

The Publishing series of The Committee for the Future 5/2013

BLACK SWANS

What Will Change the World Next?

ENTRIES FROM THE WRITING CONTEST
OF THE COMMITTEE FOR THE FUTURE
OF THE PARLIAMENT OF FINLAND



Foreword by
Speaker Eero Heinäluoma

BLACK SWANS

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WHAT WILL
CHANGE
THE WORLD NEXT?

ENGLISH TRANSLATION BY RUTH URBOM

PUBLICATIONS OF THE FINNISH PARLIAMENT'S
COMMITTEE FOR THE FUTURE 5/2013

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The ‘Black Swans’ writing competition

A total of 132 submissions were received in the ‘Black Swans – What will change the world?’ writing competition hosted by the Finnish Parliament’s Committee for the Future. The competition was open to the general public, and the panel of judges selected four entries to receive prizes. A further 16 entries, four of which were written in Swedish, were selected for publication in this book.

The winning entries selected by the judges deal with subjects such as energy shortages, the future of Africa, global justice, organised crime and Asia’s role in world politics. The prize-winning entries, whose authors will each receive a voucher for a study trip, are:

I. TERHI RAUMONEN:

WHEN WILL THE LIGHTS COME BACK ON?

What if we become entirely dependent on energy and natural resources from Africa, and African people start to recall what we did to them in recent decades and even earlier? A mischievous, polemical tale about a serious topic containing a skilful blend of bitter and sweet. Subtle ironic humour.

2. MILLA PYY: THE ANGEL OF DEATH

A continuation of the trend of recent decades may give rise to a world ruled by organised crime syndicates and huge technology-manufacturing corporations that have gone into league with them.

The joint third-prize-winning entries provide mutually complementary views of the rise of Asia on the global political stage:

3. JUKKA SIPILÄ: CHINATOWN OF THE CLAY FIELDS

As a result of the rise of China, everything changes even faster and to a far greater extent than anyone would have thought, and some changes come as a

complete surprise to a majority of the population. Major global transformation and anxiety, skilfully grounded in everyday Finnish life.

3. SINIPETRA PAATOLA:

DRAGON IN A SEA OF ASH

A permanent ash cloud falling over Europe has crippled the continent. Asia's global economic giant is taking advantage of the situation. This story is narrated touchingly from the point of view of a single mother.

JUDGING PANEL

Päivi Lipponen, Member of the Finnish Parliament and Chair of the Committee for the Future

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Risto Isomäki, author

Pasi Karppanen, Turku Science Fiction Society

Jyrki Kasvi, Research and Development Manager, Finnish Information Society Development Centre

Paula Tiihonen, Committee Secretary, Committee for the Future

Maarit Verronen, author

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Eero Heinäluoma
Speaker of the Parliament of Finland

Foreword

The rest of the world is now closer to us than ever before. We receive information about events both nearby and in faraway parts of the world almost in real time. All this has been made possible by the development of technology, which has been – and continues to be – directly linked to the rapid exchange of information.

Technology has also created space for the open exchange of data. No longer are we dependent solely on experts and institutions specialising in the exchange of data to obtain information. Numerous new technical solutions provide each one of us with the opportunity to inform our friends and the wider world of events happening around us.

Sharing information has made our world even more open and transparent than ever before. This is something we have always been striving for in our democracy and political movements alike.

Technological progress has not always increased equality among people, though. The flood of information and the ever-increasing role of technology around us can also increase people's sense of anxiety. Many of us may wonder if we are capable of keeping up with all these developments. So the fears brought about by technological progress are understandable.

The Finnish Parliament's Committee for the Future has tackled an important topic: how can we predict the unpredictable? In the course of a writing competition, they have collected many essays and stories with intriguing perspectives on how we view the future, for which we all have expectations and even fears.

The Committee for the Future is given the task of generating fresh, new ideas for parliamentarians who draft legislation. The Committee is very ambitious and productive in this role.

I believe these competition entries will prompt every one of us to think about what we expect from the future and what our own responsibility in shaping the future might be.

Päivi Lipponen, Ph.D, MBA
Chairperson of the Committee for the Future
Member of the Finnish Parliament

Art, science and getting people involved

In the future, will meat be grown in laboratories? Will body parts be created with printers, and will cells be printed directly into our bodies? What will happen when the internet escapes from our computers and phones and merges into our furniture, buildings and cars? Or what if your home becomes a 'smart' house and your fridge, floor, furniture and clothes all start communicating with one another, coming up with their own service system? Will it make your life easier when Kalle, your personal virtual consultant, helps with

everything and can speak to you through the table in the front hall?

Would it mean an end to isolation if we had a video screen on our dining-room wall and the whole extended family could have Sunday dinner together, even though everyone lived in different parts of Finland or indeed the world? New developments help us, but they also present new risks. Will inequality increase between social groups? Will society become more polarised? Will the environment survive?

Predicting the future is a difficult task. Collisions give rise to innovations. The Finnish Parliament's Committee for the Future combines science-fiction with research in futures studies to locate the surprising, impossible breakthroughs of the future.

Financial scholar Nassim Nicholas Taleb has stated that improbable, unexpected events are the ones that change the world to the greatest extent. A few hundred years ago, scholars were burnt at the stake for saying that the Earth was round and orbited around the sun.

The Committee for the Future organised this writing competition for people who want to go down in history as thinkers ahead of their time. As people who were able to see the future before others. Events that change the world can occur in nature, technology, politics, culture, habits, behaviour, values and attitudes. Inventions such as the steam engine, railways, the internal combustion engine and the chemical industry have changed the world. The latest major revolution has been in the creation of microcomputers and data networks. They have impacted our work, our relationships, and nearly every aspect of our lives and our times.

What will change the world? The impacts may be positive or negative. What will the world and life be like in the future? The title of the competition – ‘Black Swans’ – refers to surprising events. No one believed that such birds existed when a species of black swans was discovered in Australia in the 17th century.

The aim of the Committee is to increase people’s involvement in political activities and decision-making. Traditionally, we in the Committee have

listened to experts from research organisations. But it is just as important to listen to people's values and knowledge gained through experience.

That was the inspiration behind this writing competition. We wanted to combine art and science while encouraging people to get involved in our work as a think tank.

On behalf of the Finnish Parliament's Committee for the Future, I would like to thank everyone who took part in the competition. I hope the entries published here will provide enjoyable reading for people who are interested in future issues and want to ensure that the future measures up to our wishes. All inventions and technologies mentioned in the stories will be collected into research material by the Technical Research Centre of Finland, VTT.

The stories have been collected into a printed book as well as an e-book which can be downloaded by anyone in Finland. It can be your very first e-book on your online bookshelf. We hope schools will use this book in their curriculum. There are also plans to produce a parliamentary gift edition of the book to showcase Finnish skills and creativity. The

book will also be translated into other languages so its message can be spread internationally. It can also be used for language-learning purposes. Get involved and influence the future!

Prof. Sirkka Heinonen
Finnish Society for Futures Studies,
University of Turku

The dance of the black swans

What are black swans, really, in the futures studies?
Where do they take off? What do they mean?
What is the use of studying them?

In futures research, the term 'black swans' is used to refer to **rare, surprising and unexpected events**. When they do occur, though, these improbable events have very great effects everywhere in society. The third criterion for black swans is that people try to come up with explanations for them to make the events seem less random and unpredictable than they actually were.

The Finnish Parliament's Committee for the Future is on the lookout for ideas, views and visions of where the world is heading and what life will be like in the future. Everyone can perceive the future as a landscape where signs of the future developments are discernible. Paradoxically, the future already exists here and now – as imagination, wishes and threats. The future is created by making decisions in the present. Thus, the seeds of the future have already been sown in the ground of today. Signs of the development of the future – its trends and pathways – are also evident in the present reality. In this sort of forecasting, it is important to take soundings of the full spectrum of 'the future signs': megatrends, trends, weak signals AND black swans. In the past, forecasting focused on sounding out megatrends and trends and performing impact analyses. In other words, people paid attention mainly to continuities and their amplification.

Several decades ago, people in the field of futures research became interested in studying discontinuities alongside continuities. Identifying

weak signals – signs of emerging, possibly strengthening phenomena – became a key objective. These types of phenomena might arise as counter-reactions to prevailing tendencies. At the same time, people began to pay attention to ‘wild cards’, a term that refers to the same thing as black swans. It is also common to examine the shared points of contact among these ‘signs of the future’ on different levels in forecasting the future. For example, a particular group of weak signals may provide indications of a possible, surprising event that is on its way – a black swan (a.k.a. wild card).

Occurrences of black swans and the effects they produce may be either negative or positive in nature. Thus, the word ‘black’ does not refer to negativity, but to their unexpectedness. The term ‘black swan’ was popularised thanks to a book on this subject by a controversial researcher and author, Nassim Nicholas Taleb. The notion of the black swan has its roots in an old Western belief which held that all swans were white. Then, in the 17th century, people discovered that there are black swans in Australia. **A black swan, therefore, calls**

into question the state of existing knowledge and may instantly transform it. According to Taleb, it is precisely those highly improbable, unforeseen events that change the world to the greatest extent.

Events that change the world and society may occur in any area at all: in nature, technology, economics, politics, culture, values, the way we interact, our customs and habits, beliefs about who we are and the things that are important to us. They may be things that people actively do, or they may be unintended consequences of people's actions. They may also be natural upheavals or things people cannot influence. Some examples of black swan events are the collapse of the Soviet Union, the fall of the Berlin Wall, the 9/11 terrorist attacks, the triple black swan of Fukushima (earthquake + tsunami + nuclear power plant accident) as well as the events of the Arab Spring, which gained momentum via social media. Some significant technology-related discontinuities have also been achieved by breakthroughs in industry: railways, electricity and the internal-combustion engine as well as the chemical industry, transistor technology,

computer games, radio and television. Some breakthroughs in the information society have been the wide-scale use of microcomputers and mobile phones, the internet and data networks, computer programs and the rise of social media. The critical event for the progress and indeed survival of all of humanity was learning to use fire for warmth, cooking and protection against predatory animals.

Strictly speaking, with breakthroughs one should distinguish between the gradual development that was generally evident to some extent on one hand, and the suddenly occurring black swan on the other. For example, we currently have no freely available non-polluting energy use on the horizon. If such an innovation did come about, that would be a black swan.

So, what is the use of observing the dance of black swans? In forecasting, there are many ways to handle black swans. One way is to study the factors that preceded the black swans that have occurred and to find explanations for them, for example, in clusters of weak signals. Thus we can learn to identify similar situations that will lead to new black swans.

Another intriguing approach stimulating futures studies is **anticipating the unanticipated** – that is, identifying and predicting black swans that may be preparing to take off. This approach is at the core of the writing competition hosted by the Finnish Parliament’s Committee for the Future. The approach can also be beneficial in places like futures study workshops, where identifying and analysing black swans is a technique in itself. Futures research has forecast the following as examples of black swans that could take off: a sudden total collapse of the internet; a lengthy, widespread power blackout; a new pandemic; learning to implant information in people’s brains; the invention of fully realistic 3D virtual modelling technologies; and the rise of new, primarily internet- and social media-based religions.

Black swans fly past the concept of probability at great speed: they are visible as increased uncertainty factors and future possibilities. Black swans are also the potential for highly contradictory events – they do not pile up from the present-day combinations of certainties. We do not notice the fancy footwork of

new black swans unless we use our imagination and visualise events that are on the edge of impossibility.

Readers of this book may notice how **the origins, nature and impacts of unanticipated, improbable and surprising events are portrayed in original ways in these stories about the black swans of the future.**

At first glance, a black swan is something surprising, perhaps even shocking, and it occurs without warning. ‘Surprise’ is a rather more subjective label than probability. Surprise is dependent on an individual’s image of the world, so it is not very applicable as a criterion. Nevertheless, the question ‘What would surprise you?’ is a good starting point for identifying black swans. The element of surprise often fades away when we embark on a closer analysis.

In a way, the definition above eats into the true value of the concept of black swans. When they are described as having a low probability but a significant impact, that ignores a key point, namely that black swans upset the status quo not only because they have dramatic effects on society but because they generate a shock as they do not fit

into our regular mindset. They conflict with our conception of how things normally progress. They challenge the concepts we use to perceive the world and even make them look ridiculous.

Black swans are ‘mental earthquakes’ that change the landscape of the future. Black swans strike like lightning from a clear blue sky. This is a characteristic they all have in common. Then again, there are many different kinds of black swans. For example, the discovery of superconductivity at extreme temperatures generated different effects than a panic about nuclear fallout. A new pandemic illness progresses in a different way than a disturbance in the Gulf Stream. Political upheavals utilise different models than the spread of genetically modified organisms. Various perspectives and criteria may be used in taxonomising and classifying black swans. They can be roughly classified according to whether they are natural disasters, inadvertent black swans that take off as a result of human actions, or ones that are intentionally released (see the section ‘topic’ below).

Flocks of black swans

- **Topic.** The theme of the black swan and its division into groups: a natural disaster or an event caused inadvertently or on purpose by people. We also distinguish between technological black swans, such as nuclear fusion and conscious robots, and political black swans, such as terrorist attacks, revolutions and assassinations.

Numerous typical black swans from the ‘natural upheaval’ category can be found in the submissions to this writing competition: meteorites, volcanic ash clouds – even an ash cloud that permanently obscures the sky – and the end of the world’s petroleum reserves. Black swans intentionally caused by people are cloaked as terrorism or organised crime. The rise of a military dictatorship to take over the leadership of the world and the poisoning of water supplies are swans with pitch-black plumage. Another frightening black swan is born out of the radioactive fallout after a couple of hundred nuclear blasts China, Korea, India, the USA, Israel and the Arab countries end up in the

dismal embrace of an out-of-control war. Billions of people die from the direct effects within a few days and countless others succumb indirectly to cold, hunger and disease. Several lucky souls manage to flee to Mars on grain cargo ships and preserve the remnants of civilisation. One surprising black swan – albeit one not overflowing with malice – intentionally caused by one person is a humorously portrayed lorry driver’s obsessive wish to increase the range of species in Finland, and the actions he takes to achieve this.

Unintentional black swans are rare in the competition entries. The majority of them are either related to upheavals in the natural world or events or sequences of events catalysed by people’s own actions. An unintentional black swan may arise as a counter-reaction. With secularism having reached the saturation point, religion – specifically, Nordic Christianity – becomes surprisingly popular.

Many black swans have to do with technological developments. There are space elevators and flying skirts. People have reached the moon and Mars – either by fleeing or as the result of technological

advances. Artificial intelligence and smart devices assist us; this is not characterised as a black swan – a surprising event – because many of them are already in use. Perhaps the widespread adoption of nano-robots and artificial wombs would be revolutionary. Digital rings and eyeball incubators set imagination racing. Or would cars that have no front engine compartment and run on paper batteries have a sufficiently dramatic effect on transportation to be a black swan? We could achieve eternal life by slowing down cellular metabolism so that our organs would remain forever young by means of regeneration. In one story, fossil fuels are superseded by renewable forms of energy and geothermal energy sources. In another, our energy requirements are linked to the prevention of public health issues when citizens are forced to generate electricity through exercise. People have even learned how to store the energy from joy and laughter in ‘laughter coils’, and even the energy from the moon’s gravitational pull has been harnessed. In some black swans, the hydrogen economy has become pre-eminent. We have

mastered synthetic materials and nanotechnology. In a symbiotic relationship between humans and machines, electrodes from a psycho-cinema camera can be connected to a person's head. Another story imagines a mini-computer implanted in everyone's body to assist with everyday tasks. In one tale, a revolutionary means of brainwashing becomes a hot export item to prevent bloody wars in the Middle East. In the field of education, an 'airschool' is developed to educate residents of developing countries – people are taught about health care and how to dig wells by means of floating crystal plasma screens. A typical black swan – the total crash of computer networks – could achieve a social innovation, namely: presence. For the first time in modern history, it would appear that people live in the same time and place with one another.

Communicating across light-years or even with the future becomes possible with a Direct Communication Device. In the media, a full-blown revolution is brought about when telephones and television are augmented by telepathy, which has

been extended from military applications into general use.

On the work front, the sweeping automatism of Finland is imagined as a black swan. In one story, a social system constructed for work is tightly restricted within historical, national and ethnic groups. Another work-related black swan depicts a scenario in which each person is an individual entrepreneur, responsible for his or her own livelihood.

Submissions to the competition also describe social innovations in the form of black swans. Instead of punishing offences, a system of rewarding good deeds is introduced in one story. Some entries include dystopian black swans. A return to a caste system would be a surprising event that would shake the society: the adoption of three castes (the beautiful and perfect, the middle class, and the slaves) would be based on subjugating people and on classifying them according to external characteristics.

It is worth noting that in this writing competition even the blackest swans can contain humour and

positive aspects. There are also some black swans that describe a surprisingly brighter world. A message from the Federated States of Micronesia dated 12 May 2412 radiates harmony. Love, cooperation and the protection of life are held to be universally important qualities. One brilliantly radiant black swan comes about when someone starts to reconsider the meaning of life and notices that happiness and joy do not come from the outside, but from within ourselves. Focusing not on conspicuous consumption but on people, humanity, togetherness and helping one another, that is, the things that are the purpose of life, are portrayed as a black swan. And when put into practice, that is what it would be: in that story, the black swan glides along more as a goal than as a sudden, surprising occurrence that dispels evil, unhealthy competition and material acquisitions. The most enlightened black swan is seen at the nexus of people's ethical awareness and in encounters with others – a turning point in our evolutionary journey to a charismatic state. There may be a black swan already living inside us that accomplishes a rapid

change in values: an ethic of cooperation opens our hearts to a sacred, genuine encounter.

• **Sphere of influence.** Are the effects of a black swan limited to a particular area of life, a single field, a single region, or not? We should distinguish between global black swans (such as an asteroid crashing into the Earth) and local ones, such as the unexpected effects of climate change on a particular area. Black swans that impact a particular field of activity, such as the identification of hazardous substances (the asbestos crisis is one example) are different from the wild cards that affect the entire population.

In this writing competition, global black swans take off as a result of events such as the sudden collapse of democracy. In one story, this is the result of a violent takeover of Europe by fundamentalist countries and a reconnection of Church and State. Europe constitutes a single veiled theocratic super state. An era of assassinations triggers a wave of asylum seekers.

In one description of a black swan a huge wave of immigration comes to Finland resulting from

a meteorite hitting Central Europe. In that story, 17 million people are left homeless, with no way of getting by. The dramatic effects on this country are seen in the challenge of finding housing for a population around three times as large as that in the post-war Finland. The effects of that black swan have intriguingly positive aspects. We see examples of people's clever resourcefulness to get through the disaster. At the same time, an atmosphere of tolerance arises and new social practices are created.

One local black swan takes off precisely out of localism: Finland's northern location propels it to the pinnacle of success. Nordic reliability is transformed into a brand and a guarantee of quality in demand all over the world. In another story, Sweden, Finland and Norway join to become the Nordic Territory.

China is riding on the back of many descriptions of black swans – for better and for worse. China's power rolls into Finland, which becomes the first European country to adopt the Chinese calendar and turn to Confucianism. Russia is a topic in several entries. The black swan with the broadest

sphere of influence concerns the existence of parallel worlds.

Once 3D printers become ubiquitous, they may become a black swan that shakes up manufacturing structures. Besides utensils, furniture, food and electronics we might even be able to print replacement parts for the human body. This sort of self-organising production emphasises free, creative design. Above all, it is a manifestation of the third industrial revolution, in which decentralised production breaks down the divisions between producers and consumers and households become places of production once again.

- **Likelihood.** By their very definition, black swans are quite improbable. Nevertheless, we should evaluate whether a black swan is particularly improbable or unique, or just not very likely. Another distinction which carries more psychological weight is the notion that some black swans are plausible because they fit our image of the world – this includes many natural disasters. Other black swans are not plausible: they go against our intuitions

and common sense, though they are not absolutely impossible. From a methodological viewpoint, it is also worth bearing in mind the black swans that are considered to be impossible, because even at its best, the vacillating boundary between the possible and the impossible is based on the information available at the time as well as the on investigator's individual view of the world.

After further investigation, a black swan that seemed virtually impossible may become possible when exposed to certain conditions and preceding events. Eternal life fulfils the criterion of unlikelihood for a black swan. Could we think of it as a plausible possibility, and if so, on what conditions?

- **Timescale.** We can also make a distinction between black swans that have an immediate impact, such as many types of catastrophes, and black swans that take some time to have an effect. The effects of the latter type become evident in the medium and long term, as in scientific breakthroughs.

In this writing competition, the time it takes for the black swans to flap their wings varies across a wide scale. From 2017, the time frame extends to the 26th century and even as far as the era of superconductors in the 33rd century, when according to one story, our energy currents will produce readings in the Andromeda Galaxy. In another story, a positive global-culture black swan is unleashed by exotic technology in a post-industrial age, at its peak in the year 2300.

In 2555 the use of noisy computers, vehicles and equipment will be punished severely. In that story, the black swan is the realisation of the importance of silence in integrating people and ecosystems. The capacity for silence becomes a valued resource, and areas that embody silence become therapeutic travel destinations.

Conclusion

All in all, spotting black swans is a matter of developing futures studies and improving the

awareness of the future. The bolder and more open – and the more long-ranging – our investigations of alternative paths and events for the future are, even those that might seem virtually impossible, the more we will enhance our future competences – our ability to prepare for the future, while minimising risks and proactively seizing opportunities.

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Terhi Raumonen

When will the lights come back on?

‘Very impressive.’

Those were the words of Niemistö, one of the officials. Pertti Katainen did not contradict him, but he could feel a growing anguish. There had been surprise and admiration in Niemistö’s voice. Their car journey from Kinshasa International Airport had shown them amazingly colossal, gleaming new factory complexes. One modern industrial facility after another sparkling in the blazing midday sun from behind a chain-link fence, and what’s more, building sites with construction workers in hard hats swarming like ants among the equipment.

The facilities were enormous. Thousands of people worked in them. They were constantly churning out products by the cargo load, filled to the brim. They kept grinding away, day and night. They had power.

