bladder, and was also used to build up his gut biome. Bacteria were selected and introduced with great care and in no random order, and then he had to start up intake of more solid foods. Learning how to chew was an accomplishment in itself. Will could feel his stomach and intestines start processing the food, giving him all sorts of new sensations, and he was given therapy in order for him to learn how to process those sensations.

Slowly, but steadily, he learned how to walk, talk, eat, use the toilet, and other things. Then, when the doctors felt that he was stable enough, he would start his physiological training, and he learned about how to cope with his new body related emotions, and how he could balance the energies in his body, and listen to his body and respond to its needs, how he could establish better connections between his mind and body, and achieve more control. Things that a human being would achieve through years of experience in their childhood and youth he had to learn in months.

Will was now at the stage where he could start eating normal meals. When he looked in the mirror and studied his body he was satisfied. He thought he actually looked handsome, and like any other human being. Sonya had invited him to a private dinner to gain status of where he was at, how well they had succeeded, in a more relaxed setting.

"You never tasted wine before. Let's see if you like it. It contains alcohol, which, apart from giving you a pleasant feeling, is also toxic for your body, so you shouldn't get too accustomed to it. Maybe I shouldn't be serving you alcohol, but you are bound to experience anyways since it's part of the culture. This way you'll get to experience it in a controlled environment, and you can then make an informed decision of whether to enjoy it once in a while, or stay clear of it altogether. I usually don't drink alcohol myself, but I'll make an exception and have a single glass with you, unless you would prefer us to drink water instead?"

"No, I want to taste the wine," Will said. Sonya poured a glass for them. They started eating, and Will got to taste the wine. It was not incredible tasty, but gave him a nice and warm feeling inside. But it was not the wine that caused the mood of the evening, but rather the company and the conversations, and the sensation of having been reborn into a wonderful new life.

Sonya noticed that Will grew silent. She grabbed his hand and looked into his eyes.

"How are you feeling, Will?" She asked.

Will looked back at her, smiling. "I feel..alive," he said. And he did.

Come, take me on a spirit horse
Made out of steel and on the course
To promised land beyond the pain
Where hearts are kind and minds are sane
Come take me up in heavens blue
Manned only with angelic crew
To darkest night and brightest day
Come take me there, one day in May

And let from sweetest heaven rain
All uncried tears of untold pain