

A healthy society

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A static thumping sound of feet hitting rubber resounded in the otherwise silent Stockholm morning in October 2045. The red rubber underlay bordering the asphalt road stood in strong contrast to the foaming dark water surrounding Gamla Stan and the white bikes in the middle of the road, driven by people making their way to work in the early morning. From time to time, the silence was interrupted by the faint buzzing sound of electric cars delivering groceries to households and by a man's voice from lampposts along the rubber-covered running routes. The voice provided pep talk to each individual passing runner thus encouraging their daily efforts.

"Very good job, Anna. You have now reached 4 kilometres in 17 minutes and 50 seconds. If you speed up by 20 seconds per kilometre, you will achieve a new personal record. Your pulse is 130, which is 73 % of your maximum pulse, and you have just 2 kilometres to go" the voice said as Anna passed the Royal Palace. This, of course, she already knew, as her watch continually informed her about it. Nevertheless, it felt good to hear it with an encouraging voice giving her motivation to perform even better, especially when other people could hear it too. A crowd of runners were following her on the path around Gamla Stan, which was just one out of sixty routes in the city of Stockholm. Their bodies were all perfectly shaped with no unnecessary fat, and their skin were shining with small drops of sweat, no pimples or wrinkles visible. Anna was tall and pale, and her thick blond hair was the only plumped part of her body, even though she was 40 years old and had given birth to a child.

Snorting and puffing, Anna stopped in front of a whitewashed apartment. She looked proudly at her watch, which was blinking perseveringly telling her that she has achieved a new personal record. Six kilometres in 26 minutes with a max pulse of 161, a blood glucose of 4.9 and 267 calories lighter. Smiling, she opened the cooling lock next to the entrance and took the groceries out of her personal cool-fresh box and walked up to her flat. The autonomous delivery trucks had conveniently delivered the groceries earlier this morning.

"Sofia, it's time to wake up!" Anna called as she entered the kitchen. She placed the box on the table, and went to shower in the bathroom. She took off her clothes and placed her watch next to the washbasin. She did not really need to remove the watch as it was waterproof, but she did it anyway. This made it easier to remember cleaning the scar on her wrist. It had been there for 25 years and the scar was now almost invisible, but it had simply become a habit to clean it carefully. Just after the chip had been implanted, she had a nasty infection and the bad memories were hard to get rid of. She was one of the first to get the health chip, and at that time, there was little awareness of the allergic reactions that some show to copper. Anna was not tested for allergies prior to the operation, and therefore had to be re-operated to replace the copper-chip with a fully titanium made one. This second operation, however, induced an infection. Luckily, they have become much better at the operations since then. Nowadays, every youth, beginning at age 15, are tested for metal allergies to ensure that the right chip is implanted and there are almost no problems with infections or imprecise chip calculations anymore. The chips are now so accurate that the government uses the data to ensure that everyone are in good physical condition, are eating a healthy diet and to prevent and discover diseases as early as possible.

"Sofia! I mean it. Your class starts in 50 minutes" Anna was now back in the kitchen emptying the box with groceries for the next two days.

"Good morning, Anna. Good to see that you went for a run this morning and that you have achieved a new personal record." a pleasant male voice were saying, "You have 3.000 calories plus 267 calories from your

workout that you can use today. I suggest that you start with a breakfast of less than 250 calories. Do you also want to make breakfast for Sofia? Please answer yes or no."

1. Yes
2. No

The giant screen on the kitchen module next to her displayed her options. She looked at the screen and pressed yes.

"Wonderful. Sofia has 2200 calories left to use today. I suggest that she start with a breakfast of less than 250 calories. With the ingredients available, you can choose between the following three breakfasts for each of you. Please choose one for each of you."

1. Natural skyr with strawberries, 5 minutes to cook, 220 calories
2. 1 boiled egg, 1 slice of crisp bread spread with gill paste, 10 minutes to cook, 235 calories
3. Oat porridge with mulberry, almonds and blackcurrant, 15 minutes to cook, 250 calories

Anna pressed the first option for both of them and continued to unpack the box.

"Thank you Anna. The ingredients are now placed on the tray in the cupboard and the recipe can be seen on the screen. Please press the video button if Carl should show you how to prepare the dish."

She opened the kitchen module, took out the tray with skyr and strawberries and placed all the food from the box on the front shelf. The cupboard consisted of a cooling area and an area in room temperature, and everything within was automatically sorted into their respective places. The dairy products were all placed on one shelf in the cooling area, the protein products (mainly insect-powder and gill paste) on another shelf and so on, though she did not really care. She never had to find anything in there anyway. The kitchen module made sure to organise the food for her, and it ordered the food and additional groceries that she needed. All she had to do was to take care of non-food products that did not belong in the kitchen module.