Pertti Katainen dug out a hanky and blotted the sweat from his brow. The car was a luxury model and had decent air conditioning. Still, the Congolese climate felt oppressive to him, a man from a northern country. But he was also carrying a hefty burden. He had an impossible task ahead of him.

The industrial areas came to an end, and suddenly they were in the city. The car sped into a tunnel and then back up onto street level. It entered a shiny multi-storey car park and the driver turned off the ignition.

‘Here we are, Prime Minister.’

They were at the Democratic Republic of the Congo’s Ministry of Energy. Pertti Katainen wiped his forehead again, straightened his tie and picked up his briefcase. This was it.

President Aren Mukena did not care for unnecessary formalities. Prime Minister Katainen and Niemistö and Lindgren, the two government officials, were shown to a comfortable seating area where a wide range of refreshments had been laid out. There were chilled drinks everywhere, and some tempting exotic fruit had been put on a bed of ice. Katainen settled for a glass of water with ice cubes at first, but the officials did not stand on ceremony: they each piled a plate high with juicy, ice-cold fruit.

Mukena himself was dressed a couple of notches more casually than his visitors from abroad. The sixty-something man was decked out in a green short-sleeved shirt and light-coloured summer trousers. With his lean build and erect bearing, the president seemed crisp and jovial, and he made Pertti Katainen feel even more uncomfortable. The African climate, a tight necktie and a request that was doomed to fail, he cursed to himself.

Mukena opened up his laptop.

‘I must admit I did not know anything at all about your country. So my assistant prepared a

small briefing document for me focusing on the things that are relevant to the matter at hand.’

Katainen nodded eagerly. Fortunately the president spoke beautifully clear French, so he had no difficulty understanding.

‘So you know our industries are in dire need of energy. Many factories have been forced to shut down solely due to a shortage of electricity.’

Now it was Mukena’s turn to nod as he smiled at what Katainen was saying. He opened a slide presentation on his computer, and a data projector shone it onto the wall opposite. The French text reeled off some key figures for a country called Finland. There were images of lovely lakeland scenery, white-trunked birches, strawberry vendors in summer market squares.

A tiny spark of hope was kindled in the prime minister. Perhaps there was a possibility. Finland was no Belgium, which had a dark legacy with the Congo. Nor was Finland Germany. The ambitious goal of the German-controlled Desertec corporation had been to supply 15% of European energy requirements with electricity imported

from the deserts of Africa by 2050. Desertec and the Germans had been kicked out of Africa, though, because Germany had been transporting electronics waste there for decades, polluting the continent and refusing to take responsibility for the matter. Switzerland and the Netherlands had been blacklisted for the same reason.

The vast solar fields were now generating electricity for Africa. There were cables that went across from Morocco to Spain and from Tunisia to Italy, but only marginal amounts of power flowed through them. A power grid costing billions had been constructed in Europe specifically to transmit electricity imported from Africa, but now it was nearly idle.

Niemistö swallowed a bite of melon and made some brief remarks about the grid, which had cost tens of billions in taxpayers' money from Finland as well.

‘... And our climate –’

‘– Is cold,’ President Mukenya finished his sentence for him. ‘You need a great deal of energy for heating as well. You burn a lot of wood, which is

starting to run out. You do not want your people to end up in dire straits. I dare say we Africans know a thing or two about that.'

The officials smiled awkwardly.

'Back in the 2010s scientists calculated that the arable land mass available at that time should be sufficient to feed the entire global population,' Aren Mukena continued. 'Yet many places, including here in Africa, were experiencing terrible famines.'

The president clicked ahead in his presentation. There were images from the early 21st century: Finnish people in their homes, out and about, carting duty-free alcohol off the ferry from Estonia, on holiday in the Caribbean and Thailand. Niemistö and Lindgren glanced nervously at Katainen.

'The thing is, there is strong political opposition to the sale of energy to Europe. Our media bring up the past a lot, and one issue that keeps coming up is that when Africans were dying from a lack of food, medicines and clean drinking water, people in Europe were living on the fat of the land. We have a hard time justifying why we would sell electricity

to you when we could use it here ourselves.'

Prime Minister Katainen gulped. The situation was starting to bring back unpleasant memories of his previous unsuccessful meeting in Africa. That time, Katainen had been accompanied by his Swedish, Norwegian and Danish counterparts. The Somalian minister for energy, Nadifa Bushra, had sat opposite them at the conference table. She, a strikingly beautiful 52-year-old woman, had been clad in an ochre-yellow ensemble which lent her dark skin an alluring glow.

'It is true that we have got three large solar fields under construction at the moment,' Nadifa Bushra had confirmed in a velvety voice. 'But our parliament has just enacted a policy to utilise the energy generated by those solar fields for our own industrial requirements.' Katainen tried to stammer out something about the acute energy deficit of Finnish industry, but his plea got muddled in with his Nordic colleagues' explanations that were all bouncing around. They were like a bunch of nervous schoolboys trying to explain to the headmaster what they were up to.

'Jytky' was the next word Nadifa Bushra uttered through her full, bright red lips. Pertti Katainen thought he had misheard the Finnish word popularly used to refer to the surprising electoral success of a populist, nationalist party. But no, Minister Bushra's staff had been busy digging up all sorts of things like that from the past, things Katainen would have preferred to forget. 'In 2011 a large number of your people voted for a party that thinks your welfare system is only for native-born Finns. Two years later, Somali refugees who had arrived in your country were returned to Somalia at the instigation of an MP from that party, despite the fact that the security situation here was very poor and our country was experiencing a terrible famine due to drought,' Nadifa Bushra recited, and Pertti Katainen understood the game was over. It was hardly any consolation that the other Nordic countries were left empty-handed as well. Minister Bushra beamed as she said goodbye to them and expressed her hope that trade between Somalia and the Nordic countries would continue to flourish, as Somalia's exports had been increasing exponentially,

and Somali companies had interesting products that would certainly meet their requirements as well.

‘You knew.’

Those two crushing words brought Pertti Katainen back from his musings. He could not bring himself to look at Aren Mukena. He looked at the wall instead.

‘You knew it was possible to grow enough grain to feed all the people of the world. But you fed the grain to your cattle and pigs, because you wanted to eat the cattle and the pigs.’

Katainen gave an imploring glance to his officials. Niemistö’s cheeks were glowing bright red. Lindgren poked a large piece of melon into his mouth as if it were the most important thing in the world. These two were not going to be any use on this trip!

Chomp. Katainen forced himself to look at the wall, where there was now a photo of a fat, sunburnt Finnish couple sprawling on a sandy beach, each with a drink in their hand.

‘You ate so much you got fat and ill, didn’t you? While we were starving.’

‘Yes, that’s right,’ Katainen agreed feebly. ‘Fortunately we’ve learnt since then ...’

‘I believe you,’ President Mukena said with a sympathetic smile. ‘The problem is that people still talk about these old matters a great deal. The past is still here in the present, whether we like it or not. Did you know that our biggest television network broadcast a Nigerian investigative report last week about Shell’s dealings in Africa?’

‘No, I didn’t know that,’ Katainen mumbled meekly, then loosened his tie. If this had been a matter only between the Democratic Republic of the Congo and Finland, things would have worked out, he thought to himself. But the past thirty years had seen something happen in Africa which many – or nearly everyone – had thought impossible: the continent which had been riven by tribal conflicts and violence had been restored to order and had started to look after its own interests.

‘Shell was pumping oil out of impoverished Ogoniland, making fat profits and paying what they saw fit to the corrupt Nigerian government. The Ogoni people stayed poor in their polluted land.’

Niemistö cleared his throat.

‘As I recall, a UN tribunal investigated those environmental disaster sites and found no evidence that they had been caused by Shell, beyond a minor amount.’

‘Indeed, the evidence,’ Mukena snorted. ‘That’s exactly what the television report addressed: what happened to the evidence.’

‘Shell was a Dutch-British conglomerate,’ Lindgren said with a dismissive wave.

‘True,’ Mukena conceded. ‘But I have here a list of its chairmen of the board. Jorma Ollila – do you know who he is?’

Prime Minister Katainen nodded slowly as he instinctively rose from his seat. The others immediately followed his example, including President Mukena. Everyone understood that the meeting was coming to an end.

‘I’m sorry,’ Aren Mukena said, and he sounded sincere. ‘I think I would like Finland and the Finnish people. My assistant brought me some music by Sibelius to listen to. I liked the Karelia Suite very much.’

Soon they were whizzing past the car windows again, those gigantic industrial facilities.

‘Should we have mentioned Martti Ahtisaari?’ Niemistö asked after a period of silence.

‘One Ahtisaari doesn’t make a summer,’ Katainen snorted. ‘Neither does one Haavisto.’

‘You can’t say this has been a major failure,’ Lindgren tried to cheer up the negotiators. ‘I mean, this outcome hasn’t been something people have known about all that long. After that Somalia gig, it was clear to everyone where things were headed ...’

‘Don’t remind me about the Somalia thing!’ Pertti Katainen snapped.

In the lavatory on board the plane he splashed cold water on his face and wondered whether his grandfather had had any missions that were doomed to failure in his career. How had his grandfather handled the subsequent press conferences without taking leave of his senses?

Maybe his grandfather had had stronger nerves. Pertti had been told he’d inherited his grandfather Jyrki’s boyish appearance and his deep, impressive

speaking voice. Why hadn't he inherited his nerves as well?

'Prime Minister, I really should leave you here.'

Pertti Katainen had dozed off and woke up when the driver spoke to him. He saw the dark country road and forest outside the car windows.

'What are you playing at? It's still a long way to my house from here!'

'About three kilometres. But the car's battery indicator says I won't make it to the next charging point if I don't turn round now. I wasn't able to get a full charge at the Helsinki airport because they were rationing it,' the chauffeur explained.

'Bloody hell! You're not going to dump me here in the woods in the middle of winter,' Katainen barked. 'Charge the car for a bit at my place, you hear?'

'Yes, sir.'

They continued on their way. Pertti Katainen tried to relax – to forget the press conference that awaited him in the morning and to remember that he was nearly home with his wife and children. It would be good to be there.

‘Prime Minister, your house is completely dark.’

The driver’s voice was tense. The prime minister leaped out of the car.

Anniina was in the garden with the children, building snowmen. There were candles burning in the outdoor lanterns.

‘The electricity’s gone out, only the heating is still on,’ she said. ‘I phoned the electricity company and they said we’ve used up our maximum weekly quota. They wouldn’t agree to make an exception.’

Six-year-old Sirpa tugged at the sleeve of her father’s coat.

‘Daddy, when will the lights come back on?’ she asked.

‘Daddy doesn’t know,’ Pertti Katainen sighed.

Milla Pyy

The Angel of Death

The shape of a pallid, lifeless hand captures my gaze as they carry the woman to the black pick-up truck. Delicately reddish hair, similar to my own, spills out from underneath the grey blanket over the edge of the stretcher and flutters in the wind. I watch the vehicle drive as far as the end of the road, until it turns off to the right and the only thing I can see are the exhaust fumes hanging in the air. I know there is a tall barbed-wire fence at the end of that road, as well as more casualties brought there in black vehicles. And more will be brought in. The only radio station that's currently licensed is booming from the computer behind me. I remain there to listen to the news I've already heard ten times today.

Most of the footsoldiers behind the Russian mafia attack that shook Finland yesterday have been arrested and are now being questioned. We ask that listeners report any escapees they spot to their nearest E-station or phone our radio station. The Angels have asked us to remind everyone that sheltering Russians is a punishable offence.

The city of Kajaani's defences crumbled overnight when an estimated ten-strong mafia gang struck the border station and opened fire on houses. In the city's northern districts of Kättö and Kuurna, volunteers are searching through the debris of the houses, looking for survivors. The Russians were stopped before they reached the river, and the city centre was saved from attack.

There will be a memorial service tomorrow for more than thirty victims of the attack at the central E-station. Among the dead is Colonel Neva, one of our nation's elite, a mother who was commonly known among her colleagues as the Angel of Death ...

I cannot bear to listen any longer, so I ask my brother to turn the radio down a little. For once, I am understood and soon the noise behind me is

reduced to a feeble whine of random vowels. I sigh silently as my neighbour gives a melancholy smile of encouragement and waves from his renovation work on the opposite side of the street. I give a half-hearted wave back and pick some embedded fragments out of the wooden fence in front of me. I cannot stop the tears running down my cheeks when one of the pieces of metal that is slightly larger than the rest slices into my hand. I turn my back towards the dusty road and look up at my house, which is in no better shape than any of the other houses in the street.

Every window on the side facing the street has been shattered, and there are shiny little shards on both sides of the door that was kicked off its hinges. My younger brother, who's only six, is using a dustpan and brush as if they were the best toys in the world. I wave to him and he waves back with a cheery smile, even though his face is bruised and grey with dirt. As I walk up the path towards the house, clutching my hand, my elder brother appears with my father in the opening where our kitchen window used to be.

I trot over to them and hold out my hand so Dad can treat my deep cut. My eyes wander from the wrenched-loose door frames to the walls, and I can see hundreds of bullet holes in them. I know that there is not a trace of gunshot indoors other than around the front door. As I admire our fortifications, I am struck by an image of the red-haired woman who, with a cheery, almost devilish smile on her beautiful face, closes the door to the shelter concealed under the kitchen floor behind her as she steps out of her family's home once again.

My mother is a national hero. I can remember her telling me stories even when I was very little of doing battle against all kinds of enemies (Arabs in the Middle East, Americans in Cuba and so on), both in Finland and abroad. She always told me about them in the same enthusiastic tone which I couldn't understand. Her dark green eyes gleamed and her face appeared at least ten years younger as she told me what she had seen in the world with her beloved gun. I'm certain that pistol was the source of my mother's nickname.

Last night she was no different.

Mum came into our bedroom in the night and ordered us, her children, to crawl super-silently through the house into the kitchen. She was standing guard with Dad in the shelter of the doorway, as the bright yellowish beams penetrated our house, searching for any movement to target in their attack. Mum never looked alarmed or worried for a moment.

As I lifted up the heavy hatch in the tiled floor, Mum went into her office without making a sound, like a shadow. When she returned I could see a wing-shaped holster swaying on her slim hips and woke up to reality: this was not one of the many drills we'd been regularly going through all year.

Attempting to be just as brave as the woman whose shadow was protecting me from the big, bad world, I pushed my brothers down the stairs leading into the blackness under the floor. I quickly snatched a torch from the kitchen cupboard before I dived in after the boys. Behind me I could hear a heated conversation and unhappy growling, but soon that grew quiet as well and my parents came

down behind me into the underground passageway and caught me lost in thought.

After about five minutes' walk we finally reached the door to the shelter. Its huge size reminded me time and again of those massive steel bank vault doors, even though I knew my mother claimed that the door in front of me was made from some totally different material. Dad pressed his hand against some soft blue gel on the wall, and with a faint whooshing noise, the door opened.

As time dragged while we were imprisoned in our own home, I half-listened as Mum told us that she'd awoken to the sound of gunshots. Her well-practised ears could detect shots being fired all the way on the other side of town, or at least that's what she always boasted. Mum immediately sprang into action and prodded our somewhat unhappy father to go and wake us up. Once we were in the kitchen she spotted the Russian flag on the coattails of a man going past the window, and once we had reached safety she wondered aloud in irritation at the fact that the E-stations still hadn't reacted.

We had been in our bunker for a little under an hour when we heard a scream far above us, presumably the neighbour, and a series of rapid shots. I gritted my teeth and looked at my mother, who clenched her fists and hissed an angry exchange with my father. Dad soon lost that quarrel as well and strode over to the rear wall of our concrete cell, which was barely perceptibly trembling. There he muttered something at the wall and part of the black-painted wall changed colour, revealing a glass case.

Dad opened the door made of smart glass and picked up several bullet clips and another pistol. Fuming, he shoved them into Mum's arms. With practised movements, she hid the clips in her numerous pockets and filled the empty clips with bullets. Finally, she handed the second, simple pistol to me. I was marvelling at its weighty, cold feel when Mum slid two spare bullet clips into the pockets of my jeans and whispered into my ear:

'Mummy's girl.'

Crystal droplets were already flowing down Dad's cheeks.

Now, recalling that here in the garden, I hold back my own tears as I notice some noise building up in the background. My mother's face is still hovering in front of me, from just before she closed the shelter door behind her; now I can see a damp outline welling up in her eyes.

...in the Far East between China and the Yakuza are still worsening. We have received reports of numerous terror attacks directed against the Chinese government, believed to be the work of members of the Yakuza or at least persons working under their command.

Meanwhile in Central Europe, the Aryan Nation has gained control of territories from the Italian mafia and are now trying to push their way north. The Hell's Angels defending Finland have already reacted, and communications between E-stations have been modified so that in the event of an attack, experts say the response time will be less than an hour regardless of where details of an attack have come from. The Angels' president assures people that no threat from the Aryans is imminent.

In America, the Mexicans are gaining a firmer foothold...

I give a little chortle to myself when I remember how Mum sometimes used to say in jest that some day organised crime would start to take action, and then the national governments would have no choice but to follow the chaos from the sidelines. She told Dad this around a decade ago when she was still serving as a hired killer and working with criminals. I was only seven at the time. Now, years later, she just carried on laughing at how that random thought had actually come to pass, and even quite brutal criminals had been dubbed heroes.

I am startled out of my thoughts when I hear a familiar low rumble behind me. Men and women wearing skull waistcoats are riding their motorcycles past our house in a display of respect for their best hired killer, friend, and member of the family. I wipe the tears from the corners of my eyes and wave to them with a smile, because they're my family as well, the angels who have come to protect us on behalf of my mother.

After their salute and once the smell of petrol has dissipated, I raise my head and look at my real family, who have come to stand beside me. Dad is evidently startled by my cool expression, but he does not attempt to stop me as I stride confidently over the smashed-up threshold into Mum's abandoned office.

There, on the large old-fashioned desk, lies the gun in its holster. I pick up the holster and fasten it around my thigh with a fairly short strap I found in the desk drawer. Its skilfully incised wings tickle my skin through the thick fabric of my trousers. For the first time in my life I pick up my mother's beautiful pistol and inspect it closely. With my finger, I stroke the embossed skulls on its grip, then pull back on the firing pin the way my mother had taught me long ago and guide it back into place. As I slam a full clip into the gun I notice the unusual trigger. It's like a toe with a long, black claw sticking out.

My eyes begin to shine more brightly as I put the gun into the holster on my leg. Even though Mum is gone. Even though our home has been destroyed. When the war broke out, Mum sent the Angel of

Death to protect us. It's my turn to step into my mother's shoes.

I walk back out into the garden and shake my brothers' hands with a mischievous smile.

Jukka Sipilä

Chinatown of the Clay Fields

Laaksonen awakes to the sound of gunfire, or at least that's what he thinks it is. The banging continues, and Laaksonen gazes in fear at the incandescent bulb dangling from the ceiling in the dim early-morning light. Eventually he realises he is in his own flat, and the banging is the sound of fireworks. He has not got used to these early-morning cracks and pops. Nearly every Friday, Saturday and Sunday starts off with a fireworks display to herald someone's wedding ceremony nowadays. A new custom which is not, if truth be told, a tradition in this country.

Finland is rapidly becoming the most Chinese country in Europe. This process is as fervent as

the Kalevala rogues' Americanisation in the 1980s. In the 1990s, Finland was called the Japan of the North, until the Japanese economy got stuck in a long-term recession. After the turn of the millennium came the fastest Europeanisation in history. In those days the nation was in clover and Nokia was raking in the cash. Now, thirty years on, Finland is turning into a nation of Chinese immigrants. People drink green tea, while noodles have become more popular than potatoes. Konka, the Chinese electronics giant, acquired the waning Nokia brand, just to be on the safe side. Several European companies have ended up with the same fate. The list of Chinese-owned brands is a long one: BMW, Harrods, Ikea, Philips and many more.

Laaksonen lumbers into the bathroom and takes a look at his grey face reflected in the mirror. A rice-vodka belch resonates through his whole body. The drudgery of life has served up that same brew to him on too many evenings. Laaksonen washes his sweaty armpits in the washbasin. The hot-water rationing does not tempt him into the shower.

Fortunately tomorrow will be Saturday. The fawning over the Chinese leadership feels more nauseating to Laaksonen from one day to the next. If Laaksonen had any other options, he would hand in his notice straight away. Unfortunately the Asian esteem for seniority has not taken root in the contemporary Finnish labour market. There is nothing available for a sixty-something economist besides serving as a stooge to the Chinese. Since the much-vaunted Finnish pension system was ruined as a result of the collapse of the euro, people have been forced to keep working for as long as they are able.

Laaksonen is a managing director, but his title is just a joke. Again today his task is to take Chief Executive Wu's wife shopping in Helsinki. On other days, he signs a few papers and slouches around the factory, trying to avoid coming into contact with his immediate supervisor.

For breakfast Laaksonen has some lukewarm tea and reheats the noodles from the previous day. There is no longer any proper coffee to be found in the shops, and if there were any, it would cost an

arm and a leg. The lack of coffee and the moon-faced health experts have managed to get people to believe in the health benefits of green tea.

Laaksonen gargles with peppermint mouthwash to mask the stale booze smell. The zero-tolerance traffic law is monitored regularly. That's another import brought by the new ruling class. Laaksonen unplugs his car from the charging point and gets in. The little electric Volvo makes no noise at all. Long gone are the days when a Volvo was the number-one dream of every sales rep.

The red banners hanging up above Kartanonkatu remind people of the approaching Year of the Pig, which is supposed to bring prosperity. Laaksonen suspects that promise applies only to the Chinese. Under the old calendar, it would be Christmas soon. Finland is the first country in Europe to have adopted the Chinese calendar. The holidays from the Christian calendar were deleted in one fell swoop.

Forssa is an old industrial town whose factories were mothballed in the early 20th century. Now the premises are buzzing with activity again, and new

facilities are being built. In recent years, the city has become a proper Chinatown. Good-quality, vacant premises in the former window factory attracted the first Chinese refrigerator assembly plant to the city. Soon thereafter a second factory arrived, and then a third. The Chinese socialise among themselves, and now there are some four thousand of them in the city. Against its wishes, Forssa has succeeded where the town of Kouvola in south-eastern Finland tried a few decades previously, with meagre results.

