“The shiny metal of the machine glistens in the sunshine as it moves effortlessly towards her across the marble floor tiles. It has emerald blue eyes and light pink shading on the lips. This machine has style, Hilde observes. She wonders what it is about robots that humans still fear. Rex lowers his tail, curious to see how events will unfold.”
Do you ever imagine a society where care homes for older people have become obsolete – where senior citizens who need round-the-clock care can stay at home?

INTRODUCTION

“Living in Togedera” is a short story about an imaginary town in the future—Togedera—where care homes for older people have become obsolete because everyone gets to choose a robot if they need round-the-clock care. The story features Hilde, a retired professor of robot ethics who was diagnosed with Alzheimer’s disease at age 74 and her dog Rex on their first visit to the local Robotic Centre. There they meet two robots: Seraph, who works at the Robot Centre, and Sacha, who provides Hilde with digital advocacy and personal companionship. The story gives a glimpse into Hilde, Rex, and Sacha’s daily lives at home, before ending with a twist. This digital utopia is inspired by current research in robotics. Take, for example, the EU-funded Radio project (Robots in Assisted Living Environments: Unobtrusive, Efficient, Reliable,
The project has developed a prototype robot, Zacharias, which is being tested in the homes of willing volunteers, including a 68-year-old woman with arthritis. What is emerging from such research is the possibility that humanoid robots could provide the solution to the long-term care of senior citizens. The world population is ageing; the numbers of people aged 80+ are expected to rise dramatically between 2020 and 2035. Many people will develop dementia, a major, rapidly increasing cause of round-the-clock care and support. Accepting robots into our private lives, into our homes, will radically change our lives. For people with dementia, a fully autonomous, cloud-connected, and caring robot could provide the personal companionship and digital advocacy they need to stay at home. The aim of this text is to inspire a new way of thinking about living, not only for senior citizens, but for everyone.

Tuesday, May 1, 2040. It’s Robot Day, the day Hilde and Rex have been waiting for since her diagnosis. Hilde is bubbling with excitement, but she is also apprehensive. She is on her way to a place she has never been before, to meet her new personal assistant. As they walk through what has become their favorite park in Togedera, Hilde wants to skip, as if she were on her way to school again for the very first time, but she thinks better of it. “I’m 75, not 5”—she reminds herself—and resumes walking along the rusty red asphalt path. Rex wags his short stumpy tail, as if to say, “I’m excited about all this too.”

Hilde feels glad to be alive and living in Togedera. The place has always felt very special and different from anywhere else she has ever lived. For starters, everyone is so kind. This suits her and all the other beings who live there, including Rex, who is as sensitive to reproach as she is, and her friends who have profound disabilities and need others to be generous with their time. Another wonderful thing about living in Togedera is that all the machines in the town are super easy to use and her personal devices only
take a nanosecond to recharge. If only everywhere could be like this. She feels so lucky to live in Togedera, although it is not somewhere she ever imagined she would be.

Before moving to the town, Hilde was a professor in robotic ethics in a small but well-respected university about 150kms northwest of Togedera; after gaining her PhD, she led a program of research on artificial intelligence for supporting people with severe cognitive disabilities to make decisions. Her article on “Digitalizing Control for People with Profound Disabilities” is still one of the most cited papers in *Nature*. It was a sad irony, then, when Hilde herself was diagnosed with Alzheimer’s disease on the day before her 74th birthday. As soon as the doctor told her, she knew what she had to do—move to Togedera, where she knew she and Rex could be happy.

Today, as they make their way through the park, Hilde notices the fog. Not in the atmosphere but in her head. It’s a weird fuzzy sensation that enters her mind without warning. All of a sudden she has forgotten where she is going, what she is meant to be doing, who she is; she cannot even remember her name. Fuck! She thinks. Not this again. What am I supposed to do now? Immediately, Hilda starts to panic. She can feel her heart racing and her muscles tensing but is unable to do anything about it; anxiety sweeps uncontrollably through her body. Rex senses something is wrong, slows down, and looks at her with his doleful eyes. “Please don’t look at me like that,” she says imploringly. “It’ll be okay.” Then, Hilda hears a reassuring voice through her earpiece telling her who she is and where she is going. “Oh yes, of course,” she says to herself, “I’m off to meet my personal assistant.” “How could I forget something as important as that? Come on Rex, let’s go, we’re almost there.”