"There you are. Good morning! I've made skyr with strawberries for you." Anna said as Sofia entered the kitchen, "Could you please take the toiletries to the bathroom while I finish breakfast?" Sofia nodded and trotted off to the bathroom. "MOM!" she yelled from the bathroom, "Did you forget to cancel the toilet paper order again? It's getting pretty crowded in here."

"Yes I must have. I guess it must be a mistake in the system, they must think that a family of two need loads of toilet paper. I really don't understand why we get it every week"

"Right? You should probably tell them before we drown in toilet paper."

"Yes, I'll try to remember to send them a message via the kitchen tablet later" Anna replied as she finished preparing their breakfast.

Anna then placed the bowls on the dinner table and went to the kitchen basin to tap two glasses of ginger water. They sat down and began eating in silence.

Anna was the first to break the silence: "Do you want to join me for yoga in Berzelii park after school?"

"I can't. I am meeting the band"

"The band? You are spending more and more time with that band! How about yoga tomorrow?"

"No mom, it's so boring"

"Boring? Would you rather do some bikefit at the gym?"

"You don't get it! I don't want to do all that boring stuff!"

"But you have to, darling. Otherwise, you won't earn healthy point. Don't you want to get massages, to be able to go to a spa or even on vacation? I would really like to go to Thailand soon to try their Turkish baths with you. Besides, you cannot have any of the good tasting food if you do not do any exercise"

"I don't care!" Sofia yelled and stormed out of the apartment with her guitar in one hand and her bag in the other, leaving Anna behind with a puzzled look on her face. Anna sighed and started to clean the table.

The red rim of the sun pushed itself over the Stockholm cloudbank, and on its way painting the sky with colours of pink. In the twilight, Anna found her favourite bike, placed her hand steadily over the seat until it unlocked, and began biking to work. She liked this specific bike as the seat felt soft, the handlebar adjusted perfectly and someone had drawn three small hearts on the side of the frame with a permanent marker; hearts that filled Anna with happiness. She always tried to leave early in the morning so that no one else would have taken the bike. Of course, it did not matter that much as all bikes were almost identical, and the handlebars would adjust themselves as you placed your chip over the handlebars, because the chip knows your height. Nevertheless, it was nice to feel just a tiny bit of ownership towards a shared bike, as she had never owned any means of transport herself. Nobody living within the city centre of Stockholm owned his or her own bike – or any other transport vehicles for that matter. Only by using a shared bike, the government could be certain that the bikes were fitted with the necessary safety precautions, and additionally, it was possible to check that everybody were biking in the right tempo to obtain the most efficient daily exercise. Counting exercise from the current and previous day, the bike would tell you the optimal speed, thus telling you either to relax or to tread harder, while also considering the starting time of your work and other appointments. If any citizen were to leave Stockholm, trains were the only option as the only cars allowed within the city were those of the government.

"Take it easy, Anna, you are in no hurry," a soft female voice said from the center of the handlebar. Resistance increased in the pedals until she had slowed down to the calculated optimal speed, and then the resistance suddenly disappeared again. She had no choice but to drive slowly to work. She sighed deeply and started looking around. In the horizon, a dark shadow of an enormous building found her attention. In daylight, the building was gleaming white with large window sections, and from the right position she knew the surrounding water would be reflected in the windows. This housed the National Board of Health and Welfare. It was a beautiful building, she supposed, but she had noticed that the atmosphere tended to become tense whenever it was mentioned. She did not understand this as life had only improved after the introduction of the general health policy. She found people to be much better-off now than when she was young. Yet she knew that the happiness and healthy energy had come at a high price, a price that had taken her quite some years to accept, and many still had a hard time accepting the new order. To afford the high investment cost needed for the health policy, all public financed cultural events had been abolished. All art schools, orchestras, music, art teaching in schools and art galleries were closed. After all these years, however, the government did not succeed in eliminating cultural activities. People were still doing music, although not in public, and the youngest were more impassioned of music than ever before. Her own daughter was a living proof. She felt confident that the art would be back on the political agenda in just a few years when the investments induced a profit.