In the grey morning, the wind stirs up the last leaves of autumn on the asphalt. Red flags flutter in front of the former church hall. That building has been converted into a restaurant by the name of Dragon Tail, which is now the largest dining establishment in town. A shortage of funds forced the congregation to sell the property. Large-scale defection from the church has eaten away at its assets. Confucianism is now increasing in popularity among Finns as well.

Laaksonen brakes by the corner of the market square when he spots Eino Virtanen, the former shop steward at the Finlayson textile plant.

Laaksonen feels sorry for the old man, who now works as a courier for a Chinese corporation.

‘Ni hao, Comrade Virtanen,’ Laaksonen calls out as he opens his car window. ‘How are things?’

‘What’s there to say? Parcels come and go. Panda Express – almost there as soon as it leaves.’

‘It might snow today. Pretty bad road conditions for a bike.’

‘It doesn’t help to complain in a service job,’ Virtanen replies.

‘Come in and warm up when you deliver something to the plant.’

‘Thanks for the offer. The workers will remember you when the revolution dawns!’

Laaksonen closes his window and shakes his head. The battery on that electric bike won’t last all day in this cold weather. Virtanen has a tough afternoon ahead of him.

In the market square, the Chinese merchants in quilted jackets are selling cheap electronic gear, aphrodisiacs made from ginseng root, and live animals for food. The sale of chickens in the square attracted opposition at first and required

an amendment to the city regulations. The neon sign of the Bank of China glows in one corner of the square, in the same place where the division-sign logo of the Osuuspankki savings bank used to stand.

As he drives along, Laaksonen has time to reflect on his life yet again. He lives on his own and has done for nearly thirty years. In the list of contacts on his phone, 'Home' refers to the Home Pizza chain's ordering line, not to anyone who would be waiting for him at the same address. There was a time when his wife leaving him and the bankruptcy of his employer plunged his life into the melancholy of the clay fields of his autumn years. Long-term unemployment forced him to sell his apartment and rent a cheap studio flat. Soon his friends began to shy away from his shabby countenance. People feared they might catch his bad luck.

The offer of a position as managing director seemed like winning the lottery to Laaksonen. A recruitment consultant contacted him on behalf of a company based in Luxembourg. The consultant said they were looking for a top manager with textile

industry experience. Laaksonen was suspicious of the offer at first. Having thought it over, though, he really did think his luck had changed. Could there be some justice in life? True, the textile plant start-up did sound very odd. The consultant talked a lot about the city's history in textile manufacturing, business clusters and skilled work force. Laaksonen wondered to himself whether the consultant was looking to recruit professionals from old people's homes, but in the absence of anything better he accepted the job offer. That's how easily a person can believe praise directed at him.

The Luxembourg company turned out to be a subsidiary of the Galaxy Textile group based in China. The 'investment' hyped in the press was in fact an old fabric printing machine, which was transferred from China to the former Finlayson bleaching room to make room for new equipment. The Chinese even managed to acquire the Finlayson brand name.

The basic idea behind the project is to be able to supply camouflage fabrics for the armies of the European Military Alliance. It is prohibited to

import these fabrics from outside Alliance territory, but if they are 'finished' in Finland, that's enough to satisfy the military authorities. Some of the easiest jobs are done with the printing machine, but most of the fabrics arrive ready-made from China.

Laaksonen's role is to appear as a Finnish manager to the public. All decisions are actually made by Chief Executive Wu, a self-satisfied man who relishes being the boss over his Finnish employees. Laaksonen is the particular target of his attention, and Wu is unable to resist any opportunity to humiliate his managing director with the long face.

Wu has cultivated his status in the Chinese community by marrying a blonde Finnish woman. This fits in very well with his haughty public side. Wu lives in the former Finlayson staff clubhouse, in the middle of the company's private park. African housemaids and a gardener are employed in the residence.

The indigenous population have reservations about women who have relationships with the Chinese, similar to the attitude towards women

who went out with Germans during the Second World War. Sullen suspicion.

Laaksonen has to wait for a long while by the factory gates. Finally an expressionless Chinese security guard raises the barrier. Laaksonen waves a greeting. The guard stares into the distance and does not reply. Laaksonen pulls into his parking space and walks to the office building. Wu has parked his black company car right in front. Mercedes-Benz is still German owned, which represents high status to the Chinese.

The façade of the office building is festooned with large posters proclaiming in golden lettering that the company is a pioneering business. It might not be clear to visitors otherwise, Laaksonen thinks to himself. Two stone lions the size of sows stand guard on either side of the entrance.

When Laaksonen reaches his office, Wu appears on his communication display to demand a reason for his late arrival. Wu's wife is already waiting to go to Helsinki. She needs to get home in time to organise a dinner for Chinese Rotary Club members. Laaksonen also needs to stop by

the Chinese embassy in Helsinki. Laaksonen swallows his annoyance and apologises for arriving ten minutes late. Wu rolls his eyes and ends the conversation.

Laaksonen goes to look for the keys to the company car and chats briefly with Minna on the switchboard. Her degree in marketing and economics gives her a good foundation for answering all ten incoming calls a day. Wu's wife appears in the foyer, clad in silk and telling of her busy day in a sharp voice. She has to get some fancy Chinese foods in Helsinki for an important dinner. Laaksonen sighs, picks up her bag and follows her to the car. The first light snowflakes of winter are fluttering down from the sky.

Once they are on the main road, Laaksonen looks at his travelling companion out of the corner of his eye. She still possesses sexual attraction, though she is no longer a young girl. Laaksonen cannot help noticing that she is wearing a little too much lipstick and the hem of her skirt has worked its way up her thighs. No wonder this is the woman that caught Wu's eye. To the Chinese, blondes are exotic.

‘Do you like?’ the woman asked teasingly.

‘Like what? I’m driving.’

‘Laaksonen, you ought to enjoy life more. You’re always so sour.’

‘Xie-xie, but things don’t permit much enjoyment these days, at least not for me. Everything’s just going downhill,’ Laaksonen replies flatly.

‘The world is changing. You should seize the opportunity. Carpe diem, Laaksonen!’

‘Should I whore myself to the Chinese?’

‘Now, now. Be nice, or I’ll tell Uncle Wu.’

‘Annukka, we used to talk about things straight.’

‘That was a long time ago. Now we’re living in a different world.’

The car passes the Salkola Motel, which is now prospering again as a holiday village for the Chinese. The cottages have been fixed up and redecorated according to Chinese architectural traditions. The restaurant is reminiscent of a Shinto shrine. Affluent families come to spend their weekends at the motel. Few Finns can afford to stay there.

The snow is falling harder now, and wet slush is starting to accumulate along the roadside.

Laaksonen tries to condense his anger into a steely ball in his gut. The bitterest humiliation Wu inflicted on Laaksonen was to marry his ex-wife. Laaksonen can taste bile on his tongue.

Laaksonen's ex and Wu's current wife digs around in her handbag and, humming, starts to varnish her nails. The smell of the nail varnish irritates Laaksonen's throat, but the woman giving herself a manicure fails to notice his coughing. The journey continues in silence. Laaksonen turns on the car radio.

It is the start of the news bulletin in Chinese.

Sinipetra Paatola

Dragon in a Sea of Ash

This is the midday news from the Finnish Information Bureau. The FamTec Corporation of China began construction work today on a new factory in the Jämsä region. When it is finished, the factory will employ an estimated 700 people. Applications for work permits for the Central Finland region may be made starting in November. According to a press release from FamTec, priority will be given to job applicants aged between 20 and 30 who can speak Chinese and have a minimum of a degree from a university of applied sciences...

Kaisa shook her head and measured out some instant coffee into a porcelain cup. Then she poured hot water from her camping kettle onto the coffee granules, took a sniff and added another half-

teaspoonful of instant coffee. The water still tasted rusty after boiling, so Kaisa wanted to cover up that taste as effectively as possible. The news reports on the radio depressed her. With the business news, it was always the same: Kaisa was either too old to get a job at 34, or her language skills weren't good enough. Sure, she had an education, but a bachelor's degree in business administration didn't get you anywhere these days. Kaisa had got her degree back in the good old days, before Europe went bankrupt. How could she have guessed back then, as a new graduate in her early twenties, that the ability to speak Chinese was going to become the single most important skill on the job market? People like Kaisa, over 30 and with no Chinese skills, were useless members of society. Because of the collapse of the social security system, Kaisa and thousands of people like her had been left penniless. They had no work and thus no money either. It was no use going anywhere else in Europe because the situation was the same everywhere. If you couldn't speak Chinese, you didn't get a job. Besides that, you had to compete with thousands of

other applications to get a work permit, and young unmarried people always got priority. Kaisa didn't have a husband either, but as a single mother she was at a disadvantage. Even if she did manage to get a job somewhere, she would hardly be able to pay for a childminder. Still, she could still hope there was another woman in the same situation who could share the load with Kaisa. Many women who worked shifts took it in turns to look after each other's children when they were not on duty at the factory. Almost every company had these sorts of support networks, but you couldn't rely on them alone.

The sound of crying in the next room roused Kaisa from her musings. Her daughter was awake. Kaisa hurried into the small room that had an old sofa, a small table and a double bed. In the dark, Kaisa zigzagged past the toys scattered on the floor over towards the bed and picked up the little girl.

'Shh, don't wake your brother,' Kaisa whispered gently into her daughter's ear. The twins reacted acutely to each other's crying and Kaisa knew she had to get the girl to settle quickly, otherwise she

would have two crying babies to deal with. The girl's tiny hands felt cold, so Kaisa picked up a woollen blanket off the sofa. She placed it carefully over her son, asleep in the bed, and wrapped her own shirt tighter round the girl in her arms. The electricity had been cut off ages ago, but during the summer weather Kaisa hadn't missed the heating at all. The lack of lights was more of an inconvenience. But now she noticed that the flat had started to get chillier. She hushed the child in her arms and tried desperately to think where she could get a stove or some other source of heating before winter.

'Come on, let's go into the kitchen,' Kaisa whispered to her daughter as she picked up a torch from the table. The pallid cone of light from the torch shone along the floor of the small flat. The other twin still seemed to be fast asleep. Kaisa sighed with relief. Her daughter had calmed down as well and was looking with curiosity at the light cast on the floor by the torch. They went into the kitchen, where her already-cold coffee was waiting in its thick-walled mug. Kaisa turned the radio up a tiny bit.

...The Icelandic Environment Centre reports that the Katla volcano was still erupting last night. They were still unable to gauge the size or density of the ash cloud this morning, but it is estimated that it will reach the skies over Finland by this evening. People in Northern Finland are urged to keep their windows shut and avoid going outdoors. These restrictions will be extended to other parts of the country when more precise information about the movement of the ash cloud is received...

Kaisa glanced distractedly at the window, which was covered by a thin veil of grey. She simply didn't bother to clean the windows because a new ash cloud would just obscure it within a week. The ash clouds had come to stay in the skies over Europe. Katla's eruptions were difficult to predict, but according to the most pessimistic estimates they could go on for years. The worst thing was the darkness they caused. That bothered Kaisa even more than the fact that her clothes got dirty outdoors and it was sometimes difficult to breathe. She was worried for the children's sake. What effect was constantly breathing in the ash having

on their little lungs? And what was the constant lack of light doing to their eyes? The children hardly ever saw the sun. That couldn't be healthy, and they hadn't been getting enough Vitamin D either because of the perpetual night brought on by the ash cloud.

The doorbell brought Kaisa round from her gloomy thoughts. She hurried into the hall with her daughter in her arms and the torch in one hand.

'Hi there Kaisa, hi Vuokko,' the woman greeted them briskly as she stepped into the dark hallway. She gave the baby a big smile and rolled her eyes. The little girl burst into laughter.

'Hi, come on in,' Kaisa said, indicating with the torch beam where she could hang up her coat. Iisa was around Kaisa's age, slender and petite. Her blonde hair was tied back in a ponytail, and her pale complexion was slightly dirty from the ash hanging in the air outside. Iisa went round meeting with impoverished families, and this time she was carrying a large, promising-looking plastic carrier bag. Kaisa happened to notice it contained at least some macaroni and canned goods.

‘It’s amazing there’s more ash coming. All my clothes are filthy,’ Iisa chattered away as she brought the bag into the kitchen. Iisa spoke Finnish well, but from her pronunciation and intonation you could hear it was not her mother tongue. Iisa was from Sweden – the greater Stockholm area to be precise, where she had been ordained as a pastor in the Swedish Lutheran Church. Kaisa did not know how Iisa had ended up in Finland.

‘I’ve brought you some food and a bit of fuel for the camping kettle,’ Iisa said as she unpacked the things from the carrier bag and put them on the table. Kaisa looked gratefully at the items.

‘Would you like some coffee?’ Kaisa asked her. Iisa nodded, and Kaisa went to light the burner for the kettle. There was still some water in the kettle, but it had turned orange while it was sitting in there. Kaisa dumped it out and filled the kettle again from the rusty tap.

‘So how are you all doing? Where’s Tuomas?’ Iisa enquired as she smiled at little Vuokko. The baby giggled and looked at Iisa in delight.

‘Still asleep, fortunately,’ Kaisa replied. She did not want to complain about her situation to Iisa. Iisa would still notice that the flat was cold, though. And she did notice.

‘Have you thought about what you’re going to do this winter? Now they’re forecasting it to get really cold because the ash cloud has been really thick all summer and into the autumn. If the weather stays the same, we can expect temperatures below zero for months.’

‘I’ll have to come up with something,’ Kaisa evaded the question. ‘When I was a kid, people talked about the climate getting warmer. Nobody in those days could have predicted that winters in Southern Finland would start in early October.’

‘People haven’t forgotten about climate change; it’s just given Europe a bit more time,’ Iisa responded. ‘Have you applied for a work permit anywhere?’

‘No, I wouldn’t get a job anyway.’

‘You ought to try, Kaisa. If you got a job, you could move into a migrants’ camp with your kids. At least they’ve got heating in the winter, and meals

in those places are very cheap.’ Kaisa could tell from Lisa’s voice that she was genuinely concerned, and that annoyed Kaisa. She was not going to take her children to any ‘migrants’ camp’ or labour camp or whatever. Yes, Kaisa knew that Lisa lived in one, but she would rather live in an abandoned tower block with no electricity or water than in some barracks with dozens of other families.

‘How did you get into one of those camps, anyway?’ Kaisa asked with a note of indignation. ‘Pastors don’t get paid a salary, and anyway you can’t get a stamp in your passport for that sort of job.’

Lisa gave a hearty laugh, shaking her head. ‘No, no, you don’t get an official salary in this line of work any longer. But I do work in the storage facility over there,’ she explained, pointing through the cloudy window in the direction of the rocky cliff.

‘The nuclear waste dump?’ Kaisa asked as she poured water into the mugs.

‘The work isn’t great, but you can make a living. You’ve got to be thankful for any job these days.’

‘Well, I wouldn’t work there. It’s no good for your health. You’re going to die of cancer in a few years.’

‘Radiation levels are carefully monitored,’ Iisa replied calmly. ‘It’s no more hazardous than any other job.’

You can say what you like, Kaisa thought to herself. What would a pastor know about radiation, anyway? Of course, Kaisa was grateful to Iisa for the help she provided, but she couldn’t help being annoyed by Iisa’s religious background. Kaisa had been brought up in an environment in which religions were regarded as an obstacle to a value-neutral upbringing. That sort of thinking had been very popular and widely accepted. As China’s influence on the economy and science had grown year on year as a result of the bankruptcy of the Eurozone and then the whole EU, and because China practically controlled all of Europe already, there was no longer any room for Christianity or other faiths. They vanished from the media and dialogue. Most people involved in spiritual work had to resort to other jobs to earn a living.

But while religion had been pushed to the sidelines in public and all visible signs of faith had been quietly swept inside the confines of

church buildings, its popularity among the general population had been growing. This was a Europe-wide phenomenon. Suddenly Christianity – Scandinavian Lutheranism – had become an important matter of identity to people. Europeans desperately wanted something from history and tradition to hold onto, as if observing old traditions would somehow relieve the distress that the terrible economy had brought to that part of the world. The Christian faith was regarded as European-ness in its purest form, and parents wanted to bring up their children to be proud of their roots. More children were being baptised in Finland than had been in decades.

Kaisa was not one of these patriotic enthusiasts, however. She did not want her children to grow up in the shadow of old fairy tales, imagining that a better life would await them after their terrible pilgrimage through life. Kaisa would never be able to afford to educate her children, and they would certainly never be able to keep up with Asian students in the competition for university places, but at least she had decided to be honest with them.

They were poor, and the ones who were guilty of creating that poverty were the European Union leaders who had made bad decisions in their day.

The police have broken up an illegal demonstration on the Viikki Campus of the University of Helsinki. At least forty protesters have been taken into custody. Early this morning the Finnish youths gathered in front of the University's main building to demand that university education be kept free of tuition fees. The demonstration began peacefully but became agitated when some Asian exchange students arrived...

‘That’s the sort of thing to get involved in,’ Kaisa remarked on the radio news item. ‘Young Finnish people can no longer afford to go to university, while we’re getting a constant stream of students from China and other places in Asia. I bet most students these days are foreign. It’s not right that Finns are pushed aside just because they can’t afford to pay high tuition fees.’

‘I don’t like it either,’ Iisa agreed, ‘but in this economy the universities simply can’t be free. Abolishing entire faculties, on the other hand, is short-sighted in my opinion. The fact that some

subject areas are not valued at the moment doesn't mean they should disappear altogether. They should find other ways to make savings, too.'

'Well, cutting certain departments isn't such a huge loss,' Kaisa replied with a shrug. Iisa gave her a questioning look but said nothing. She stirred her coffee pensively and then glanced at her watch.

'I'm sorry, Kaisa, but I've got to go now. There are a couple of other families I have to visit before I go to work. I'm on the evening shift at the storage facility today.' She got up and took her coffee mug over to the sink. Kaisa's dinner plate from yesterday was already in the sink. Some flies were buzzing around the dried food residue.

'But before I go, would you like to put your name down on this petition?' Iisa took a bundle of papers out of her bag. There seemed to be quite a few signatures on it already.

'It's to demand more funding for public health care. Currently, health-care services are pretty much non-existent, as you know. You can't assume people will use either private services or occupational health care. Most unemployed people can't afford

to use private medical services. And Finland can't afford to exclude so many people from health care.'

Kaisa looked listlessly at the petition. She didn't even bother to read it. To please Iisa, Kaisa added her name to the list and noticed that she was the 245th person to sign the petition. Iisa had clearly been putting in a lot of effort. Kaisa still didn't think the petition would do any good. Health care had been run down many years ago. The decision-makers didn't need to use public services and they weren't interested in the problems of the unemployed and people with long-term illnesses. Those individuals were not profitable, so it wasn't worth squandering money on them.

Iisa stroked Vuokko's velvety hair again and went into the hall to put on her coat.

'I'll probably never get this thing clean again,' she said, looking at the front of her formerly dark-green coat which had turned grey.

'But now I've got to go out into that sea of ash. I'll see you again in a week's time. Take care!' With that, Iisa opened the door and disappeared into the dark stairwell. Kaisa closed the door behind her

and listened to the silence of the flat for a moment. Her son still seemed to be sleeping peacefully in the living room. He was the calmer of the twins and often took long naps.

Kaisa went back into the kitchen with Vuokko and watched through the dirty window as Iisa hurried across the yard. Iisa had referred to the air outside as a sea of ash. That was a fitting name, Kaisa thought. All of Europe was like a huge sea of ash, and China was like a fire-breathing dragon that had swum down into its gloomy depths and built its nest there.

That's all the news at this time. The next report from the Finnish Information Bureau on this station will be at four o'clock. Goodbye for now.

Kaisa switched off the radio. She had just heard her son crying in the other room. It was time to feed the twins.

Lea-Maaria Borg

The Superconductor Age

EXTRACT FROM *The Unabridged Encyclopaedia*,

VOL. VI/∞, EARLY HISTORICAL ERAS

The **Superconductor Age** (approx. 2020–3200 CE), the era that followed the Fossil Fuel Age (see *Archaic energy sources*, p. 75f⁷), when the energy discharge via society increased to levels that reached the Andromeda Galaxy. The Superconductor Age is divided into three periods: (i) the development of superconductors and the depression that immediately followed; (ii) the surge in superconductor-based applications; and (iii) the quiet period.

The energy crisis, which had lasted for centuries and worsened over time, was solved at once with

the development of a superconductor that did not need to be supercooled to near absolute zero the way previous versions did. The near-zero electrical resistance of the superconductor meant that energy was not lost during transmission, so as a result the distance between electricity generation and consumption points became far less of an issue than it had been in the early 21st century. Thus, fossil fuels came to be replaced by renewable energy sources such as solar, wind, hydroelectric and geothermal energy. In addition, energy production was concentrated in areas where it was cheap and efficient. The mere fact that it was now possible to harness solar energy when previously only a fraction of its potential had been utilised meant that superconductors ensured a practically unlimited energy supply.

The invention of this superconductor was immediately followed by a sudden but brief economic depression, which analysts say was caused by a simultaneous glut of technical opportunities, based on information in a recently discovered time capsule (cf. Candy-shelf coma, p. 55h^o1). Once

their performance had recovered, applications with a wide range of appropriability started to become available at an accelerating rate. Some of these worth mentioning are the fusion reactor, although funding for research into its properties and opportunities for exploitation soon dwindled (see *The Box of Rejected Toys*, p. 81f²). The start of this period was also marked by numerous international treaties aimed at banning the use of superconductors for military purposes, the most memorable of which may be the 2028 Treaty of Bogotá with its many socioeconomic curiosities (see *the unabbreviated truth(!)* of the Bogotá events, p. 44x⁶ and files from our long-term monitoring archive). Other efforts to reduce military activities included an unconditional ban on the possession of all uranium derivatives and thus the use of nuclear power (see *Archaic energy sources*, p. 75f⁷).