As they approach the elegant white metal gates of the Robotic Center, Hilde spots the sign that her doctor has told her about. As she looks up to read it, she hears a silvery voice say “Hello Hilde and Rex welcome to the Robotic Center. As you live in Togedera and have been diagnosed with dementia, you are entitled to a free humanoid robot. The gates are opening now; please walk through to the courtyard where a member of staff will greet you. Have a wonderful day!” As they proceed through the gates, the same silvery voice continues to guide her. “You are now in the courtyard of the Robot Center; if you look up you will see your name and appointment time; we are expecting you and look forward to meeting you. We hope you enjoy your visit. If there is anything we can do to make you feel more comfortable, please just ask.” Hilde stands in the middle of the peaceful courtyard and takes it all in; she can smell the lavender pots. Before too long, she notices it—a sleek humanoid robot approaching her from the bottom right-hand corner of the courtyard. Rex has spotted it too: his little ears perk up. The shiny metal of the machine glistens in the
sunshine as it moves effortlessly towards her across the marble floor tiles. It has emerald blue eyes and light pink shading on the lips. This machine has style, Hilde observes. She wonders what it is about robots that humans still fear. Rex lowers his tail, curious to see how events will unfold.

The robot stops in front of Hilde, tilts its head, and smiles: “Hello Hilde, welcome to the Robotic Center. My name is Angela and I am here to help you today. How are you feeling?” Hilde admits to Angela that her legs ache and that she feels slightly foggy in her head. The robot offers Hilde a large glass of clean water, which she gladly takes and drinks in one go. The fog in Hilde’s head finally clears. “Hello Hilde, welcome to the Robotic Center, my name is Angela and I am here to help you today. Here at the Robot Recycling Center, we can help you choose your new personal assistant. Your robot will be customized especially for you; we will program it so it cares for you in just the way you like to be cared for. All our robots are connected to the cloud, so all you have to do is ask it a question and it will answer. If you like, your robot can speak on your behalf when any decisions need to be made. Your robot will always suggest things that are in your best interests. Every robot meets the national minimum safety standards and is made of hypoallergenic materials. Do you have any questions Hilde?” “Yes, I have one,” Hilde said. “Does it like dogs?”

As Hilde sits and waits in the courtyard, in amongst the greenery and fresh flowers, she notices a large digital poster with an eye-catching geometric image alongside the slogan “Our robots are helping you stay informed and in control of your life.” Hilde absorbs the message and starts daydreaming about her life with a robot while gently stroking Rex’s floppy ears. Then, a young woman comes and sits down next to her and introduces herself in the sweetest tone: “Hi Hilde, my name is Seraph, is it okay if I sit here next to you?” “Yes of course,” Hilde replies. Seraph says hello to Rex with a few tender strokes of his back. The two women complement each other on their outfits; Seraph has on a simple silk dress, which suits her slender frame and smooth skin, while Hilde is dressed in her favorite blue plaid skirt suit and navy court shoes. The two women share pleasantries, while Rex lies down to sleep on the cool, marbled courtyard.

After a few minutes, the conversation turns to robots and their favorite features. Both women speak about how thrilled they felt when they first interacted with an emotionally responsive robot. For Hilde, it was in a university lab in South Korea, whereas Seraph first met one during a family day out at the local Robot Science Museum. Interacting with a machine that could actually sense how they were feeling was such a memorable experience. They soon realize that they both moved to Togedera for exactly the same reason: because people get to choose a robot, rather than a care home, when they need round the clock care. Neither women minded
paying the “robot tax,” which the municipality introduced in 2030 to fund the scheme, because they knew it meant freedom and control for so many people.

Hilde tells Seraph that back in the day, her aunt lived in a care home. It was a lovely place, the staff were well trained, and they did everything they could for her, but she was miserable. “Every time I saw her, she looked so forlorn.” Hilde explained, casting her eyes down to the ground. I can still picture her, stroking a robotic seal, as though it was the only thing she had left in the world. I wanted to say ‘You need legal advice, not a pet.’ In fact, I wanted to say that to everyone who lived there, but I didn’t dare. Nobody said anything back then. Older people were just expected to move into a care home, even though we knew that for many it felt like living in a ‘prison without bars’ or the ‘end of the world.’