On her right hand, a few perky boys had started playing basketball in the open street park, and on her left hand, a minor crowd of people in loose breeches and hooded sweatshirts were lying on their yoga mats doing their final meditation in the green surroundings. Slowly she cycled up the hill, bringing her to the city centre. The massage and wellness shops were just about to open, and from all the fitness centres she saw people hurrying out of the huge front doors to grab the nearest city bike. It was their luck that there where so many bikes parked outside the centres, she thought. "Hi Anna, long time no see!" the pedicure specialist from *Enjoyable Feet* yelled as Anna passed her shop. "Good Moring, Lisa," Anna replied as she stopped her bike. "Do you want to meet me in *Wellness All Day* after work? At four maybe?" Anna said "That's a deal!"

See you there," Lisa answered beaming at her, and Anna started biking again as she turned to wave goodbye.

"Stop!" the bike yelled. "Watch where you are driving" the bike continued loudly as it stopped moving. She looked forward and realised she was just about the drive into a school class of middle school kids passing the street, all carrying a sports bag. Glad the bike had stopped, she waited until they had passed the road, and continued just a few meters. Here she placed her bike, and entered a huge clinic for group medical practice. She was not the first on job this morning; the receptionist was already walking slowly on her treadmill behind her desk in the hall. Politely nodding to the receptionist, she turned left, walked up the stairway to the third floor, took her white coat from the hook and entered her room.

Hours went as she performed the monthly consultation for hundreds of people in front of her screen. From homes or from offices, people were getting their health care check using a digital diagnostics option as they claimed it was easier to fit the health care into their schedule using this technology rather than turning up themselves. Slowly walking on her treadmill in front of her screen, she looked at eye movement and health data of different people, only stopping when her watch told her it was time to sit down to continue working sitting. A little while later she would be interrupted again as the watch told her it was time to start walking again or to have a lunch break. The software diagnostic test was designed to detect impairments on the hippocampus, which is the area of the brain that is firstly affected by disease. Evaluating the eye movement, the software would tell Anna when an unexpected impairment occurs. By comparing the evaluation of the software diagnostic test with the blood pressure, blood glucose and cholesterol levels given from the chip, she could tell if people needed physical personal consultation for a more thorough check. She actually liked the odd interruption of visiting people, even though it rarely happened.

Five minutes past four she took off her coat and hurried out of the clinic to meet Lisa around the corner. "There you are!" Lisa said as Anna turned around the corner. "Sorry I'm late, the consultation with my last patient dragged on like forever," she apologised as they opened the door to the wellness centre. A stream of light and a smell of spruce mixed with perfume met them as they entered the hall. Minor spruces were planted all around the hall, making it look like a light and tidy forest. In the back of the hall, windows revealed a bright blue swimming pool in the next room. To their right, a huge sign pointed towards the massage section, the hairdresser and the quiet reading section, and to their left, a shop with all the health products one could ever need were located next to the café. "Hi girls, what can I do for you?" a tall, brown-haired woman behind the front desk asked as they entered the hall. "Actually, I'm saving points for my vacation. Maybe we can just have a small drink in the café?" Anna said almost apologetic to both Lisa and the receptionist. "That's all right with me," Lisa replied and they headed towards the black frame of the café area.

"Welcome, Lisa and Anna," the waiter said politely while looking down on the small screen he was carrying. "Would you like to stand or sit today?" He asked, still looking steadily at his screen. "I've been walking all day, so I would prefer a seat," Anna said, while Lisa nodded, expressing that she too needed to relax. "I can see that this applies for both of you," the waiter said as he motioned them to follow him. They were given a seat next to the window facing the main road. "Anna, based on your blood glucose levels of 3.9 and a cholesterol level of 2.4 I can offer you a cup of green lemon tea and a fruit bar to stabilise your blood glucose" he said, for the first time looking directly at them. "And for you Lisa, a cucumber-spinach smoothie, as I can see that you prefer that over green tea. This will suit your status well and you don't need a fruit bar as your blood glucose is at 6.6." Anna looked at Lisa, raising her eyebrows, and then nodded at the waiter. She trusted that he had made the right choice for her.

"How are you? I haven't seen you like forever! I think the last time must have been at Sofia's big day," Lisa said as soon as the waiter was out of sight. "Oh yes, that's right. She still hasn't fully accepted her chip even

though it's been two months now, and she defiantly doesn't want to wear her watch. I've tried everything to help her accept it, but she just refuses my help, and now she doesn't even want to do her exercise," Anna burst out, as she had been concerned about Sofia's behaviour all day. "And sometimes I even think she is eating illegal food at school, cause the system tells me that she has used all her calories for the day," Anna continued. She sighed deeply and observed the people outside the window stopping in front of advertising signs, probably discussing how to kill time in the afternoon. "Oh God, that's no good. I'm really sorry to hear that. Do you think she might be sick or something like that?" Lisa responded in a desperate attempt to come up with a solution. "No, I don't think so. Her numbers looks just fine. I actually had a quick look at them at work, but please don't tell anybody," Anna said in a whispering voice. "Of course not! Then you must try to force her to do the right thing, I suppose," Lisa replied in the same whispering voice.