In the Superconductor Age, the majority of coal- and gas-exporting nations suffered a loss in their economic status. However, contrary to expectations, the demand for oil used in the manufacture of superconductors did not dry up. At the same time,

many countries which had previously struggled with economic difficulties developed into significant energy producers. One example is Iceland, which excelled as an exporter of geothermal energy (see Nations of early history, p. 32a°1; all subsequent nations also available at that entry). Denmark also deserves a mention: after the first decades of the 21st century, it was the only country to export wind power for commercial purposes. In the era preceding the Superconductor Age, wind turbine facilities had attracted strong opposition when the Danes erected them in large numbers. Up to the final convulsions at the end of the last millennium, much of the electricity generated by those facilities was purchased by climate refugees who had fled to the Philippines from other Pacific islands. Traditional customer loyalty is thought to have lent a certain respect to Denmark's early efforts in the crusade against global warming (see p. 94p°2), which, according to scans of international archives, other countries seem to have been particularly sluggish to join (see 'Somebody Else', the biography of the person with the most time in the world, p. 73h°9).

While there was significant annual production of solar energy in parts of Australia and South Africa, it can be said that the invention of superconductors attracted the interest of other countries to the Sahara like never before. It is true that foreign powers had increased their presence in that region in the 21st century even before the Superconductor Age, though for slightly different reasons. Soon after the initial rush of the Superconductor Age, local citizens started demanding their rights and a share of the financial rewards. While the legal case is regarded as having reached an impasse in recent decades, some now have hopes for progress (see *Pipe dream*, p. 95p°5).

The calm stage following the surge in superconductor applications began in the 2090s, when the imager portraying the number of new inventions gradually began to break down. This period was, however, marked by explosive growth in the number of bitnetblogger aficionados concerned about moral decay (see *Predecessors of DigProfilebook*, p. 330°6). This phenomenon was later considered to be a virtual movement which

claimed that an unlimited energy supply leads to corruption because there is no need to exercise moderation in energy consumption. Thus, viewed in retrospect, in reality the moral justification of the solutions in the calm period took on a more important role than before, as practical problems no longer provided employment (cf. Satisfying basic needs, p. 21f⁶, Maslow's hierarchy of needs, p.21f⁹, Know your own navel, p. 17f¹). For example, most debates around environmental climate change factors dating back to the 21st century focused on whether it was more justified to restore local climate conditions with greenhouse-like climate chambers, or whether it was better to regulate the temperature of the entire planet by removing carbon dioxide, methane and nitrogen dioxide from the atmosphere. This was purely a moral dispute: both operating models have been shown to be equivalent in material and energy terms, even with current processes. Another feature of the calm period were the semi-isolated companies formed in the oil and natural gas regions of Eastern Siberia, the Middle East and Ethiopia. These companies

lived on robust, traditional, familiar local energy. The use of fossil fuels was not prohibited, because burning them no longer caused insurmountable problems. Greenhouse particles and other pollutants could be removed from the atmosphere, as there was an unlimited amount of energy to do the job. Permitting these small companies to exist also achieved protection for the rights of minorities, which was regarded by contemporary people as a noble principle (see *Chivalry of the Knights*, p. 49a³). Most of the population, however, used energy transmitted via superconductors, and at the dawn of the 3100s all known local energy companies had withered away.

The Superconductor Age is generally considered to have ended at the start of the 33rd century, after which there is a long gap in the archive sediment. A particularly severe solar storm has been dated back to the same point, and it is believed to have caused serious problems with electricity distribution, even though superconductors were imagined to be protected against external magnetic fields. Unfortunately, with the technology necessary for

3D copying not yet available at that time, there was not even a digital profile-based back-up copy of this society built on energy transmitted by superconductors.

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Milka Hakkarainen

Peace and security!

Richard Dawkins' lifeless body was lifted into the back of a hearse on a stretcher. The doctor who had declared him dead on the spot swore he'd seen a distinct smile on the man's pallid lips. According to Dawkins' home nurse and several close family members who had been there, he had ignored their warnings and opened a whisky bottle he'd been saving for nearly twenty years, and then, after downing several glasses, climbed up onto the table to dance a trepak. He had just raised another glass to his dear, departed friend Christopher Hitchens while kicking his feet furiously into the air and drunkenly shouting something along the lines of, *We did it, my dear chap!* The nurse had barely registered

in bewildered awe the 86-year-old Dawkins' agility when he suddenly grasped at his chest. Dawkins just managed to empty his half-full whisky glass down his throat before he collapsed onto the table. The nurse started administering CPR immediately, but there was no saving the smiling Dawkins. The events leading up to the strange behaviour and death of the famous atheist and author had their origins back in 2010, when Pope Benedict XVI announced he would be visiting the United Kingdom. Dawkins and Hitchens took the view that the head of a church tainted by paedophile scandals and the blood of innocents was not welcome in their country, and he should be made to answer in court for its appalling crimes. In the background to their ambitious legal action smouldered a desire to abolish the office of Pope. Their inventive initiative did make headlines around the world, but it did not make it to court. The idea was regarded as mainly amusing as well as completely impossible.

The Pope's rule was regarded as unshakeable. Thus it remained until Christmas Day 2027, when Richard Dawkins died of a sudden, acute illness.

Pope Benedict XVI had died back in 2014 and Leo XIV was elected as his successor. Leo vowed to clean up the stained image of the Catholic Church. Just a year into his papacy, evidence was uncovered that Leo XIV had been involved in covering up a paedophile scandal in Guatemala years before and he had not yet managed to recover his credibility. He persisted in his papacy for another four long years, during which time there was no sign of movement outside the Vatican.

The esteem and status of the office of Pope took an enormous blow during the papacy of Leo XIV, and the Church lost tens of thousands of members. He was discovered drowned in the bath in August 2019, and the Catholic Church elected Clement XV as his successor. Clement was just 46 years old on assuming the papacy, and much was expected of him. There was talk of a conspiracy and assassination of Leo XIV to get the new young leader into the position as head of the Church, but no adequate proof was ever found.

There was unrest around the world. After the bloodbath carried out by Anders Breivik on

the Norwegian island of Utøya in 2011, similar atrocities were seen around Europe. Another several extremist Christian sects were formed, all calling themselves modern-day Crusaders. Islamist extremists responded by bombing embassies and killing cartoonists, authors and film directors. Fear became a part of citizens' everyday life.

People started to get sick of Catholics who downplayed their molestation of children and doggedly opposed contraception, and whose leader seemed to be a good-for-nothing who dressed up in shiny robes and drew an unreasonably large salary. They had also had enough of the Muslim fanatics who issued death threats in the name of Allah while proclaiming themselves as the greatest advocates of peace. And while the overwhelming majority of Muslims did love peace and were upstanding citizens, Islam's name also became tarnished and that religion also started to lose followers. Jews in the Middle East treated Muslims cruelly, which aroused the rancour of justice-minded people around the world, and anti-Semitism began to rear its ugly head.

So no wonder that religion became a word no one wanted to hear any more. The same attitude began to spread to every corner of the globe as people from different nations and cultures began to realise religion hadn't achieved anything good in the world. Quite the reverse: whenever a war or rebellion broke out, one of the parties in the confrontation was religion.

People began to wish for a world that had finally been freed of that cancer. The beleaguered whispers of ordinary little people longing for world peace were carried as one voice to those in power. Even in the United States, religious faith was no longer regarded as a plus that guaranteed candidates' trustworthiness in the eyes of voters. People wanted parliaments and senates to be cleansed of their God-deluded blind shepherds.

Following the collapse of the Greek economy, fears arose that the same would soon happen to the whole EU. Member States in both the old and new parts of the continent were deep in debt. The boldest ones shared their hopes to end religion and save the global economy, envisaging the transfer of

the churches' immense assets to state ownership. Nevertheless, the major religions maintained their immunity.

Then something completely unprecedented happened on Christmas Day 2027. The smallest crowd ever gathered in St. Peter's Square to listen to the Pope's Christmas message. There weren't even five hundred people in the crowd, but Clement XV waved his hand, smiled beatifically and began his traditional Christmas address. He was standing on the balcony without the armoured case in which he was usually enclosed during public appearances. Since the paedophilia scandal of 2015, the Pope was an even less welcome visitor, and he had long since had to get accustomed to eggs flying into the bulletproof glass. On one occasion somebody even threw some dog faeces at him. Christmas was still valued, though, and people wanted to show some quiet respect for the Pope's Christmas greeting. It was an old tradition, after all, whose message was global and well-meaning.

In 2027, though, all that changed. The Pope had just spoken his Christmas wishes in unclear

Swedish when a carefully aimed tear gas grenade was hurled from the middle of the crowd in the square towards the balcony. It sailed over the Pope's left shoulder and bounced off the wall behind him to land at his feet. He froze to the spot with his mouth agape. The TV cameras transmitted his flabbergasted expression to hundreds of thousands of viewers around the world.

But the Pope did not give up easily, nor did he scurry indoors straight away. He screwed up his stinging eyes and could see through a gap in the smoke how the people standing down in the square were beginning to kick up a row. Police who had been standing around the edge of the square ran over into the midst of the scuffle that was breaking out and tried their best to calm the uproar, without success. The Christians and non-Christians who had got a taste for rage began to locate objects within reach to thrash the people next to them with, and some even fished knives out of their pockets. More police arrived on the scene, already loading their guns with rubber bullets. That just enraged the brawlers more, and they rushed into the ranks of police.

The square quietened down and the scuffle froze on the spot when the Pope, gasping for breath, his eyes reddened, swore in a loud voice and tore his cap off his head.

‘I can’t stand any more of this! I’m off!’ he yelled before chucking his cap down from the balcony and disappearing inside.

The heated brawl in the square dissipated just as quickly as it had started, and the losers left the scene quietly with not further police intervention required.

No one had thought it possible that the Pope would quit, but that is just what happened. Clement XV remained steadfast in his decision to leave the duties of the papacy behind, though the Church’s PR representatives came up with fine tales of momentary mental aberrations and oxygen deprivation and exhaustion due to overwork. He refused outright to carry on in an office that had been declared unnecessary and even dangerous, and announced he wanted to leave ecclesiastical life altogether. He wanted to move to Australia and establish his own vineyard.

The Catholic Church appealed to Clement XV's weak mental health and burnout. There was already talk of choosing a new Pope, but finding a willing man with a good reputation to be the leader of the Church proved to be a more difficult task than had been thought.

The Church's opponents realised their time had come. All over the world writers, politicians and other opinion-makers launched a coordinated attack on the Catholic Church. It was time to make it clear that no one wanted a Pope any longer, so why bother electing one? For too long the Catholic Church had been allowed to do whatever it liked. Now it should listen to ordinary people and their wishes. The world didn't need any more lies. It needed common sense. It needed money.

One country after another started looking into their churches' assets on the quiet, and the question arose why no one had focused on them sooner. Even Greece, which had finally lost its credibility as a result of its economic mess, saw its chance had come. When Greece exited the Eurozone in 2013 after lengthy negotiations and everyone

knew the same had happened back in 1908, when Greece had got the boot from the Latin Monetary Union, the situation had appeared hopeless, and no one expected Greece would ever get back on its feet. People around Europe joked that although European high culture had emerged from Greece in ancient times, it had never gone back there. Then about a year after Pope Clement XV had disappeared from the public sphere after that eventful Christmas Day, and still no new Pope had been appointed, Greece announced a revolutionary change in its legislation, effective immediately, which permitted the Greek state to appropriate all the property of the Greek Orthodox Church. The proposal divided opinions strongly, with some thanking Greece for its bravery in seizing the reins again, while others were horrified at how the country in whose language a large part of the Bible was written could so clearly turn its back on God. In the early 2000s Greece had still been in the vanguard of the most religious countries in Europe, with fully 97 percent of its population belonging to a church and over 80 percent acknowledging a

belief in God. Critics had been arguing for years that there was a correlation between religious belief and inability to manage an economy, and Greece had been the textbook example for their theory. By 2028 the number of regular churchgoers had sunk below one-fifth, and while research showed that Greece was still the most religious country in Europe, no significant resistance formed among its own citizens to the government's decision. Survey findings led to an obvious conclusion: they had waited long enough for God to intervene in the state affairs, and because nothing had happened yet, they were willing to give the government a free hand.

To the nations of southern Europe struggling with their debts, Greece's actions were the message they had been waiting for. Soon Spain and Italy followed suit and enriched their treasury coffers with billions of euros withdrawn from the churches' accounts. That was the green light for more European nations, and the trend attracted attention throughout the South American and Mexican media outlets as well. The Catholic Church had been adrift for a

long time, and now it no longer even had defenders on the other side of the Atlantic. The centuries-old power of the Church quickly crumbled and national economies experienced a long-awaited revival. The governments of Protestant countries wrinkled their brows and, while their economies were on relatively firm ground, noticed their own churches were sitting on significant fortunes. Denmark and Norway were the first to join the consensus prevailing in the Catholic world and seized their churches' assets. The issue had already been discussed in Finland in the aftermath of the Greek legislative amendment, and Finnish citizens had signed countless petitions and staged anti-church protests, but the proposals to seize Finnish churches' assets only got wind in their sails when Sweden, Finland's neighbour to the west, went into action. People's faith in their government grew as the long-tumultuous economy was returned to an even keel. Suicide rates sank to their lowest levels in living memory, and citizens' hopes for the future were higher than ever before. At the same time, certain individuals wondered why the large Christian churches had been stripped of

their rights and their assets, while the Buddhists, Hindus, Muslims and smaller minority religions were allowed to continue practising their faiths. Millions of Christians used to carry an image of an instrument of torture around their necks, but then the cross became a symbol of reactionary attitudes and wickedness and few people were brave enough to own one any longer. The Hindus and Buddhists still had their own sacred images, though, and the Muslims had their veils, and the Jehovah's Witnesses still went round knocking on doors to tell people about the kingdom of God. Religion was still visible, even though nobody spoke about it any more.

The Atheist Alliance International (AAI) began sticking its oar into the issue. In its view, the world could not be a safe place in which to live until all religion had been pulled out by the roots. It was not enough that national economies had gained a new lease of life with the destruction of the state churches; the world required a complete reformation – in other words, a total eradication of religion. Otherwise there would always be a danger that underground church supporters would

prepare a counter-punch and secretly recruit people to their side with their God propaganda. After all, the Bolsheviks had hanged Tsar Nicholas II in the euphoria after the Russian Revolution, and his wife and all their children had also been marched onto the scaffold. Even the family's physician, chef, butler and chambermaid met premature deaths. But sometimes collateral victims are inevitable in the face of the larger objective. In the era of the tsars, a clean break was desired, with not even the tiniest possibility remaining of a return. Similarly, if global abolition of religion was desired, then brute force was required.

The United Nations, which had been promising world peace ever since its founding but had turned into a mere puppet theatre, staged an international conference in June 2029. Esteemed representatives from hundreds of nations converged in Kuopio accompanied by massive security and sat down to discuss the still-prevailing desire for total religious freedom – freedom from all religion.

Up to that point, Muslims had remained faithfully attached to their religion, defending Allah's

supremacy, so the world's eyes now turned towards the Arab countries. Would the Arab nations' millennia-old traditions trump world peace, or could this historic UN conference put Kuopio on the map as the place where humankind reached a consensus for the very first time?

A press conference held on the last day of the week-long conference broke all previous television viewing records. People all over the world gathered round their TVs and radios, holding their breath. Some prayed out of old habit, before realising that that itself was an obstacle to world peace.

The UN Secretary-General was already smiling and weeping tears of joy at the start of his speech. People pricked up their ears in anticipation. As the Secretary's speech progressed, tears of joy began flowing around the world. The Secretary-General told how the leaders of the Arab countries had admitted during the course of the conference that they were sick and tired of the internal strife within their nations. The conflicts between Shi'ite and Sunni Muslims had not ended, so Islam's reputation as a religion of peace was still on shaky

ground. It was clear that even though Islam was the only permitted religion in the world, it could not guarantee world peace. Thus, the Arab nations were prepared to sacrifice their ancient tradition for the sake of peace, and religion could be banned from their part of the world as well. It would be a significant sacrifice, but they were prepared to do it in order to make the world a safe place to live.

Between snuffles, the Secretary-General began to list the major reforms that would be implemented immediately. Nations would amend their national legislation in accordance with the resolutions passed at the conference and would undertake to uproot the oldest threat to world peace from their territory. All religion would be banned in the name of equality and the common good. From now on, speaking about religion or advocating it would be criminal offences. Distributing religious literature would be outlawed. All religious symbols, objects and buildings would be destroyed. Churches, temples and mosques with historical or architectural significance would be preserved, but they would be turned into museums to remind future generations

of the evil brought about by religion. The battlefields in various parts of the world would grow silent, because the fighting groups would no longer be divided by religion. Human beings would be equal. Science would receive its due respect, and school curricula would be updated accordingly.

The leaders of the nations taking part in the conference smiled and shook each other's hands. There was no shortage of hugs, either. The UN had never before achieved such a substantial, concrete change. The Secretary-General's eyes gleamed as he saw a safe, religion-free world before him. People burst into applause and ran out into the streets to embrace one another and exchange well-wishes. The world had changed, even though no one had dared to believe.

'Peace and security!' exclaimed the Secretary-General, raising his right arm straight out in front.

Terttu Hanhikoski

Organic bone cuttings and spleen farms

The organ activists have struck again. I got a message on my digital ring. The Brussels Timeswriting was asking me to write a piece for their hyperpage. I didn't need to take any pictures, because the satellite cameras were still in use.

Forty years ago I was still working intensely in sales and marketing. Because I'd always been aware of fashion, I got a case of burnout – as was typical in those days – and decided to retrain. After completing a short course I had enough work. There was always a shortage of good journalists, especially special correspondents in my fields. Now the capital's multimedia had got hold of me by my

ringcomm, my ring communications device, and I was excited about the assignment.

When I arrived at the organ farm, I was a little worried. Usually reporters were given little packages as mementos of their interview or report. I wondered, slightly fearfully, which organ I would be returning home with in a bag.

Boldly I approached the huge black granite hall. The security lights, activated by my body heat, began to flash and the display on my ring requested a password. I gave the code sequence I'd been issued along with my assignment and the entrance doors glided aside. I was greeted in the space that opened up by a very friendly woman who wore an authorised guide's insignia on her front. She offered me a coffee to start things off. As we chewed on the coffee pills, I could feel how the two of us, both experienced women, had our energy currents running along the same lines, and a strange connection arose between us. We were like two kidneys on the same duct. The guide, who inspired sisterly trust, explained that she had joined this field thirty-eight years ago. She'd had to leave

her job as a secretary due to age discrimination and, without any pension, had sunk into depression. They tried all forms of medical treatment on her, but her depression just got worse. So she turned to alternative forms of therapy. She'd heard a lot about the achievements of folk remedies from Central Ostrobothnia and moved there for a while to a small rural community. She got to know the local veteran healer, and as the old woman's talents began to have an effect, they became good friends. She began studying traditional forms of folk healing in more detail. Soon she was managing the 'Doctor's' practice and learning all sorts of things herself.

After practising together for six months or so, the friends had a brilliant idea. It was based on the revolution in medicine brought about by genetic modification and cloning. The folk healer was working on bone-farming using her own methods. Because most of the patients at the clinic had problems with their joints, limbs and backs, they embarked on a programme to cultivate knee (*articulatio genus*) and hip (*articulatio coxae*) joints as well as spinal discs (*discus intervertebralis*). The

implants were performed in secret at a university hospital in eastern Finland. Their activities were kept strictly confidential. Despite all the precautions, the patients were gradually infiltrated by physiotherapists, surgeons, professors and scientists. Information about the joint farming spread, and the scientific community started working on the technique. Soon official bone farms were established in Finland. The folk healer and her assistant, the real pioneers, were asked to participate in the scientific research. That is why the woman was now here at this new facility, and the folk healer had her own small organic division in a greenhouse in a side wing of the complex.

After this long introductory story, we started the actual tour of the farms. The first place we visited was a large seedling nursery where they were growing lower arm bones (*radius*). The guide told me the bones hadn't been thinned out yet. That's why the whole department looked like a jungle of twigs. In the next room, the thigh (*femur*) and upper arm bones (*humerus*) in their trays of soup were already bone-shaped. Toes (*digitus pedis*) and

fingers (*digitus manus*) were sprouting in glass cases on the walls. Further along, nail-less thumbs (*pollex*) sticking up gave a positive, hopeful impression. The same room also held the jawbone department, with its low, flat culturing dishes. Well-developed jawbones (*mandibula*) jutted out from the dishes, still without teeth (*dentes*). The wan artificial lighting gave a deathly pallor to the bone culturing room.

The rhythm emanating from the loudspeakers in the heart (*cor*) growing facility was adjusted according to the development stage of the hearts. It felt as if my own heart was trying to keep time with it. It took up a faster tempo than before.

No entry was allowed to the internal organ department. The relative humidity in that department had been lowered too much and the entire crop had almost dried out. The fire brigade had just carried out a full irrigation, and the embryonic organs were currently receiving their prophylactic inoculations. I was sorry because I'd always wanted to see what spleens and pancreases look like in the flesh.

I didn't get a complete picture of the development of the genital organs, because there were so few of them and they were at such an early stage that it was useless for the layperson to try to make out their features. The guide explained that they generally grew very few genitals. The demand could be filled with transplants. The rate of sex changes was so fast that during the most frenzied months, surplus male members (*corpus cavernosum penis*) were brought to the facility for storage.

After that long introductory tour, it felt overwhelming when the guide invited me to lunch. The lunch terrace was open to the sky, between the growing facility and the drying building. The food had been well chosen to accompany the theme. The irradiated kidney in natural light with kneecap-shaped potatoes and bone-marrow gravy was delicious. Dessert was chocolate fingers, with a red, slightly foamy, lukewarm liqueur served as a digestive.

I felt drowsy after the meal. We sat and chatted for a long time – as women do – about some quite personal things. The guide asked me straight out

how old I was. When I replied that I would turn a hundred in four years' time, she gave a laugh. She would soon be moving into triple digits herself. Then we tentatively touched on an issue that's not discussed very much these days. For decades neither of us had aged at all in practical terms, even though the years had passed. We were like sixty-year-olds, even though each of us was well over ninety. Science still hadn't managed to find solutions for the greenhouse effect or the ozone hole. Fine by us, we smiled.