The same question had gone through Seraph’s mind, as she listened to Hilde talk about her aunt. The young girl had heard of such places but had never spoken to anyone who had been in one. “I can’t imagine what it must have been like living in one of these homes,” Seraph admits. “Having to move in with lots of people you do not know and not being able to go out or connect. It’s unimaginable now isn’t it?” “Fortunately, yes,” Hilde replies. Rex stirs from his sleep, sits up, and looks around. Hilde starts to feel restless too. “Let’s go into the center and meet your robot” Seraph says cheerily. Rex stands up and then Hilde; they are both eager to walk again.

A year later Hilde is preparing breakfast with her robot Sacha by her side. Rex is half asleep on the sofa, he’s never been able to relax completely when Hilde is in the kitchen. “Next you need to whisk the eggs” says Sacha, as she gives Hilde a fork to use. Hilde told Sacha that she was hungry when she woke up so Sacha suggested an omelet, knowing how much she liked eggs. Like other robots designed in 2040, Sacha had a personality and was extraordinarily caring; she would do anything to help Hilde. The machine was also fully autonomous, cloud connected, and always on, so Hilde could rely on her one hundred per cent for anything, including ordering groceries when she was running out of food, so her fridge was always full. They both had got used to having Sacha around surprisingly quickly. At
first, Rex would stick his nose on all the joints of the machine, trying to detect a scent, but he gave up after a week.

As she sits down to eat, Hilde asks Sacha what they are doing that day; she tells her about the check-up appointment at the Robot Center. “Oh yes, stupid me, how could I have forgotten about that. What shall I wear?” “The forecast is showers, Hilde. So, you could wear your favorite breathable trousers and waterproof jacket. I have laid these clothes out on the bed for you.” Hilde starts to daydream about a man she once knew and begins to wish she had chosen a sex robot rather than a care companion.

Instead of going into her bedroom to get dressed, Hilde goes into her study and walks up to the large glass desk she has had since she became a professor. She touches the glass and breathes in the smell of the books in her study to help her feel sensual. She opens a drawer and comes across a folder called *Living in Togedera* and starts to leaf through it. The folder is full of differently colored sheets of paper. One sheet has the words **Participant Information Sheet** in large bold font, and another is titled **Consent Form**. She looks more closely and notices her name, Hilde Borsted, printed in the top right-hand corner of the consent form and what looks like her signature underneath. I don't remember signing this, she thinks, but I suppose I must have done. At that point, Sacha comes into the room so she asks it about the form. “Yes Hilde, you signed this form on February 1, 2040 at 10.47 AM. Would you like to see yourself doing it?” “Ooh yes, I would, thank you.” Sacha presses the button on its chest, and up pops a small video screen, showing a woman in a plaid checkered skirt suit sitting at the same large glass desk she was now sitting at, signing a form. Hilde likes the skirt suit—she has one just like that in her wardrobe—and she recognizes the desk, but she doesn’t recognize the woman. Was it her? Is that really what she looks like from that angle?

“Hilde, this is you, signing the form. Can you see that? Do you have any questions about this film?” “Yes, I do: what’s the form and why am I signing it?” “It is a consent form for the research study that you are in—shall I read the information sheet to you, Hilde?” “Yes, please, Sacha.” “Okay, this is what it says:

**What is this study about?** The study is about developing ethical robots. Togedera is a life lab. A place where everyone takes responsibility for each other and those around them.

**Why have you been asked to take part in this study?** You have been asked to take part in this study because you have recently been diagnosed with dementia and your name is on the register for the *Living in Togedera* life lab project.

**What does the study involve?** The study involves you moving to Togedera—a real community where ordinary individuals and families
live—and accepting a humanoid robot into your home for twelve months. During the twelve months, you will be asked to create moral dilemmas for the robot to solve, and to keep a record of your experiences of living with a robot. Once a year, we would like you to return your robot to the center so that we can carry out essential checks and updates...”

“Stop. Thank you, Sacha; I remember now,” she lies. Hilde doesn’t remember signing the form, but it doesn’t matter. She is quite happy living in Togedera. It is where she has chosen to be. She may not recall making the decision but the fact that she is happy now is all that matters to her. Some people might say that living in a life lab is not real life, but what is real life?

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