"Here you are, a green tea with lemon, a cucumber-spinach-smoothie and one fruit bar with figs. Enjoy," the waiter said as he placed their order carefully on the table. "Have you heard about the new yoga team starting in Tullgårdsparken? I heard Martin Bratt is instructing" Lisa said, carefully trying to change the topic to a more cheerful one. "Martin Bratt, the famous yoga instructor? Seriously?" Anna gawked, and so they went on for hours talking about the best fitness instructors they have had and where they would like to go on vacation whenever they had earned enough points. At half past six they realised they had better go home, and they left the café with a small note for the waiter:

Please, put the bill on each of our state food accounts.

It was dark outside as they each grabbed a city bike and took off in different directions. She placed the bike in front of her apartment, and ran up to her flat. "Hi, I'm home!" She yelled as she entered the kitchen, but nobody replied. She was greeted by a deafening silence. Assuming Sofia was still playing with her band, she took on her slippers and went to the living room with her screen to relax a bit in her massage chair. "One new message from the National Board of Health and Welfare," the screen said as she turned it on. Surprised that they had send her a message, she opened it and started reading:

Dear Miss Sofia Andersson (copy to Mrs Anna Andersson)

We have received intelligence that you, Sofia, in recent weeks have behaved inappropriate. According to our information, you have disobeyed several rules of exercise and diet. The severity of this behaviour has been discussed at a meeting for the sector of maladjusted youth in the National Board of Health and Welfare. We therefore inform you that your presence is required at a disciplinary hearing at the National Board of Health and Welfare at 9 a.m. on the twentieth of October in room 901 on the top floor.

*Yours sincerely,
Benjamin Lund,
Director of Department of Maladjusted Youth
National Board of Health and Welfare*

Anna read the message through twice. She was only vaguely aware of the front door banging. Inside her head, all was icy and numb. The message had arrived yesterday, but how had she failed to notice it and why had Sofia not said anything about it? Quickly she looked up at Sofia as she entered the room. "Well, I see we are going to the Board tomorrow morning," she said, not entirely able to hide her frustration and disappointment. "Oh you've seen that," Sofia said as she started blushing. "How come you didn't tell me?" Anna said, desperately trying to keep her temper. "I don't know, okay? Maybe I hoped you wouldn't find out and I could go there alone. Happy?" Sofia replied, but she was as successful in keeping her anger in

check as Anna was, and she stormed off to her room, slamming her door. Once again, Anna was left behind, now even more worried and nervous than she had been in a long time.

The next morning, Anna made sure to get up early enough to do her morning run and to prepare a tasty breakfast for Sofia. After a few wake-up calls as usual, Sofia arrived in the kitchen looking like she had had an even worse night than Anna. After eating a quiet breakfast, they each took a bike on the street and headed towards the massive white building.

The small room on the top floor faced south and was filled with the autumn sun that could easily get through the enormous panorama windows, revealing a buzzing city underneath. The clinically white room dazzled Sofia. It only had one high metallic table placed in the middle of the room and was otherwise empty. There were no chairs since standing is better for posture and concentration. Had it been a less serious meeting, there might even have been treadmills for the participants. Anna had often been to these sorts of meetings, but this was not one of those. The director motioned them to move closer to the table behind which he had already taken place. Sofia and her mother placed themselves in front of him, looking nervously at each other.