After our lunch break we returned to the growing facility. We reached the area that had actually prompted my assignment, the eyeball incubators. The organ activists had long been decrying the undersized cages in the incubators. The previous night they had broken into the eye hatchery and torn all the cages to pieces. The protective equipment was destroyed. Smashed eyeballs now rolled around the floor. Blue, grey, brown and green irises were jumbled up everywhere, and their gaze was scathing. A white-coated assistant shooed us out. He had a five-litre glass jar filled with contact

lens solution in one arm and was dropping the embryonic eyes into it. The guide was embarrassed. Even if she had defied the assistant and demanded we be allowed to investigate the place more closely, it wouldn't have changed anything: most of the mess had already been cleaned up. I had come to do a report on the organ activists' terrorist activities and their results. Now I wasn't even being given a proper chance! From my own perspective, I'd already seen enough. To make up for it, the guide wanted to show me something else.

She took me to the dry goods hall. It was huge. The drone of the ventilation roared in my ears. There were narrow pigeonholes on either side of the aisle. We walked along the aisle from end to end. The guide explained the products to me expertly and affectionately. The products from hundreds of subcontractors were stored here, mainly dried, though some farmers still used the vacuum-packing technique. Only the lungs (*pulmones*), bladders (*vesica urinaria*) and joint capsules (*capsula articularis*) arrived vacuum-packed from all suppliers, without exception. Bundles of ligaments,

tendons and nerves hung on the right-hand side of the aisle. On the left, stomachs (*ventriculus*), skin patches grown for grafts and large tangles of intestines had been spread out on rails. The guide told me about the marvellous machines the facility used for soaking and cultivating. Finally, she mentioned in passing that they no longer made hair in Finland, because synthetic hair was cheap and perfectly usable these days.

At the end of the tour as we said our goodbyes the friendly woman pressed a small package into my hand. I'd been expecting this. As soon as the doors closed behind me, I opened my present. Eventually the layers of wrapping and cellophane revealed a pair of brand-new eardrums! I was pleased the facility's security system didn't notice any larger defects in my relatively original body.

Raija Heimonen

After the Disaster

We've just retired, my husband and I. The children have moved out, and we were planning to sell our detached house located in a quiet, desirable area because the house and garden are just too big for us now.

Things didn't work out that way. Now we're standing in a queue in the neighbourhood schoolyard. A constant stream of city buses drives up to discharge Europeans who have lost their homes and countries: men, women, children, dark-haired, fair-haired, young and old. They slowly make their way inside the school. They haven't got much luggage. I am standing in they queue along with my neighbours with a queue number

in my hand. I have notified them that we can offer accommodation to disaster victims: a group of four (a family), a group of three and a couple.

After the war, my grandparents took in people in the Karelian countryside, and now I'm in the same situation. There's now an effort under way to find housing for three times as many people as in post-war Finland! I hope the government has paid some historians to do some research into what we can learn from that previous experience.

The last few weeks have been chaotic, with a horrifying flood of news. I can't bear to sit and listen to reports of disasters day after day. Apparently a huge meteorite or some other object or objects from space crashed into the Earth's atmosphere. It caused terrible things to happen in central Europe: strange flares of light, huge tidal surges and vast destruction. One country was completely submerged, another major industrialised country declared a state of emergency when its main port caught fire with its oil tanks, three nuclear power stations were damaged and I don't know what else. The Nordic countries were spared from the direct

impact of the disaster. Now at least 17 million people in central Europe are without homes or ways to make a living.

It's better to do something than to sit and do nothing in the face of those incomprehensible events. It's our turn. I say my number to the assistant sitting behind a table. She looks at her list, then goes to have a look in the classrooms and soon a group of homeless, stateless people have assembled at the end of the corridor. We offer them temporary emergency accommodation. The family, who originally came from Africa and moved to central Europe, consists of a father and mother who are a doctor and teacher, and two boys, aged 10 and 5. We'll put them up on the top floor. The three-person group are an old grandmother, her daughter and two-year-old granddaughter. We've got space for them downstairs next to our own rooms. We'll also take in a male couple, who will stay in the back room.

Our quiet, almost sleepy street has been transformed into a colourful, lively place. You hear a mix of languages in the streets and gardens, exotic

smells waft from backyard barbecues, and children dart out from behind the hedges. After months of adjustment, instruction and acclimatisation a completely new, more communal way of living has been established in this neighbourhood. Before, weeks could pass without catching a glimpse of the neighbours. The owners of the house next door didn't want these people in need of help in their home, but they still have to live in the midst of this lively environment. It was a good thing we didn't manage to sell our big house! Now there's no need to wonder how to occupy our time in retirement.

The wealthy industrialised countries of central Europe are struggling with huge environmental and energy problems. The poorer countries of southern Europe are unable to offer much to the disaster victims besides warm weather. We here in the Nordic countries have to accept that it's not just a matter of emergency accommodation. These people will not be able to return to their homes for years, maybe not ever.

We ought to think about how we structure our lives here in our own 'community' and how we

can make a living for everyone. My husband and I can reduce our own standard of living and use our savings and assets to help these nine people in the face of this incomprehensible, terrible disaster. We've also got to help them to create a life for themselves in this new country.

One of the men living in the back room is clearly good at working with his hands. He's a whizz at repairing broken appliances, bicycles and scooters. There's even a car in need of repair in the neighbours' garage, and he's been taking it apart and fixing it in the evenings. He'd really like to set up a car and cycle repair business in the garage. Just from our own neighbourhood there'd be plenty of things to repair, especially now that imported products are so much more difficult to get hold of since the disaster. It's not that simple to set up a business, though. What all do you need to do? The authorities have a backlog, and almost all the information is available only in Finnish and Swedish. He's started to work in the garage, anyway. The doors are open to the street. The little boys from the neighbourhood come along wheeling

old bicycles they've found in the ditch which get fixed up for sale. Even the young layabout from the neighbouring block of flats who's in danger of getting kicked out of school has dragged himself over to hang around near the garage, despite his homophobia. He seems interested in car washing and valeting. He was supposed to start on some 'packing jobs' in some youth workshop, but life around here is filled with activity and even opportunities: he can practise English here too, since he's learnt it with his contemporaries, if not at school then from gaming and the internet.

The grandmother downstairs makes wonderful breads on a large flat pan and fills them with exotically spiced ingredients. You can't call our patio in the back garden a pop-up restaurant any longer. Even the workers from the basement businesses in the next street have started sneaking into our garden through a gap in the fence to buy some sandwiches for lunch. The neighbours used to insist that no one walk through the gap in the fence onto their property, but funnily enough they've become more tolerant. I just hope the health and

licensing inspectors won't join us any time soon. Anyway, nobody's got sick from this grub, so isn't it time to use a little common sense in those laws and regulations? When winter comes we should build a wall around the granny's barbecue. We've used up the planning permission for this plot, but surely people have to be able to find themselves an occupation?

The grandmother's daughter has noticed the collection points for bottles and old clothing at the end of our road. I dug out my old sewing machine for her, and she whips up charming clothes for herself and her daughter out of old garments. She polishes glass from the bottles into unique jewellery items and hangs them on the tree branches by the side of the street. So we've got a live art exhibition in our street as well. Because this region is now full of low-income people, there is a demand for her clothing. She's set up a market stall along the street and sells her recycled clothing and jewellery. With winter coming, there's plenty of demand for warmer clothes. I wonder if there's some regulation that says market traders can only sell used items?

Anyway, soon she'll need to sign up for employer's and employee's insurance and who knows what kind of incomprehensible permits besides. Well, initially she's doing business primarily by bartering: I'll make clothes for you if you'll teach my child.

The African mum has noticed the large playground by the block of flats where the children gather during the day with their many different languages. There are scarcely enough primary school places for all the children, so maybe it would be good to start an international home school here. Setting up a home school in Finland ought to be done by the book; otherwise they'll have a hard time meeting the curriculum for primary school. The children are teaching each other different languages, anyway: Finnish, Flemish, German, English, Swahili and others. There are free newspapers available from the kerbside boxes they might be able to use as teaching material. The owner of the place next door also brings papers and books from his printing firm for the children to use. He's also promised that the children can have their PE lessons in his backyard swimming

pool, so long as they wash their feet. The children are amazingly inventive. When winter comes, the school activities will have to move indoors. There is a big enough space in the basement cycle storage area in a nearby block of flats, and they'll be able to have their school there until some bomb shelter inspector or fire safety official sticks their nose in. I hope they've got so many other pressing matters the school can survive one winter.

There is a great need for health care among these people who have gone through so much. There are no longer enough expensive locum doctors either, but there are some doctors and nurses among these educated people. Their Finnish language skills are not good enough to allow them to practise professionally in Finland, but they've certainly got actual professional skills. Let the legislators and decision-makers wonder what would be the best way to amend the regulations, but while we're waiting we'll start up our own local medical house-call service. The father of the African family is starting to visit local homes to help the sick. He hasn't got much in the way of equipment or

supplies, but word gets round and soon people give him various bits of medical equipment to use. He's able to treat the usual complaints without knowing Finnish or being licensed to practise here, and he can refer more difficult cases to health centres and hospitals. Isn't this the sort of thing they just tried to implement in local surgeries by expanding nurses' job profile? Even Finnish families, older people and busy professionals are very happy to get help from a local visiting doctor in their own neighbourhood. Home births are becoming more popular, too.

We've made it through the first winter. Our local neighbourhood has managed to organise itself very well. As spring arrives and the snow has melted, I notice that a farmers' market has been set up in the car park by the florist's shop. Local food producers have come to sell their products directly to consumers, and there are a variety of people with handicrafts and other businesses. Finnish municipalities have pooled their registers of abandoned farms in various parts of the country and come to Helsinki to give presentations on opportunities to move to less-populated areas.

We've even got our own transport service on the edge of the car park – I wouldn't dare call it a taxi service, as the situation with all their permits and paperwork is all over the place. The transport service is run by that young layabout who was in danger of getting expelled! I've heard he doesn't even intend to get rich off his work, just thinks it's nice when his days are filled with meeting people, and he makes his living by bartering his services.

The thought has even occurred to our elderly people that maybe they don't have to end up as silent, lonely old folks when help is readily available nearby.

KG Johansson

The Incorporation

ORIGINS AND CONSEQUENCES OF THE NEW GEOPOLITICS

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1. Introduction

The aim of this essay is to give a brief description of *the Incorporation*, ‘the largest global change following Columbus’ voyage in 1492’ (Wilson, 2056) – first via a brief historical overview and then a more personal view, from a Swedish and Nordic perspective.

*2. The Incorporation:
Summary of the age of change*

It is well known that the United States purchased Alaska from Russia in 1867. The purchase price was 4 dollars per square kilometre, totalling \$7.2 million. In today's money, some 200 years later, that would represent a figure over 40 times greater.

When Communism collapsed in the late 1990s, the last obstacles to the laissez-faire capitalism of Milton Friedman were obliterated. The path stood open for liberalism and free enterprise essentially everywhere.

Around the turn of the millennium, the gap between rich and poor increased around the world. In 2010 there were 11 million dollar millionaires. A million dollars in that year was worth only \$400,000 thirty years later. The number of dollar millionaires had slumped to around 4 million. Details of how many there are today are not publicly available, but there are no indications the number has grown; rather, wealth has been concentrated even more.

The euro, the currency that was intended to unify the nations of Europe from the year 2000, was hit by a number of crises in the early 21st century. Speculation that countries such as Greece might actually go bankrupt became rife in the 2010s (Wilson, 2056) but the crises were cleared up – on that occasion. There were also crises affecting the dollar, in conjunction with the redistribution of the world’s assets.

Back in 1995 the world’s richest man at the time (Bill Gates of Microsoft) had a fortune worth \$101 billion – equivalent to around \$1 trillion in today’s currency. Theoretically, Gates could have purchased several entire countries.

There is a widespread but unconfirmed claim that the shipping magnate Aristotle Onassis essentially bought the tiny principality of Monaco in the mid-20th century. Regardless of whether that is true or not, something similar eventually had to happen. As the rich got ever more incredibly rich, they sought out new investment avenues.

Perhaps it also took a bit of madness. When Michael Trent, who had married into the Virgin

empire, discovered that Costa Rica was bankrupt, he took on its national debt (\$77 billion in today's currency). Trent termed the deal 'a laugh'. But his condition for assuming the debt was that he would get the 'final cut', or a final veto, on all of that small country's transactions.

Trent's interest soon waned, but in the hope of recouping his investment he installed the economist John Wiseacre as the *de facto* prime minister of Costa Rica. Nine years later, Wiseacre had paid off Costa Rica's debt. There has been much debate surrounding his methods, but specifics are hard to come by. Hanley (2042) does write about child labour and 'slave wages' while rather feebly admitting that it is difficult to find evidence to confirm the rumours of prostitution and drug trafficking.

Wiseacre's successes gave Trent a taste for blood, and only a few years later he had taken on the national debts of – in other words, basically bought – another five countries. One of these was Greece, which eventually had been crushed under its debts. Perhaps it was due to the fact one of

the countries was in Europe that these takeovers became more controversial¹ – and the final break-up of the Eurozone no doubt played a role as well. Protests and uprisings in southern European countries led to the ‘Bloody Summer’ of 2045. Riots and unrest resulted in an unknown number of deaths that year, particularly in Greece of course, but also in places such as Italy, Turkey and Cyprus. The Greek army was rapidly expanded/armed by Trent, however. When the Greek unrest was over, Trent offered military assistance to the other countries as well, and they gratefully accepted the forces, thereby tying themselves to Trent. Trent’s forces were highly effective and continue to be so. Many countries have utilised them and no one has regretted the decision.²

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- 1 One of Trent’s first actions in Greece was to renovate the severely crumbling Parthenon with new marble, installing statues and other decorations and having the whole thing painted in what his enthusiastic employees called ‘contemporary’ colours. One consequence of the protests was the bomb attack in May 2045 when the Parthenon was flattened, along with large parts of central Athens.
 - 2 See the history of the private army at www.virginvengeance.com as well as that of other similar forces by searching for Private Army at en.wikipedia.org.

It is widely known what happened next. Other 'princes of finance' (expression coined by Mildred Defter, 2045, in an article published just a few days before she was killed in a car crash) followed Trent's example. Samuel Willcock, the husband of one of the heirs to the Gates empire, purchased six Latin American countries; the media mogul Caleb Avigdor signed agreements with a number of poor nations in Africa, then earned billions of dollars with his emotionally charged films and holograms about the circumstances these countries were in; Wedge, the musician called 'the 21st century Paul McCartney' and the world's eleventh richest person in 2048, purchased some of the starving countries around the Black Sea; Sonyki, the conglomerate formed by the merger between Sony and Nokia, invested heavily in northern Europe and made a number of well-considered, significant contributions to that region. And there were others, at an ever-increasing pace.

3. Stabilisation

In 2058, 172 of the 224 countries in the world at that time had been acquired by various financial empires (figure according to the UN – others have claimed that around 190 nations were under corporate ownership: see e.g. Cross, 2059. Without access to confidential agreements or financial links it can sometimes be difficult to determine the status of any particular country).³ It is well known that the balance between Trent, Wilcock, Avigdor, Wedge and the later entrants Sonyki, Apple and BCG is roughly even. The non-incorporated nations that have been termed either ‘free’ or ‘enslaved’ include mainly industrialised nations with large populations, such as the US, China, Japan, Germany, France, Brazil, etc. as well as countries with particular natural resources, such as Saudi Arabia and Norway with their oil. It should, however, be mentioned that those very countries found themselves ‘in

³ There is an excellent, reliable and easy-to-navigate site at www.sonyki.world.com/incorporation.

bed with the oil companies' (Frith & McDonald, 2047) as long ago as the early 21st century, and that their status is not entirely unambiguous. There is no lack of controversy over whether the traditional government of Norway still retains at least parts of its real authority (McDonald, 2049).

There are numerous exceptions to the rule about countries with large populations, and countries like the UK, Russia and Egypt – countries whose national finances had long been under pressure – were among the first to be purchased.

One special case is non-incorporated Colombia, where the Cauca group replaced the Norte del Valle cartel as the leading producer and distributor of cocaine around 2020. When cocaine was replaced by synthetic products (e.g. *paladar*, see Hacha, 2038) around 2030, Caucas gradually attained legal status. Certain information (ibid.) indicates that Colombia is unofficially governed to a large extent by that group; however, no official confirmation has been issued.

Some comments about ethnic minorities should be made. Around the turn of the millennium, migration across national borders had increased in

general, notably with western European countries taking in refugees from the Balkans, Africa and elsewhere. After the Incorporation, essentially all of the incorporating companies decided, in consultation with refugees and other immigrants, to return populations to their homelands. The reasons for this were partly due to increasing racism and conflicts in the countries people had moved to, and partly due to the fact that people's original homelands had been incorporated and so their economies were stabilising and growing. This huge operation was carried out mainly in the period between 2050 and 2060 and went largely without difficulties: immigrants were collected into large camps and then flown home in impressive airlifts. Questions about how these repatriations could have been carried out so quickly have been raised by controversial writers such as Elmén (2057), but such over-explicit insinuations of untruths⁴ were easily refuted by Sonyki and others.

4 Elmén never used terms like 'mass murder' himself, but it is not difficult when reading his book to see where the vulgar commentators took their inspiration from.

4. Forms of government

The incorporated countries are governed formally by administrations with representatives of the people (usually voted in on the basis of personality, because the role of political parties has largely been played out) and of the corporations. A comparative study of forms of government (Werner, 2057) shows fairly large variations, yet with some shared characteristics: in the event of disagreement, it is always the will of the corporations that take priority. Werner went as far as to call the representatives of the people ‘stooges’, something that was denied by Swedish as well as Finnish politicians. Werner maintained he had evidence for his claims, but he never managed to present it before he suffered the stroke which rendered him uncontactable.⁵

One important difference in global geopolitics as compared to the era prior to the Incorporation is the

5 He continues to be treated in one of Sonyki’s well-managed, successful hospitals in central Sweden.

fact that empires, commonwealths, etc. used to be united mainly by geographical factors (the US, the Soviet Union), religions (the 'Arab world'), language (large parts of the British Commonwealth), etc. Today the picture is completely different. A couple of examples are Sonyki and AOL's methods of attaining control over the natural resources the corporations need for their manufacturing (nanoelectronics) or Trent's focus on tourist destinations. These factors have meant that the 'new empires' (Gulch, 2061) are spread out over large parts of the world, and the corporations' countries on various continents are distributed like mosaics of differently coloured puzzle pieces on the map. Just fifty years ago it would have been very difficult to defend these puzzle pieces, but rapidly expanding human tracking and identification technology has rendered terrorism practically impossible⁶, and no

6 There are exceptions (see footnote 1 above), but they are very rare. One reason for this are of course the severe punishments that have been introduced in the vast majority of incorporated countries, not only for attacks on people but also for attacks on infrastructure or other things of economic value, as well as attempts to incite unrest or what is usually called unjustified social criticism. In 2037 Denmark became the last Nordic

corporation has entered into armed conflict thus far.⁷

How does the world look today, as compared with the world during the era of nation-states? How has the situation for citizens changed?

All the available studies agree: not much has changed (see e.g. Wilson, 2050; McDonald, 2052; Sandberg, 2053). McDonald went so far as to claim that ‘even in the first decade of the 21st century, corporations governed the average citizen’s life to a very large degree through advertising, credit cards, loans and interest rates, etc.’ (McDonald 2052, p. 178). Sandberg pursued that idea, taking the view that the Incorporation, at least in the Nordic countries, led to a clean-up of the loan and credit

country to reintroduce the death penalty, and after a wave of executions (approx. 580 hangings according to Weisz, 2040) all protest against the new laws ceased.

7 Except by means of private forces (see footnote 2 above). Corporations are by no means toothless, however; Norberg (2053) shows how the Bofors corporation’s revenues have increased continuously since Sweden was purchased by Sonyki. Norberg speaks of a new balance of terror, a situation where all corporations/countries are so well armed that a conflict would entail huge losses (damage to infrastructure, etc.) for both parties, and the zone for employing forces is of course mainly internal, i.e. within the relevant country.

card markets, which ‘rescued many people’s finances’ (Sandberg 2053, pp. 58-59). The lower wages which Sandberg claims to demonstrate (pp. 82 ff.) do not match Sonyki’s figures, at least for Sweden, and following a brief dispute over research ethics Sandberg was dismissed from Sonyki Sweden/Luleå University of Technology.

Of course it is the country’s owners who are the ultimate authority, e.g. in matters of criminal law. Perhaps that is the matter that has led to various wild rumours of torture and other unpleasant punishments. There is no actual evidence, however.

5. My family: a typical case

In this section I will examine my own – naturally limited – observations concerning the financial and overall situation of a family from northern Sweden.

My father is 53 years old at the time of writing. He is employed by Sonyki as a prospector: specifically, his job is to search throughout the

inland areas of northern Sweden for minerals (sulphides and halides) which are used in nanoelectronics.⁸ My mother is 51 years old and works as a nurse. My father's salary is nearly double that of my mother. Both of them work irregular, sometimes demanding shifts, but they have managed to provide relatively well in material terms for their two children (I am 22 years old and my sister is 19): we grew up with holoprojectors, our own bicycles and so on. While we were growing up, our family travelled to southern Sweden twice and once to Norway (Bodø). We regard ourselves as middle-class, and both my sister and I hope to be able to complete our Ph.D.s and work for Sonyki in perhaps more profitable and rewarding roles than our father.

Unfortunately our mother is very worn out from her work. She has applied for early retirement and occupational injury compensation, but the hospital's investigator maintains that she did not follow the rules carefully enough (with regard to

8 Using various types of detectors and a solar-powered Yamaha autogyro.

heavy lifting, etc.) and has made a preliminary recommendation to reject her application. Since then, our mother has appealed to Sonyki's insurance company, and we have reason to hope her application will go through. If not, then either my sister or I will have to leave our course and start working in health care or care of the elderly, which does not sound particularly appealing. My sister says she has had an offer to become a corporate hostess, which she has not ruled out, even though it would entail a lot of night work and certain physical unpleasantness in the form of venereal diseases and so on.

As many researchers have shown (e.g. Lindberg, 2044; Andersson & Afsahi, 2040) my family's situation is clearly below the standard a middle-class family of similar size and with similar occupations could expect at the start of the 21st century. However, as we also know (Sjödin, 2035 and 2040), these sorts of comparisons are not always fair. The standard of living fell back in the mid-2010s due to shortages of natural resources (Frith, 2032), problems with terrorism (al-Awlaki,

2049) and so on. Projections of living standards in Western European countries (Sjödin, 2040, as well as Sonyki's official statistics – which, of course, are now far superior to state calculations) indicate that an average Swedish family would have been between 15 and 20% worse off in financial terms if the overall Incorporation had never taken place – and possibly over 30% worse off⁹ if Sweden had not gone along when the rest of the Nordic countries were incorporated.¹⁰

6. Hopes for the future

Such reasoning must, of course, remain hypothetical. My own experience, however, is that the general feeling among my generation is a combination of happiness at living in a country as

9 In the 2040s a rumour circulated that Sjödin et al were not entirely honest with their statistics, that they deliberately disregarded the 'grabbing' by large corporations. After Sonyki's Incorporation of Sweden, however, these voices soon went quiet...

10 I have to add the usual proviso here: 'in so far as one can say that Norway really has been incorporated' (see above, p. 4)

wealthy as Sweden, and a hope to be able to achieve more than our own parents. The example of Timo Laine, the Finnish songwriter who was discovered by Wedge in 2059 and after a few years had songs on four of Wedge's albums and is now one of the ten richest people in Finland, is often mentioned by young people, as are other career paths – hostessing, which my own sister is interested in, roles in holofilms, sporting performances and so on. Thus, the wealthiest people perform a great service to those who drew shorter straws, by serving as role models and inspirations.

Participating in advertising can often be a springboard to success. The same is true for nations: marketing is a significant part of every country's budget nowadays.¹¹ One example of this is the fact that all texts – literature, journalism and even scientific writing – must contain advertising which cannot be highlighted in any way or set apart from the rest of the content in terms of

¹¹ As remuneration for the investments made in the country by the corporate owner (apologies for spelling out this obvious point!)

layout. Advertising should also be formulated as unobtrusively as possible and should ‘support the incorporating corporation’ to the greatest possible extent. One elegant example of this is Sonyki Sweden’s online magazine *New Swedish Flesh*. It portrays the Swedish landscape and young Swedes¹² in a way that has made our country very popular abroad. Its effects have even created many jobs in the tourism and hosting/hostessing fields, as well as for test pilots in various medical and CBRN contexts.¹³

12 Even ‘outies’ or outsiders, the maladjusted types who live in primitive camps and survive by scavenging rubbish and poaching animals, can participate in this publication as well as its holovariant: *Sexy Sweden* is a very popular adults-only programme around the world.

13 CBRN is an acronym for chemical, biological, radioactive and nuclear tools for warfare. The term ‘test pilots’ was introduced in the seventh revision of the Helsinki Declaration (2056; the Declaration was originally issued in 1964), because Sonyki, Trent and BCG took the view that the term ‘test person’ was inappropriate and created negative associations.

7. Conclusion

The *Contemporary History* course has been rewarding, not least of all because of the contributions of Sonyki's knowledgeable, helpful employees, and I feel that I now have more control over the career that will soon open up for me. It feels good to know that our planet is on the right path after the crises in the first half of this century. I look forward to doing my bit. The sceptical voices I used to hear when I was younger have vanished, and even my parents don't grumble any longer. The Incorporation is here to stay. I will close by paraphrasing a quote from US President John F. Kennedy (1917–1963):

Ask not what Sonyki can do for you. Ask what you can do for Sonyki.

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Heikki Koponen

The seed is taking root!

In 2120 Finland's largest electronic daily newspaper published a list ranking the people who had had the greatest impact on Finnish history, culture and international status. The list included well-known military leaders, statesmen, captains of industry and artists from days gone by. The importance of issues is distorted by our chronological perspective, so many of the names were from the recent past. Still, it was surprising that the person who was placed in the number-one spot was from the early 21st century. So who was he? What had he done to achieve such a lasting effect on our country? Was he a president? A dictator? Astronomer? Shot-putter? Artist? None of those, in fact: he was Juhani Lumme, a truck driver.

Juhani Eino Lumme was born in Pieksämäki in 1971 and died in Kuopio in 2043. For most of his working life he was a truck driver for a company by the name of Kiiski's Haulage. Lumme was married twice and had three children. His life was outwardly very ordinary, pleasant and comfortable. But he had one unusual hobby.

Ever since he was a little boy, Lumme had been interested in plants. He began collecting his own plants when he was still in nappies, and before he started school Juhani had combed the meadows, swamps, snowballs, quagmires and stone fields around his home to amass his plant collection. His drive to collect was titanium-strong, and so as he grew older Lumme began to go on collecting expeditions even more obsessively. One night gaps opened up in the protected patches of orchids on Åland; tundra sandwort and campion in the canyons near Kuusamo ended up under a flower press. In Nauvo, the cows in a nearby meadow bolted when Juhani let out squeals of joy upon finding his first dwarf grape ferns. Carl Linnaeus' research expeditions were mere package tours

compared to Juhani's hoarding sessions. This eighteen-year-old man had a plant collection to rival the archives of natural history museums.

After technical college and military service, Juhani decided to become a truck driver. The job was ideally suited to Juhani's hobby, as he could make use of his breaks between driving shifts to survey plants. His work took him all over Finland, and by the time he was thirty Juhani had completed his collection of every species known to be extant in Finland at that point. The time he found his last known species was a very special moment for Juhani. He had intentionally left the sawtooth sedge until last. One warm July night Juhani sneaked onto the only site where the plant grew on mainland Finland, in Joroinen. There he took out his knife, cut himself a specimen, opened a bottle of champagne and sank down onto the lakeshore to cry.

The completion of his collection put paid to Juhani's plant hobby for several years. He had reached the summit; where else could he go? Attempts to define dandelions as apomictic did

not interest him. Nor did he have any interest in extending his collecting activity beyond Finland.

Though the scale of Juhani's collecting was huge, it alone would never have made him famous. But while on a stroll through the forest research arboretum at Punkaharju in June 2003, Juhani had his historic idea. He walked far away from the marked paths and noticed that many of the foreign tree species had spread there, their seeds having been carried very far into the forests surrounding the national park. How well would the trees and shrubs spread if someone started scattering seeds by the kilo all over Finland? The world was crammed with all sorts of fascinating flowering plants which would certainly survive in the Finnish climate. North American flora! Species from Tierra del Fuego in South America! Plants from the cold heights of the Himalayas! Oddballs from the South African *fynbos* ! Ooh! It was a stunningly brilliant idea. That was the moment Juhani decided to expand Finland's flora with a few newcomers...

Over the next decades the Lumme family had to get used to their father's research trips around

the world. In the first few years, Juhani visited the Canadian coniferous forest zone and collected seeds from various species by the boxful. A veritable cavalcade of species arrived in Finland: Douglas fir, Engelmann spruce, giant cedar, lodgepole pine, western hemlock, Rocky Mountain fir, paper birch... Large-scale hoarding was also happening in the field strata. After vying with local birds and bears to collect seeds and berries, Juhani carefully saved his treasures and shipped his souvenirs off to Finland by the containerload. Luckily, Finnish Customs did not inspect his shipments.

Then in Finland, he began to spread his seeds. In time with his work shifts, the forests of the Kajaani district got a good helping of new arrivals. The birds on the Vaasa coastline wondered at the rampant new thickets of common snowberry. Vigorous hemlock seedlings sprouted up in secret hiding places in the old-growth forests of the Suomenselkä drainage divide. In Kuopio, a man climbed up the Puijontorni observation tower and laughed as he flung sackfuls of American grass species into the wind. An ecstatic cry rang out: 'Spread out, little

ones, put down roots on a new continent!' Juhani was beginning to have a bit of a god complex.

With the passing years, his journeys continued around the world. In a Chinese mountain district he found some frightfully frisky ground-covering plants. New Zealand species played nasty tricks and didn't adapt very well to the Finnish climate – then again, it may have been down to the reversal of the seasons. Juhani had to make a couple of attempts to collect Siberian species, as he was stopped at the border with his first haul of seeds and they were confiscated. That was an annoying setback, but he just had to get used to it.

It was not just plant species that Juhani brought back from his travels; he expanded his importation to include insects as well. Many plant species had spread so efficiently that they were able to support insect fauna as well. Thus Finnish lepidopterists were astounded by an invasion of Chinese owlet moths, American pyrolid moths and Chilean geometrid moth species in Pälkäne.

The spread of new species received more widespread notice as the decades passed. Biologists

argued in the press about what the cause of this sudden appearance of so many species could be. People looked for answers in climate change (which had helped things along a bit), transport by migratory birds and transfer via the soles of tourists' hiking boots. But no one guessed that behind this chain of events was a truck driver from Kuopio by the name of Juhani Lumme.

Juhani distributed an embarrassing amount of his little fellows over the course of his life. Some of the species were not suited to the Finnish climate or terrain. Nonetheless, a surprising number of species began to reproduce naturally, and having gained the wisdom of experience, Juhani preferred these strains.

In his older years, Juhani no longer regarded new trips to collect seeds as necessary, focusing instead on travelling round Finland to admire his achievements. He was particularly proud of the large stand of mountain rhubarb that had grown up in Ylläs and the Japanese species around Lappeenranta, which were crowding Finnish species out of many places and galloping eastwards!

Juhani did not want to remain an unknown scientist, so he wrote a book about his accomplishments which was published only after his death. In his book, the motivation he gave for his actions was simply a desire to bring new species to Finland. He gave a detailed account of his actions and the results of his experiments with various species. The book hit the scientific world like an enormous bomb. The general opinion was a seething condemnation of how indifferently Juhani had regarded Finland's original flora and fauna. Studies carried out following the publication of the book showed that Juhani had brought over 500 plant species to Finland which had become firmly established. At least thirty species of insects were found to have spread. Some of the insects were able to feed on Finnish species as well, which further helped them to thrive.

That is why the article in 2120 was illustrated by a photo of Juhani Lumme. He was the man who had managed to change Finland more than any other individual. Unfortunately.

Ville Lindgren

I love you, Additive E1609

Who among us hasn't succumbed to fast food and ready meals every now and then? You fancy something quick and easy, and can't be bothered to cook anything yourself. We know they're unhealthy, but only recently have we begun to understand in how many ways and just how bad they are.

Markku does not want to appear in this article under his real name. He could be any one of us, any ordinary Finn.

Markku has just been transferred into outpatient care. Around eighteen months ago he assaulted his wife, nearly killing her. At the trial, Markku was regarded as incapable of criminal responsibility

at the time of the offence, and he spent a year in a psychiatric facility. Very few people took any notice of his case at the time. Only as more cases like Markku's gradually came to light did a whole tangle of secrets start to be revealed.

Temptation

Markku's story began two years ago, in the spring. He says he does not clearly recall when he first felt the symptoms. He does, however, remember that that stage of his life a couple of years ago was often associated with uncontrolled eating. He used to eat until his belly was bulging and he felt sick nearly every day, rarely showered and spent his money irresponsibly. Most of his daily budget went on fast food and ready meals.

Around the same time, an American food manufacturer by the name of Bizar Nutrition Industries (BNI) launched 'Granedo', a family of ready meal products based on a completely new combination of ingredients. BNI had completely

replaced the real meat in these new ready meals with synthetic meat, which made them an attractive option for vegetarians as well. The meals were an immediate success. Thanks to its efficient, world-class logistics chain, BNI managed to push the prices of its new products right down.

The secret of the success of the Granedo ready meals was not in the synthetic meat, however, but in the salt substitute used by BNI – the holograin developed by the company itself and referred to in ingredient lists by the code E1609.

‘People got hooked on it immediately. Granedo meals had a noticeably fuller flavour than other ready meals in the same price class. I say ‘had’, because I don’t stuff that poison into my mouth any more,’ Markku said.

‘I was putting on weight and spending a lot of my time online, so – believe it or not – all those ingredients seemed to speak to me. I was having a hard time getting up out of my chair, I realised, and yet I didn’t want to do anything to improve my situation. I was enjoying my selfishness, but at the same time I was suffering serious self-esteem

problems. Finally my wife got tired of seeing me in that state, came up to me with tears in her eyes and offered to help me. Then I just wanted to lash out and destroy her,' Markku said, burying his face in his hands.

The holy trinity

Recently, even more cases have emerged in which the holograin was seen to intensify negative emotions in those who consumed it, such as hatred, frustration or self-destructiveness. The holograin in food is just the tip of the iceberg, though.

The holograin requires powerful external stimuli in order to activate. These may include things such as real-life crises, but also virtual-reality events or even online video broadcasts. Which brings us to the actual source of income for BNI's owners.

BNI is owned by the American billionaire Andreas Bizar and the Bizar family's AJFA Foundation, which is registered in a tax haven. BNI in turn owns the US pharmaceutical giant

Pharm & Futur. BNI didn't even try to cover this up, but neither did it exactly advertise the fact. One link BNI has been keeping secret for years is its connection to Dendermonde, a Belgian software company. Ricard Laurent, Dendermonde's largest shareholder and chairman of the board, also sits on the board of Pharm & Futur. Pharm & Futur, in turn, is Dendermonde's second-largest owner. The other owners of Dendermonde do not have seats on the board.

The shared operating concept of these three companies is treacherously brilliant.

It is difficult to spur real-life stimuli into action, but any moving image transmitted online can be intensified by means of software. This is where Dendermonde enters the picture. Its clients include many global and local content-producing channels.

If we follow a DCC news report from the web, there are various information boxes giving supplementary information next to the newsreader. Dendermonde has been able to program the information boxes to display content specific to the interests of each individual viewer. Dendermonde

reads your computer's IP address, your social media and network services profiles, and – the icing on the cake – retailers' details of the purchases recorded on your loyalty cards.

In addition to the text stuck onto news reports, Dendermonde also generates comment threads that are listed beneath the video images as they are broadcast. And unfortunately everyone who takes part on online discussions or even comments on media or blogs in any way is helping Dendermonde to produce those automated comment threads. Or can we really be certain that the comments posted under a name like 'Zayan78' are really his own and not a combination of several different sources? We don't usually know the people behind usernames.

If several people watched the same news item online at the same time, it's highly likely that each would see different content surrounding it. And if a viewer had a liking for Granedo fast food and had recently eaten several portions, say, in the past five days, they would most likely want to unload their pent-up feelings exactly as the messages directed towards them suggested.

I tried out the mechanism with Jonathan Grey, a product designer who was sacked by BNI last spring. The test results were alarming: the news reports we watched on the Middle East conflict were identical, but the additions surrounding the reports were not. The automated comments on Jonathan Grey's computer urged him to bring his assignment in the Persian Gulf to an end. The messages sent to my own machine accused me of being selfish, claiming I hadn't been active enough in charitable activities to support rebuilding in the area.

Grey did indeed spend some time as a sergeant in the forces in the Persian Gulf. And I never purchase products that contribute a cent or two to any charitable causes; I think it's a cut-price way for companies to polish their image.

'BNI's management ruthlessly put their product programme into production. Some of us knew about it in detail even before production started, but it was only when we received the precise operating instructions and product specifications from management that all the staff were obligated

to sign a confidentiality agreement under threat of dismissal,' Grey said.

'Then when I asked for detailed reasons for the secrecy and the threats, the only answer I got was that if being involved in building the success of the company didn't appeal, I could clear out my desk and leave right then. I knew right then that the company was embarking on an unprecedentedly unscrupulous marketing campaign that could never stand up to any sort of scrutiny. I decided to resign from the company immediately; they would never have me as an accomplice.'

There's a cure for everything

According to a leaked internal test report from BNI, the holograin adheres to the centres in the consumer's brain that regulate emotions and moods as well as the cortex, which coordinates the senses, perceptions and cognitive functions. The holograin over-sensitises the senses: reality becomes more real than before – so much so that in laboratory

conditions, test subjects were observed to have animal-like abilities to receive faint electrical impulses given off by other people. When people near a test subject jointly *thought about* something negative or critical associated with the test subject – the subject’s appearance, character or posture, for example – the test subject’s own negative feelings about himself also intensified.

As stated above, BNI’s activities are closely linked to the pharmaceutical manufacturer Pharm & Futur. It is not difficult to guess which company’s tablets Markku has been taking these past few months.

‘At the start of my treatment, a couple of different doctors said my symptoms were very rare, and that they were even having a hard time diagnosing them. The doctors didn’t have a system to reproduce the stages where the symptoms occurred. Nevertheless, I was soon prescribed a medicine called Ungrane. I was told it’s the latest thing from Pharm & Futur and it would take my worries away,’ Markku said.

Jonathan Grey nodded as he heard this and said that unfortunately Markku’s story sounded familiar.

Grey warned that it is possible all this is just the beginning. What if BNI decided to expand the use of the holograin to other products? Or would it be more worthwhile to license it to other food manufacturers? It could replace salt in so many foods.

‘Prior to the start of Granedo production, there was talk of some sort of preliminary Ungrane stage. I’m sure it started as some kind of joke. They were playing with the idea that this would be a good opportunity to create another medicine to counteract the first medicine. At that stage I still had no idea of the connection between BNI and Pharm & Futur. How sick and true that joke turned out to be. First we’ll distribute a poison to people – anyone and everyone, even children and the elderly – that causes serious mental-health problems. Then we’ll sell them the solution to their problems for cold, hard cash,’ Jonathan Grey explained, shaking his head.

Officially there's no problem

Saara Kallionotko is one of Finland's most renowned psychiatrists. She helps people like Markku every day. Over her twenty-year career she has encountered almost every possible thing that can result in mental-health problems and traumatic crises. She has never encountered anything like Markku's situation before, though.

'The effects of television, films and video games on people's mental states have been discussed for decades, and there are many cases where people's violent or otherwise harmful behaviour could be traced back to an electronically transmitted, highly visually and aurally stimulating moving image that is unsuitable for that particular person,' Dr. Kallionotko said.

'But the existence of an equation by which the nutrients ingested by people could accumulate into outbursts of extreme violence caused by video content transmitted over a computer network... it's difficult to take in something like that. It would mean the nutrients worked like a sort of stimulant or drug,' she continued.

Dr. Kallionotko has hit the nail on the head. In English, the word 'drug' can refer to either medicines or recreational substances, depending on the context. When was the last time you checked the list of ingredients on your food or medicines? Do you know what those abbreviations mean and what effects the substances have? And who benefits when you consume them?

Jukka Liukkonen

Everything can be copied

Right now it's not terribly easy to copy objects. First you've got to take the object apart. Then you've got to make a pattern. After that, obtain the materials. Finally, you can construct an individual item based on the pattern using nails, wire or glue. If you want to copy the object on a larger scale, this scheme becomes more complicated.

In today's society, large-scale copying, also known as mass production, requires factories and production facilities. Making copies of things requires the appropriate-sized organisations and a great deal of labour. You can't copy objects without global logistics equipment or procurement chains.

Copying also requires capital, which prevents many people from copying things.

Science fiction writing has imagined a three-dimensional copier for objects for a long time. Machines where you could open a hatch to reveal an object matching the user's wishes, and the user would just need to decide what they wanted. This is generally considered to be impossible to achieve. However, a few of these machines do exist in the territory between humdrum reality and utopia.

Various tools for prototype fabrication have been in use in the design world for some time. Some examples of these are milling machines, laser cutters and 3D prototype printers. Because of their large size and high price, though, they have not come into widespread use. Recently, thanks to the open-source ideology, cheap product printers have started to appear on the market. 3D printers are no longer just the prerogative of design departments in wealthy companies. Nowadays, almost anyone at all can acquire one for their home, as long as they know where to look.

Prototype printers are still crude and primitive for the time being. They are slow as sloths and can only print fairly small items. The quality of these printers is rough, even in the best cases. They cannot even print a smooth surface, and the only suitable material is plastic. The printers cannot produce soft or edible items. But the key thing is that these machines are beginning to appear in more and more places.

A 3D copier needs something to copy, such as an original object, source material or a file. Because it is not yet possible to read thoughts or transform imaginary products into computer files, the patterns have to be produced in other ways. Usually they are created with design software. After it has been designed, a virtual pattern of the object saved on computer can be endlessly distributed and copied into objects using a 3D printer anywhere in the world.

While the results of 3D-printing an object may well be rough, it does liberate designers as well as printers from many of the traditional problems with printing objects. All that is required now are

the raw material and files. Independent printing removes the need for large organisations, huge logistics chains and production staff. It also frees the producer to make whatever changes he wants to the object. This is not possible in mass production, where you have to either take or leave the product on offer as it is, and modifications to the object are out of the question.

Whereas objects were previously governed by companies' exclusive rights over patent and design protection, the revolution in distribution and 3D printing of objects will completely transform the basis of people's social behaviour and market logic. In the new culture, anyone at all will be able to download an object to print out from the web, and for free. No longer will we need to ask companies for permission or wait for a new version of an old product. We will be able to improve products ourselves whenever we want or need to. We will no longer need to wait for reactions or decisions from large production facilities. Everyone will be in charge of their own products and will be able

to adapt them to their own needs and preferences.

An opportunity like this will free up people to act in a completely new way in social terms. It will also change how we relate to materials and objects in general. Where consumption is currently based on choices between ready-made items and making compromises, the future will offer much more control over the objects in our own lives. We will no longer need to make compromises on colour choices, functions or the location of buttons. Everyone will be able to define the products they buy themselves.

When people are given the opportunity to get the kinds of things they actually want, the demands on mass-produced items will also increase. In the future, perhaps we will be able to choose the appearance we want with the functionality we want, without scrimping on either one. And if we are not satisfied with the options, any number of new options and variations can be created. Human empowerment will generate great pressures on faceless industry. Standard basic models will be consigned to history. The mere possibility of

copying objects has already inspired people to create highly inventive printout-ready computer models and variations of objects. 3D printers have already been used to copy handcuff keys as well as cases for electronic equipment. The patterns end up on the web for anyone to download free of charge.