"I expect that you know why you are here?" the director began, now looking directly at Sofia. "We have received reports that you have not been doing your daily training," he continued, "and that you have been careless about your blood glucose for several weeks, which in itself is a serious issue". Colour rushed to Sofia's cheeks as she avoided his gaze. On the table, her hand started to tremble. "Don't you understand that it's of vital importance to all of us that you remain healthy?" he said. "Honestly," Sofia replied, now trembling with anger, "I don't see the point of doing all this stuff that I don't want to. It is my body – my decision!" The director smiled, which did not do much to help Sofia calm down, and said, "I expected you might feel that way. You see, this society of ours has not always been like this." He then went on to explain how Sofia was not the first teenager to feel uncomfortable with so strict governmental control. There was a time, he explained, when everyone could do as they wanted to. People could lie on the couch all day, eating fast food - "What's fast food?" Sofia interjected, but the director just continued - with extreme costs for the society. People would get coronary heart diseases, type 2 diabetes, high blood pressure, and other such chronic diseases. This meant a continued rising of admission to hospitals, putting pressure on the whole health sector. In the end, almost no one were able to do hard physical work. We were on the brink of societal collapse, he said, and you see that we had to do something drastic. Luckily, technology were advancing quickly, and a small group of visionaries designed the first health watch, which monitored vital health parameters. At first, it was tested on a small group of individuals, but the watch alone did not motivate people enough to change their life style. Old habits die hard, he said smiling, and the watch did not stop people from smoking, and it did not stop them from eating fast food or drinking alcohol. What the watch did manage to do was motivate people for their daily exercise, and we then knew that we were onto something useful. However, to save society and to put Sweden back on track, we had to eliminate those unhealthy habits. This period meant a huge loss of concentrated working hours, as the citizens spent more time at hospitals than at work, and when they actually were at work, they were hardly awake. "You asked what fast food is?" the director remembered, "fast food, smoking and alcohol were everything that was wrong with the old world." Sofia nodded slowly, not quite understanding, but how could she? The director continued his monologue; we knew that the watch was good, and we realised that the watch alone was not enough to save Sweden, and we therefore developed a chip to be surgically implanted into all residents. This was quite a break through! The chip delivered massive data to the National Board of Health and Welfare, data about all individuals. Knowing a lot about people is not enough though, and we had to find a way to ensure that citizen were making the right decisions on diet too. Therefore we implemented the kitchen module in all households at the same time as the chip was deployed, thus giving people a small range of healthy decisions to choose between. With the individual data and a kitchen module, an advanced algorithm was designed. The algorithm looks at recent exercise, blood glucose, body fat, weight, the given

budget for food among other factors, and then it calculates a fitting diet for the individual, he explained. What this means is, that each month your mom decides how much she will allow government to spend on food in the following month. After deciding, the money is transferred to an individual bank account at the Board, from which all groceries will be paid. This is, however, not really relevant in your case, but it is nevertheless important in understanding our system. Having said this, he continued his historical exposition. Following the technological development, it was natural to use autonomous electrical vehicles to deliver goods to everyone. This also eliminated the need for physical grocery stores and supermarkets, which brings us to today. Finally, we have achieved a system that has eliminated the lifestyle deceases that are so expensive to the government. We may have spent a lot of money on the health system, but compared to the alternative unhealthy system without control we have saved both money and lives.

“That certainly explains a lot. But I still don’t understand why I am not allowed to decide when I want to go on vacation?” Sofia said, after having been quiet for a long time. The director raised his eyebrows and said, “Oh, but in the beginning everyone could! It soon became apparent that too many tried to escape, if you will, our strict way of life by going on vacation too often.” He continued by explaining how they had had to invent a system of rewards that determined whether one had earned enough health points to go on a vacation. In this way, we made sure that only satisfied and healthy citizen were allowed to travel abroad.

“You still haven’t told me what I am doing here” Sofia was starting to get annoyed by all the director’s historical stories. “We have been talking a lot about you, Sofia” he said, “and you might be pleased to know that you are not the only teenager with coping issues. Honestly, this is slightly embarrassing. We never thought that there would be problems with your generation, as all our focus has been on your mother and her generation. Recent years showed us that we were mistaken. We tried forcing your peers to exercise and we have tried with education, but all in vain. We have looked at different rites of passage throughout history, especially the Rumspringa of the Amish people. We have therefore decided to try a new approach, one that we want you to take part in.” “What do you mean by that?” Sofia asked. “That we in the Board are proposing you a chance to test your bounds outside of Sweden. Think of it as an educational journey. If you accept, you, along with your fellow teenagers, will be put on a ship for six months of traveling. This will give you a change to fully understand the surrounding world and to understand why we have chosen our way of life. When you return, you will be faced with the choice between joining our community or leaving the country for good. How does that sound to you?” he asked. At first there was silent. Sofia just sat there, trying to grasp what the man had just told her. Traveling at sea? Adventures? Getting to spend time with other youths like herself? It was finally sinking in. Sofia’s eyes had begun to sparkle and Anna looked at her daughter with amazement. This was probably the happiest she had seen her in a long time.

At last, Sofia drew in her breath and responded with enthusiasm:

“I think I’ll like that.”

The director smiled at this and got up. Lisa and Anna followed his example. They shook hands and Anna and Sofia left the National Board of Health and Welfare.