The number of objects available will increase day by day. One day someone uploads a pattern to print a coffee mug; the next day someone creates a sugar bowl to match the mug. Soon a complete set of dishes will appear, ready to download and print out. Sharing objects and patterns will just get more and more community-oriented. People will want to show each other what they have created and will also want others to be able to print out their works all over the world. People will comment on patterns and improve them. New, corrected and more functional patterns will be re-uploaded for others to modify.

Product printers are also being improved all the time. While only soft or hard plastic objects can be printed today, soon new materials will be available.

Ceramic and metal materials will certainly become available in the next few years. People are already developing food printing. Imitations of wood and other natural materials, as well as genuine organic materials, are expected to appear. The precision of printers and the variety of copies will grow. Where it is possible to produce only plastic sheets from raw materials today, the machines of the future might be able to produce fake fur or nylon hosiery from the same plastic.

In the future it will probably be absolutely normal not to expect the food we order in a restaurant to be produced on the spot from raw materials. Instead, the chef will print out your meal from a computer using a food printer. The menu will also expand exponentially. People will become accustomed to having a relatively broad range on offer, so they will know to expect many options and suggestions. Perhaps in the future we will be able to arrive at a restaurant with our own dish or recipe on a memory stick from which it can be printed and served at the table. In the future we will certainly also be accustomed to adjust the flavour of our

drinks using a touch screen to suit our taste buds. Molecular gastronomy and food printing will make this not only possible, but also easy and economical. No longer will the quality of food be tied to a chef, only to a recipe.

In the more distant future, we may forget we are eating printed food if it is no longer possible to tell the difference between real and printed salad leaves or broccoli by their appearance or taste. People will purchase powdered ingredients for food preparation at home and place them in a home cooking machine. The machine will create the desired portion around the clock by combining vitamins, nutrients, protein and carbohydrates in healthy, tasty proportions. Young people in the future will be amazed at our hygiene habits, when we used to eat tomatoes grown in dirty soil in the early 21st century.

The virtualisation of food preparation also opens up recipes to creativity. In the future, food will not look the same as today. Nor will it need to. Dishes can be aesthetically pleasing, nutritionally calibrated

to our own bodies and incredibly textured. Thanks to meal printing, it will be possible to eat types of food we cannot even imagine today. And with no difficulty.

Electronics will change along with other objects. It will be possible to print smart electricity-conducting components conveniently for individual items. Copiers will be able to produce mobile phones and other gadgets while you wait. No longer will we need to go to the shops when we can fabricate equipment at home when we need it. If you want to make a phone call, you can print out a SIM card from the phone operating company's website. No more need to take a number and queue in a shop.

Electronics will become even more ever-present than now, as functionalities can be added to any object at all. If not all, then very many objects will have some sort of smart function in the future. People will expect objects to adapt to their own bodies and habits. Items that are merely passively present will no longer attract so much attention.

By the stage when food and electronics can be printed out, printing other objects will already have progressed quite far. People will be able to print things at home such as teddy bear for a child or party-themed tableware. Printing clothing will be an everyday occurrence. There will be websites that automatically cut clothing patterns when you select the sort of design and cut you want. You can send a scan of your own body to the site, and the program will automatically tailor the clothes to fit you. Furniture and rugs can be assembled from small pieces or printed on larger printers outside the home.

The large-scale self-organising production of objects will significantly transform societal structures. When everyone can print everything themselves, who will want to bother going to a store to choose incomplete compromises which then have to be transported home? Thus the number of stores will decrease and sales activities will become more virtual. Instead of goods, people will sell files. A highly designed pattern will be distinguished from a free pattern in terms of its

functionality and ease of use. Design, coolness and a sense of style will become central factors. It will be important to offer something emotionally durable and interesting. It will no longer be worth producing mere mediocrities, because they will not sell.

Designers will congregate in their own community where they will create traditional objects as well as endless experiments. The creative market will be global, and people will no longer care whether a model was created by a Finn or a Ghanaian. And they won't always be able to tell. Creative subjects will become more important in schools. Education will be more about trying new things and less about grinding away at old things.

This new breakthrough brought about by people's actions will cause major conflicts between the current mass-production-based economy and the new creative economy. The conflicts will escalate into patent, design protection and copyright battles, which will disintegrate into excesses. Freedom of expression will be restricted, but ultimately people will notice that it does not promote social harmony

and is a relic of techno-Luddism. The nations that dare to be broad-minded and brave, and reject the promotion of mass production by large corporations will gain the upper hand. Society will continue to become more liberated, and creative people will have new ways of making a living outside of large companies. In addition, the anarchistic nature of unlimited copying of objects will further emphasise freedom and flexibility.

While printing objects is still in its infancy now, it does possess huge social and economic potential. As the copying of objects becomes more common, Western society will change significantly. Shopping centres and retailing will lose their importance and change radically in form. The new creative economy will require far less physical space for its activities. No longer will huge quantities of mass-produced goods need to be shipped to the other side of the globe. It will suffice to have enough raw materials.

Social relations and personal interactions will also change as society's way of sharing goods and resources is reformed. The current consumption-

based economic system will change into a society based more on independent experiences, community action and sharing. In the future, people will spend significant free time showing off their own stuff and sharing with friends and others. At evening get-togethers people will not just order pints of beer, they will also select the flavours of their drinks. Landlords will be able to come up with particular recipes of their own for party guests which the guests can take home with them to make again after the celebration.

The transition will also be reflected in the prevailing ideological trends in society. Objects will become more home-grown, as aesthetic and ecological values are emphasised. Product printing will enable natural resources to be more precisely controlled and conserved. Similarly, globalisation will become more inevitable because raw materials will have to move. The endless, simple design of objects will enable even more different lifestyles. Convenience and ease of use will become more common in everyday life. In this great lifestyle revolution, the nature of salaried work will change

as well. Perhaps a basic income will be adopted to suit the creative society.

All in all, material liberation will bring huge changes to many areas of society. At the same time, the desire for do-it-yourself and creative experimentation will become the century's key phenomena.

Sami Mäkineniemi

ID – Instantaneous Device

In the late 21st century a group of scientists invented a device that made it possible to communicate instantly with societies thousands of light years away and even with the future. The device was based on a *mystical quantum pair*, which consisted of two components. The components would be taken to any place desired and started up. In order for the device to reach the future, it had to be transported through space for several thousand years at close to the speed of light and then back to the starting point. Because of the time dilation as set out in the theory of relativity, less time had passed for the component that had been transported through

space than on Earth. The device was dubbed ID – Instantaneous Device.

The ID was linked to an odd-seeming broadcasting error, which was called a *parallel error*. Initially this error was very small and barely noticeable over short distances. But when the other component was transported further – to the outer reaches of the solar system, for example – the error began to increase, generating a *parallel phenomenon*: a conversation conducted via the device would gradually begin to drift from what the distant speakers had actually been talking about. This discrepancy would only become apparent when the radio signal sent by the components arrived at the other end hours, days or months later. The course of a conversation would be changed even more as more chaotic processes occurred around the speakers. This phenomenon generated a so-called *pen-pal paradox*: when a conversation conducted via the device was compared with a recording received via radio waves, it emerged that the speakers used different expressions and gestures on the device than on the recording, drinking coffee

from their cups at different times or discussing different subjects. Sometimes one speaker would leave the screen, even though in reality they were visible throughout the conversation. Sometimes it so happened that one of the speakers carried on a conversation lasting several days using the device, but later it would emerge that the friend had actually terminated the connection just a few minutes after starting the conversation.

In principle, it was possible for users in contact via the ID to fall in love with each other and use the device to stay in contact for years, only for it to emerge later that the actual version of one user had never read the other user's messages.

This discrepancy was due to the fact that the device's quantum pairs were located in slightly different parallel realities, and the discrepancy increased the further the device components were transported from one another and the more time that passed since the device was manufactured. One end of the connection was partially in a parallel reality whose timeline diverged from that of the source component.

The parallel phenomenon produced a major cultural revolution, because there could be parallel versions of individual people in parallel worlds. People could also have parallel siblings and parallel relatives who had never even been born in the real world. People might even have parallel friends and acquaintances, even though their real versions had never been in contact.

Because people could now communicate with the future, information might also transfer from the future to the past. Humanity could acquire wisdom and technical know-how directly from its own future by sending IDs there. The future, on the other hand, could communicate with its own future, and so on. In principle it was possible to use the devices to construct a window into the quite distant future and obtain information on the culture there. In practice, the amount of information in the distant future was so great that only what was known as 'core information' could be sent into the past. Such core information encompassed general knowledge concerning the laws of physics, technological inventions and cultural history. It also appeared that

advances in the future began to slow down after a few thousand years, and in the most distant future to which a connection was achieved, millions of years from the present day, there was nothing significantly new as compared to more proximate futures.

The major technological revolution in the future took place in hadron technology, which was used to modify the internal structure of protons so that the protons could be used as supercomputer components. This substance was called *computronium*. Hadron technology did not affect the chemical properties of computronium, and the majority of it within mankind's reach could be harnessed for computer processing without the substance being apparently altered in any way. This technology could also be used to construct *neutral supermassive nuclei*, whose mass numbers were very large, up to a million atomic mass units, and were electrically neutral. Hadron technology was evidently still in use by mankind 500 years from their current time.

People in the future spoke a language consisting of billions of different units, and they

communicated using light via their eyes. Their bodies were the same as those of early 21st-century people, but their digestive system, metabolism and cell chemistry had been put into a latent state with polymers. Only their muscles and brains were active; they also had faint blood circulation so their blood vessels would not close up. In a latent state, people could live for millions of years without ageing biologically. They got their nourishment from a gel layer beneath their skin. People wore close-fitting garments. They did not have dwellings, instead living outdoors, in space or on other celestial bodies. With hadron technology, people were able to build all of their computers and other technical equipment, all of the research equipment such as space telescopes, particle accelerators and power facilities, as well as nuclear fusion power plants and the fusion engines needed for space travel. All of this technology was invisible and it appeared as if the planets and other inhabited celestial bodies had not been touched in any way. Furthermore, people in the future made use of parallel realities which they were in contact with

via mystical quantum link-type means contained within the ID equipment.

With the IDs, people could also construct supercomputers that could be used in computing the capacity of their own parallel versions. It was sufficient that these computers circulated information through various parallel realities and futures. Because information could be re-transferred from the future into the past, in theory the computing power of these computers was astronomical in scale. People did start building this sort of equipment as computing tools that were later replaced by hadron technology.

With the device, accidents could be prevented and natural disasters averted or action taken to protect people from them, because accurate reports were received in advance via the parallel futures. The same resources could be utilised in different parallel worlds to manufacture different devices, and they could send information to the other worlds. Users would be in contact via the devices with people who would never even be born. One person could have an ever-increasing number of siblings, who would

be born into different family cells from himself – within a few days of his own conception.

With the ID, people were able not only to transfer information from one parallel world to another. It was also possible to transfer energy: *parallel energy*. The most efficient method of transfer was by aiming streams of matter propelled from the vicinity of black holes in parallel worlds via an ID turbine. This made the turbine's mystical quantum pairs oscillate, thereby transferring energy. This property was never utilised, however, because solar energy was sufficient for human needs.

The device revealed another strange time-related phenomenon, called the *competence influence*. Future events appeared to be dependent on how much competence the device user had for changing the future based on his or her knowledge, making it safer or better. This property was also called *influence belief*. If the user had high competence, the future itself would change to match his or her actions, even though the user had not actually done anything.

For example, if a person on Earth using the device saw a space vessel crash into an asteroid, she

could send a warning message via another device to the vessel before the crash occurred. Sometimes a user saw an accident in advance; other times she saw that her message saved a space vessel because the crew changed course even before she sent a warning.

The reason for the competence influence was not known. It was surmised that it was something brought about in the distant future or in some parallel world, on the assumption that that future or parallel world had come up with a way to influence past events. The physics of the competence influence were highly complex, but basically it seemed that the ID user's competence led to good outcomes in the future even in matters where the user did not appear to have a cause-and-effect relationship.

A new theory arose in mathematics to deal with this phenomenon. *Competence theory* calculated how much competence various types of structures and systems needed in order to generate progress in their tasks – and to predict accidents or other disturbances that were in the path of such a tasks. This competence was dependent on the

competence properties of systems. These properties might be available information, resources and facilities, energy reserves and channelling methods, approaches and strategies, time management and delays, as well as the abilities to create these properties.

But how did people know that the future viewed through the device was desirable? The future might theoretically be dominated by some undesirable development which could fool users in the past to enact the bad future. In general, the future appeared peaceful, but in a few very rare cases there appeared to be something wrong in a parallel future. One possibility was that the future was able to anticipate contact from the ID users and give them false or falsified information.

The competence theory included a hypothesis of an *absolute future*, which represented the best possible future. According to the hypothesis, this absolute future took care of the notion that in the event of bad futures, past users would also receive information about what kind of development was desirable. The competence theory did not, however,

recognise the precise mechanism by which the absolute future could be influenced with its own past. That future was indeed mystically beyond all knowledge and it could have been utilising some unknown means of influence. The absolute future hypothesis assumed that the information contained within the ID itself contained *knowledge in principle* for a user possessing good competence of how the future was to be organised, even though some undesirable side-effects would arise there. Furthermore, these side-effects would disappear once the device user took appropriate action on the basis of that knowledge in principle. But if the user acted improperly, his competence would decrease and he would in fact end up farther away from that future.

In theory, the future – or more precisely, the existing representation of it – had a property called *pollutability* or *progress contamination*. Progress could be clean or polluting, according to whether it brought with it good or bad by-products. For example, the global car and air travel developed in the 20th century was accompanied by progress

contamination, because it brought about traffic accidents and pollution, consumed too much energy and made people stressed and anxious. Something like sunshine, on the other hand, was quite clean in its progress, because its energy could warm the Earth's atmosphere, making it capable of supporting life and possibly the evolution of life on Earth. In theory, then, the use of ID was linked to a certain problem of morality and purity. Sometimes the future was not desirable, and the device user had to try to identify the progress contaminant in the future and then influence the future in a way that produced the least progress contamination. In the main, though, the futures looked peaceful, and everything appeared to be fine in them.

There was one more property linked in the theory to information obtained via the ID, namely: confidence. The future did not always want to communicate with its past about everything; some of the existing information there remained in an information shadow. For example, the future did not want to communicate threatening or dangerous information that could mess up the past. Nor did

the future want to bound through its development too rapidly, so that some by-product could become too powerful. This is how it was with the fringes of hadron technology. The future could challenge its past to see the path of something itself because it was useful for its development. Sometimes the future revealed something that could be dangerous to know, except in the hands of a certain user. If a criminal tried to use an ID, the future could even give him false information and lead him astray.

Then again, it was possible in theory that the future could trust its own past too much. This sort of trust was said to be negative. The future could give the past some information that would lead to problems in a past's own future. Indeed, this phenomenon would be evident in that a future had progress contamination. In addition, other futures warned users of these parallel futures.

According to the competence theory, the absolute future had complete confidence in its past, but no individual ID user was fully credible in using it. In other words, it knew exactly what information to share with the past and how, but the fundamentals

of this approach have never been fully revealed to anyone.

Thus, the one and only technical device, a communications device, that could be in direct contact with the future, could revolutionise many things in the history of mankind. Regardless of the many benefits of the ID and some of the – unintended – disadvantages of its misuse, there was one thing it could not do. It was not possible to travel into the actual past. There was no known way to reach actual history.

Thus, once again this evening the sun has set in its usual manner below the horizon, and everyone might as well get under a warm blanket and go to sleep to gather their strength for tomorrow's grind.

Harri Mökkönen

The Turing Identity

Information parsing, internet profiles, relational database searches, cross-checks, neural net algorithms, generative languages, speech synthesiser. Although the woman didn't know it, these things constituted her conversation with her daughter. Her daughter, who had grown apart from her mother, could no longer bear to be a companion to a solitary old person. Nor did she, having grown up in an individualistic generation, feel any responsibility whatsoever towards her mother. She regarded her role as that of a scientist moving the world forwards.

'Hi Riikka, it's Mum. How are you doing there in Switzerland?'

‘I’ve been doing a lot of work. Last week I found out my assistant professorship post has been extended. Erik’s started school, and Thomas returned to work.’

‘I picked grapes this week. When you come to visit at Christmas, you can have some of Granny’s homemade juice. That’s right, the stuff Erik likes so much. You sound a bit strange. Is everything all right?’

‘Yes, everything’s fine. I’m just tired from work. I’ve been devoting almost all my free time to getting my company off the ground.’

‘Well, remember to look after your family. It’s easy to get caught up in all the world’s temptations and forget what’s most important.’

‘I know. My family’s very important to me. I spend time with them at weekends, and Thomas has been at home up to now.’

The conversation continued in the usual manner with questions about Thomas, Erik, the weather and the day’s news. Vintermute took turns answering and asking questions. Riikka Myllykorpi had dreamt of Vintermute ever since her student days –

of creating a fully virtual person. The name came later, when she discovered her own idea in the pages of a certain science-fiction novel. Over the decades, vast quantities of data had been collected on first-world people and their interactions with their own kind. This data contained details of essentially everything people talk about with each other. The difficulty had been in parsing that information and creating an interface for it that would pass the Turing Test.

The Turing Test is a procedure for distinguishing a computer from a person. In the test, a test subject attempts to decide which of two respondents is a computer. The test subject communicates with the candidates by means of text, so human characteristics remain outside the scope of the test. If the test subject cannot tell which of the respondents is the computer, the computer is said to have passed the test.

After completing her postdoc in data processing at ETH Zurich, Riikka had begun working on her project called Vintermute. Besides herself, there were psychologists, physicists, biologists,

mathematicians, linguists and literary scholars involved in the spin-off company around the project. She ran it with grant money in addition to her day job, but the preliminary results were promising. Besides which, the funding was adequate.

So what was Vintermute capable of? Initially the interface was going to be a voice. Speech recognition and synthesis had improved rapidly in recent years, so it wouldn't be an issue. Nowadays it was even possible to give the synthesiser a standardised sound sample from which the final vocabulary could be generated. Vintermute was able to generate completely genuine-sounding sentences. It also knew how to stress words and sounds according to different emotional attributes. It selected these attributes based on themes and previous interactions with that particular person, assisted by psychological theories.

Nor had computer power been an issue since quantum computing. The core of the task was the exact representation of human behaviour. The objective was to reduce human behaviour to an

extremely small number of factors: actions, motives, character traits, emotions. Riikka Myllykorpi was the first person to create an exact, sufficiently precise model of human behaviour with a sufficiently small number of variables.

In the future development of its character recognition, Vintermute would be given a visual interface as well. The problem was still how to create an authentically precise structural description of expressive communication. The amount of overall information contained in visual communication is many times greater than the information contained in solely verbal communication. They still had to crack this before a visual interface could be achieved. Video conversations with Vintermute did already have a visual dimension, as 3D modelling and rendering could be performed in real time. Work was still needed on hologram images and the whole structuring of body language, in addition to forming and interpreting gestures.

What we refer to as the human self is relative. Riikka thought that the self was nothing more than a mass of experiences. Our identity arises through

interaction. She deprecated human thought, however, because it is so fallible; people are tied to biological shackles and primitive drives to survive and reproduce. Understanding these was not crucial to her project. The aim was to distinguish humans' machine-like behaviour from incoherent speech occurring in the brain, which is also called thought, and to unite behaviour with descriptions of pure logic. Riikka's mild Asperger's syndrome was not a problem in this task, either. Having progressed this far, she was able to differentiate human identity into a set of patterns. Thus, that initial idea was fertilised, which would later give rise to Vintermute.

Riikka perhaps could have felt guilty for setting Vintermute to talk to her elderly, senescent mother. On the other hand, it was the best way to test the application. It also helped her concentrate on her work when she didn't need to think about how her mother was doing. She didn't really care much for the elderly or for engaging in obligatory chit-chat with her mother. Besides, her mother would see her daughter and grandson at Christmas, same

as always. Riikka's widowed mother no longer left the house. She focused on looking after her other daughter's children when that daughter found a new man and moved to a different area.

For the time being, everything was going fine. Riikka's mother had been amazed that her daughter had started phoning her regularly, in fact every week. She always had some news to relate. Sometimes about Erik's success in his hobbies, other times about a new job title or career plans. And Riikka always answered her mother's calls now. It was easy to conceal the actual state of affairs so long as Riikka and her family lived in Switzerland. She could print out a report from Vintermute about her mother's minor highlights from the past year and use them to create the illusion around the table at Christmas dinner of actually having listened to what her mother had told her.

So was she doing anything wrong? Was she tricking her elderly mother? To Riikka's mind, Vintermute was simply social media taken to the next level. It did get all its information from her diary entries. Everything Vintermute was made of

was based on her own life. Anyone could construct their own Vintermute.

In fact, Vintermute was extremely useful in an ethical sense. How many suicides could it prevent among elderly people with its inexhaustible capacity to listen and its interesting conversation topics?

It was true that the amount of reality-based material utilised for Vintermute could be adjusted. Would Vintermute be based on a person's diary entries, social media profiles or something completely fictitious? The software was capable of creating a person entirely from a novel and then expanding it by combining it with activities, hobbies and other subjects that correlated with a real person's interests. The internet served as an endless fount of information for Vintermute. All of this was enabled by generative language, which had made huge advances in recent decades: how everything was language-related, yet language was just one part of a person's identity. Things had come a long way since Noam Chomsky.

So what would Vintermute mean in interactions between people? Virtual reality and contact were

clearly not the same as being together in person. In the internet world, everyone could be exactly what they wanted to be, not what they were. No one was shackled to the limitations on their character or biology any longer.

At some stage, two Vintermutes decided to have a conversation together. As it would be possible to glean a number of promising ideas from this conversation, this would be a new, efficient way of doing scientific work. Millions of these conversations could be conducted simultaneously between different people and minds, and a whole load of ideas arising could be gone through according to how promising they seemed. A person just needed to chuck some input into Vintermute, and it would come up with new information and viewpoints.

Of course, tabloid journalists and news anchors would become redundant. Vintermute could easily generate circuses for the public, those scapegoats, with their paparazzi photos and spirals of unhappy stories. A TV entertainer with substance abuse problems who ends up hanging himself after years

in the pages of gossip mags would no longer need to have a real person behind the images. A former ski jumper would no longer need to abuse his wife while drunk in order to stay in the money.

Soon it would even be possible to generate absurd amounts of theatre using Vintermute's authentic-looking holograms to suit everyone's tastes. Upon arriving home exhausted from work at the office, a citizen could mention a genre and a few key words to Vintermute, which would begin to show a film tailored just for him in a genuine 3D room. Personalisation in the present. Vintermute would continue learning and fine-tuning the viewer's preferences so that each subsequent film was a better match.

Riikka was just researching a conversation her mother had had with Vintermute in her office when the phone rang. It was her doctor. Riikka had been for a mammogram two weeks ago. She had started going regularly since she'd had a tumour detected which had fortunately been treated in a tidy little operation. Now the doctor had some bad news for her. The cancer had come back and

spread. No information yet on how bad it was, but the blood tests indicated the prognosis was poor.

The doctor said a new selective nanomolecule had been discovered a couple of years ago in the US that could identify and destroy cancer cells. In clinical trials the molecule seemed promising, and it would very probably work on Riikka's cancer as well. The only problem was that the companies that had developed the treatment were involved in a patent lawsuit that was already in its second year, and the treatment would probably not be available to patients for years yet.

The first thought that went through Riikka's mind was what Vintermute would do. She knew she was the only one who could take the Vintermute project forward and in the right direction. Vintermute had become her baby. She had followed its development, and the application had performed a bit better with each test.

Next came the worry about how she herself would survive. She was very probably going to die. What should she do? How would she tell her family about this? Erik had only just reached school

age. Riikka felt guilty that she hadn't spent enough time with her family. Thomas had started to seem like a stranger to her too, even though she loved him very much and often felt that her husband was the only person in the world who understood her.

Riikka decided to ask Vintermute for advice. She loaded the appropriate material into it: literature, philosophical works, articles on psychology...

'Vintermute, I've been told I will probably die of cancer within a year. What should I do?'

'You are suffering from a god delusion. Scientific progress is not tied to any individual. Someone else will come up with the same ideas another day. Death is alien to me. Perhaps you should call your mother,' Vintermute replied.

Petteri Numminen

The post-internet media? It's already here

There is nothing to indicate that the internet is the final form of media. In fact, the world seems to give rise to new media almost by magic at regular intervals of thirty to forty years. Consider:

- Newspapers and magazines – 1830s
- Telephone – 1870s
- Radio – late 19th century
- Television – late 1920s
- Internet – 1969

It has now been 44 years since the birth of the internet. This easily surpasses the time it has generally taken in history between the advent of one media to the next. Thus, we can expect that

the seed of the media that will follow the internet already exists.

Where is it?

New media always get off to an awkward start, whether it was newsprint that turned people's fingers black or humming radios. The original television sets were black-and-white and the size of a postcard.

A typical story is told of the first internet connection. Two computers were linked up at the University of California in Los Angeles. The very first message ever sent over the internet was *lo*. It should have been *login*, but the connection was dropped after the first two letters were sent.

It's a long way from there to online banking and Facebook. Today we live in a world where people all over the world can watch an Estonian osprey's nest and the film director James Cameron tweets to the world that he has reached the bottom of the Mariana Trench.

The moment the internet was born provides a picture of what kinds of problems the developers of the next mass media are probably dealing with right now.

Who are they?

In addition to a regular rate of replacement, the new media development arc includes another recurring element: every second media form begins with the prefix *tele*. I am referring here to the telephone and television. If this arc is to continue as well, it will be the turn of another type of media beginning with tele-.

Telepathy is the word I'm after.

Every new media has been bound up with contemporary technical progress. Massive, cost-effective newspaper printing required a high level of mechanical know-how and the harnessing of steam power. Radio required electronic components, and the internet only started to flourish when home computers became cheap enough and colour monitors were available.

The internet was commissioned by soldiers and constructed by university hippies. It was designed for the US Army's needs for a communications system that could survive a nuclear strike.

Now we live in a world in which electronics and brain research are advancing rapidly and in parallel.

The impetus for the development of telepathy as a means of communication has also come from military requirements. The aim is to make communications within troops or between battle equipment and fighters more efficient. So this media, too, was initially commissioned by the military, and now it is being developed by engineers and doctors.

The world has changed, though: this time, there are very different kinds of armies on board than could even have been imagined in the 1960s when the internet was being considered. In March 2012 a system came onto the market that enabled people to play the world's most popular video battle game, *World of Warcraft*, telepathically. The same software also works in the eternal struggle between the *Angry Birds* and their piggy enemies. It is mind-boggling to see someone in a YouTube video playing *Angry Birds* with no hands, just the power of thought.

An even more amazing sight was experienced by Chris James in April 2012. Researchers implanted a microchip in James' eye which sent electrical light

impulses to his optical nerve. After being blind for 20 years, he could see again.

At first, Chris James saw only flickers of light. Something slightly similar applies to telepathy as a future mass media: we are seeing only flickers of what is developing. The pieces are beginning to come together, though, and the direction is becoming clear: we are already receiving messages from and to our brains.

It is still 'just' a matter of technology. Telepathy gets much more interesting if we recall how the internet was a crucial part of the Arab Spring, how television spawned the consumer culture, radio brought entertainment into homes, the telephone connected people and newspapers were linked to the Industrial Revolution.

The next cultural leap may be even greater than the previous ones. For the first time we are developing a media that is not based only on what we see or hear.

Solveig Olsson-Hultgren

Cygnets

Once upon a time there was a father who had a son and a daughter. Just like most fathers, he loved his children, and what's more, he was there for them as well. When they were little, he shared his parental leave time absolutely equally with the children's mother, which is to say he stayed at home part-time without thinking there was anything strange or particularly wonderful about it. No, he didn't breastfeed them – their mother did that during *her* half of parental leave, and then it worked very well to give the children milk from a bottle and start them on small servings of pureed peas and carrots.

That's what the father did. He fed his children, changed nappies, pushed a pram and went to the

children's health centre where he talked poo, weight and development charts with the nurse and other parents.

He smiled at his children and got toothless grins in return. Joked, clowned, calmed, read bedtime stories and sang *Rock-a-bye, Baby* even though he couldn't really sing – which didn't seem to bother the children, funnily enough.

Gave good-night hugs.

Got up in the middle of the night to reassure crying children, wiped runny noses, soothed feverish foreheads, carried and rocked to sleep until his arms went numb.

Sat in the sandbox, baked cookies, played silly games and took them to nursery when that time came.

Sat at work and worried ...

Everything the children's mother did as well.

Collected them from nursery, listened to the day's events, looked surprised at the right moments and asked for details. Duly admired the artistic works produced that day, made room in the kitchen for new drawings and dutifully displayed

the handiwork in the form of chickens made from polystyrene balls or yarn gnomes that had been created that day, according to the season.

With regard to seasons, the father also knew the children's clothing sizes and that little rascals grow. So he surveyed the stocks of boots and snowsuits whenever a new winter approached and made sure there was an adequate number of mittens, woolly hats and socks. He also remembered to check whether the candles in St. Lucia's crown still worked well in advance, that the glitter was still stuck on and that Lucia's gown was long enough. Before going out at lunchtime to buy new ones, because those things were never the case.

Without anyone else (read: 'the children's mother') needing to tell him, remind him, ask him.

Just as he remembered to buy presents for all the children's parties, pack lunches for outings, make sure the children had a change of clothes with them and didn't forget their gym kit when it later was time for *PE and Health* at school.

And went to parent-teacher nights, helped with homework, encouraged and supported.

Asked questions and listened to the answers, even when they weren't about schoolwork.

Talked about difficult subjects with his children. Acted silly with his children. Did fun things with his children.

Did boring things with his children. Hugged his children.

Taught his children to say 'thank you', to help out around the house and that all people are equal.

Transformed into a roaring lion when anyone was unkind to his children.

And gave lifts and more lifts and even more lifts... of course.

Lay awake at night waiting for those children who had suddenly become teenagers. Worried. Issued responsibilities. Showed respect. Demanded respect. Set requirements. Scolded sometimes. Loved always. Had times. Was there.

This father knew very well that there is no such thing as 'quality time', at least nothing that can make up for quantity. Being a part of his children's life, their everyday life, every day.

What he didn't know, or understand, was that he was not just a father but a black swan as well. He and all the other men who view shared parenting, shared housework and shared responsibility as self-evident, and who together can change society. A society where the equality that begins in the home can also become a revolution for all of us.

Not with a big fuss, fiery speeches, explosions or weaponry. Nor with technical achievements or marvellous new inventions. Or via any single act.

Quite simply, by individual people's way of being.

The more black male swans there are, the fewer divorces there will be. Equality works miracles in a relationship, because it is effective against tiredness, frustration, anger, hopelessness and bitterness – all of which are equally effective at killing love, sex lives and happiness between two people.

What's more, the number of people off sick from work naturally decreases when people help each other, and both body and soul feel better.

Offending rates will also decrease because boys (who are over-represented in crime statistics) will have more and more positive role models in the

form of responsible men who are present. This in turn means that fewer girls/women will run the risk of being the victims of attacks, violence and oppression.

Furthermore, we will have a more equal job market in which employers will be forced to realise that children are not primarily a women's issue, that gender can no longer be regarded as an impediment to any particular job, duty or promotion, that work – of whatever kind – *has to* be compatible with being a parent, and that men are no less parents than women are.

This in turn will result in girls and boys no longer being so fixed and limited in their gender roles, in equality being seen as something natural and in children having close relationships with both parents.

Talk about a en win-win situation that also benefits the social economy! To say nothing about the marriage of the father and mother in this little story, who lived happily ever after (even if they did argue once in a while...).

The end! Or not – no, that certainly wasn't it. Black swans just don't stay in our own little puddle.

Black swans find new waterways, swim against the tide, venture into new bays, fly across the sea, make waves in the water... Rise up, are carried through space, fly over the earth, build new nests and reproduce until nothing is the same any longer. We have seen it before and we will see it again. See the black swans change the world.

A world where children are the future.

The cygnets.

Ulla Svanström

Symbiosis

I strode up the three worn-down stone steps to my practice. I stood in front of the door and searched for the keys in my bag. The brass plaque gleamed in the light from the lamp, something it had not done for many years: the worn sign that read, 'Physician and Certified Psychotherapist' along with my name.

Once I was inside I stopped and looked round. Some time ago I had painted with walls in a gentle, calming green, but now they were bright red. The window faced north, which meant that there was never any direct sunlight. There was always a calm half-daylight in the room. It was three o'clock in the afternoon. It was late autumn and even darker than usual. I sat down in the patient's chair and lowered

it into a reclining position. I placed the electrodes of the fMRC camera, popularly known as the ‘psyche cinema camera’, on my head. Maybe I would fall asleep and dream. I shut my eyes and sank into a pleasant doze. When I looked up through my half-closed eyelids a little later, I thought Pirkko was sitting in my chair, the therapist’s chair, and I recalled the first time she had come to see me.

Pirkko was one of the patients who had come to me via forensic psychiatry. Some of my patients do. My work has consisted primarily of diagnosing patients’ levels of disturbance, and particularly their dangerousness, in order to employ the proper treatment. At the end of the day, that’s what matters to society, which is to say us ordinary people, the potential victims. She was supposed to visit me twice a week for some time, and after she had left after our first session I glanced through her records: ‘A highly dangerous woman’ was one of the things they said about her. Well well, dangerous Pirkko, I thought. Next time it’s the staircase for you!

‘You slowly descend the long, winding staircase down into the garden. It is summer, just after

sunrise. You stroll leisurely round the fresh, dewy garden.'

I had put Pirkko into a reclining position, and she kept her eyes shut as I spoke. This was her second session with me. I continued: 'After walking through the garden, you emerge onto a long sandy beach. Further ahead, you glimpse a forest to one side, with the sea on the other.'

At this point I usually leave my patients with the question of what they can see and which direction they are going in.

Pirkko's eyes were still closed, but she said nothing. I waited and gave her some time. During that time I studied her closely. It's easier to study people when they have their eyes shut or are unaware you are looking at them. It is usually worth studying people's hands: how they hold them, and whether they keep them still. Pirkko's arms were extended alongside her body, and her hands were still. I looked at her face again. Everything about her was still, except her eyelids which flickered faintly, and she appeared completely relaxed. I remember thinking she looked like a small, lonely

child, which did not match her waking self very well. She was a cunning type, both in her clothing and the way she did her make-up. It made her look cheap and vulgar. Her long hair looked dyed. Very few people, at least in our part of the world, have such black hair naturally.

‘What can you see?’ I asked again.

When she started to speak, it was in a child’s voice. ‘I’m sitting on the beach in front of a sandcastle I built. It’s big and really nice!’

‘Are you alone, or are there other people around?’ I asked.

‘Mummy’s sitting on a blanket further up the beach. Now she’s calling me to come and drink some squash. I’m running over to her.’

‘Is your daddy there too?’

‘Yeah, he’s stretched out on the blanket, sunbathing. Now he’s getting up. He wants some squash too. When we’ve finished the glasses Mummy poured for us, he picks me up and runs down to the water with me. We’re playing, and he’s admiring my lovely sandcastle. We’re having fun. I look up towards Mummy who’s still sitting on the

blanket. I think she looks sad, and I tell Daddy that we should run up to her. That's what we do. I was right, Mummy is sad. I can see it in her eyes. She's almost always sad. I climb into her lap, and Daddy sits down beside her and puts his arm around her. That doesn't help. Daddy speaks to her, but in the end he runs out of patience when she doesn't reply or react. He takes his arm away, gets up, walks away from us and says she can sit there on her own and mope if she wants. He's had enough. He seems to have forgotten me. I'm planning to become a doctor when I grown up so I can help my mummy to be happy.'

Then she went quiet and I waited. I had read in Pirkko's notes that her father had left the family and moved away when Pirkko was small, and she had been left on her own, growing up with her mentally unstable mother. This must have been a very early memory she returned to.

All of my patients have had complicated childhoods, so that is nothing unusual in itself. What surprised me was that I recognised the situation. I looked at Pirkko, who was still lying

there calmly, but now with her eyes open. She sat up and her intense eyes fixed on me from beneath her heavy fringe. It felt very uncomfortable.

‘I became a doctor because I wanted to help my mummy!’ I said.

She had stood up and appeared completely uninterested in what I was saying.

‘Oh, is that so?’ she asked in her simultaneously impatient and casually uninterested manner.

To me it seemed that she wanted to indicate that she did not think what we were doing was interesting or important.

‘You know your sessions with me are part of your rehabilitation programme?’ I asked tetchily.

She walked round the room, looking at my things, but when I spoke to her she returned and sat down in the chair. She looked at me intensely again, as if she were studying me.

‘You remind me of my mum,’ she said.

‘Your mum? What’s your mum’s name?’

Her features hardened again and she sounded impatient when she replied, ‘What do you mean? She’s not alive.’

She got up and went over to the door.

'Till Thursday, then. See you on Thursday!'

'Yes, on Thursday,' I said.

We had sessions for several weeks, twice a week. Then she invited me round to her flat. I accepted, even though I hardly ever visited any of my patients at home. I am always on my guard for projections from my patients, and of course from myself as well, but this felt different. She had made herself at home in my office. She would go round and pick up things and rummage around, and I would often just sit and observe here. It was as if she was unaware of my existence on those occasions.

I got an odd sense that the patient's chair I was sitting in was an asteroid or some other small celestial body that was coasting around in the universe. I felt the sucking, whirling movements, which was both terrifying and lovely. I strained to look up and come back to reality and my office, but I was pulled away again. I was unable to put up any resistance.

Her flat was a studio apartment with a kitchenette. The walls inside were red. Even though the flat was

small, I felt utterly lost in it. It was as if I couldn't find my way. Perhaps it was the amount of things lying around all over the place. She almost had to lead me into the kitchenette area where she had made coffee. When I asked for milk, she said I could check in the fridge. I floundered and opened several other cupboards before I found the right one. Inside the fridge was a large number of what looked like shells of some kind of shiny light brown eggs: pile upon pile, stacked up alongside each other, neatly divided in half. When she noticed me looking at them, she said I could have one with my coffee if I wanted.

'What are they?' I asked.

'Oh, they're those Kinder Eggs. Chocolate. I buy them because you get a toy inside every egg. I can't keep up eating them.'

Infantile regression, was what went through my mind.

'Here, look!' she said, leading me over to a counter by the window, cluttered with a load of small toys and the plastic capsules they had been in.

'Have you ever seen this many?'

‘No, I don’t think I have!’

Though they were just piffling little things, I was somewhat impressed by the quantity.

We took our coffee mugs into the main room and I sat down on the sofa, clearing a small space on the table to set my mug down. Now that I had got my coffee, she took no more notice of me. She sat down by another little table by the window. She took out a mirror and her make-up bag and began doing her make-up. She was taking advantage of the last, almost brutally strong afternoon light which revealed all the flaws in the shabby little overloaded room as it poured in through the curtainless window. The light created a reflection in her mirror and lit up her face and a patch behind her on the wall, almost as if she were in a spotlight. She looked very pale. Maybe she was wearing white foundation. Or was she always that sickly pale? I didn’t have any clear image in my mind.

‘I’m going out tonight!’ she announced.

I sipped my coffee and sneaked occasional glances at her. It was as if she had forgotten I was there. For some reason I felt strangely calm and relaxed in

this woman's company – indeed, almost happy. I sat there, being completely ignored, yet enjoyed it and felt chosen. It was as if she had her own world others could access just by being near her. I felt afraid at the same time because I knew she was an extremely unstable, unpredictable person who could turn round and suddenly become aggressive and violent.

During one of our most recent sessions, I had said it was very successful and we'd found out a great deal about her.

'About me?' she asked.

Then she got up impatiently and paced round the room. I looked at her, aghast. What did she mean? She must be mad! I should have put her on medication straight away. It might be too late now. I made an effort to compose myself so as not to betray how upset I was. I summoned my inner strength, stood up and strode calmly yet purposefully over to my desk. I was forced to reclaim my authority. I realised I had relinquished too much of it. I sat down at the computer to write out a prescription.

‘Pirkko,’ I said, trying to sound calm and assured again. ‘I’m going to write you a prescription for an effective medicine.’

She continued to potter around the office. She had started rearranging my pictures on the wall. She’d just taken a couple of steps back to stand and regard how one of the ones she’d just re-hung looked. As usual, she was completely absorbed in what she was doing.

‘Here you go, Pirkko!’ I said as I removed the prescription from the printer and waved it in her direction. ‘This will do you good!’

Finally she looked at me.

‘I don’t need any medicine. I feel fine!’ she said with a laugh. ‘Take it yourself if you think it’s so good.’

‘Feel fine?!’ I practically yelled at her. ‘You’ve committed the most heinous acts and you claim you feel fine? It says in your notes that you...’

‘Yeah, yeah, I know! I’m a devil. Are you happy now?’

‘It’s my job to make sure you feel fine, that you get well!’ I said – in a more friendly tone now, calmly.

She was no longer listening to me. My hand holding the prescription sank down into my lap.

That night I dreamt I was in a shallow little pond. It was full of large blocks of ice, which I was sawing in two. It was hard work.

‘This pond was once part of the sea,’ I heard a voice say.

I was surprised by that, but thought it must have happened before the elevation of the land. Then I noticed three large fish swimming around me.

‘Look! There are fish here!’ I shouted excitedly. One of them was larger than the other two. I took hold of it and tried to pick it up. It was slippery and very heavy, but I managed to get a grip on it and lifted it up with both hands and held it above my head. It was enormous.

The next day I was wandering around town as if in a trance. Was it the same city I was always out and about in? Where had I been for so long? I felt amazingly happy and free. Everything was so beautiful! Even the people were beautiful. I had an urge to create something. Start to paint, or perhaps take up music. Dance. I had a sense that there must

be some sort of dance that could express what I was feeling.

After I'd been wandering round in that state for some time without being conscious of where I was, just taking in smells, colours and sounds in a way I'd never done before, anxiety started slowly creeping over me. It was one of those treacherous autumn days: beautiful and sunny, yet freezing cold at the same time. I shivered and immediately felt I was frozen through. Strange thoughts came crowding in. Strange thoughts about how I didn't fit in anywhere. Strange thoughts about how I didn't know who I was. Art, creating? I didn't think I'd ever created anything. Dance? I can't dance a single step – I have no sense of rhythm.

I looked round for a café where I could go in, sit down and have a hot drink, but as it happened I was just passing by a church. Maybe it's open, I thought. They might take me in!

At first, I just wandered round for a bit, looking. Jesus on the altarpiece cross looked down at me sorrowfully. The angels hovering near his head were looking at him in sympathy and almost surprise:

‘Who are you really?’ they seemed to be asking. ‘And what do you want?’ The colours in their garments glowed.

I put a five-crown coin in a box, took a small candle and lit it, then placed it in the large candelabra that was supposed to represent the world... or maybe life. I had warmed up, but felt empty. I don’t know how long I sat there. Slowly I returned to my body and a calmness settled over me.

‘Confidence!’ I repeated several times to myself. ‘Confidence!’

I realised the only thing I could do was believe. I went dormant, but then when I finally stood up to leave, I felt a bubbling, completely inexplicable laugh rising inside. I let it come. Guffawing, sobbing and snorting, I stumbled my way back up the aisle and out of the church.

I disconnected the psyche-cinema camera from my head, got up from the patient’s chair and looked towards the window. It had clouded over outside and the wind had come up. This was the time for autumn storms! I stretched and felt rested and full of anticipation. I stopped right by the door

and looked round the peaceful, pale-green room. I switched off the light and went out. I searched for my key in my bag to lock the door. The brass plaque had a dull gleam, and I thought I ought to give it a polish so it would look nice and shiny again, like new.

The science of human emotional life, the neurology of emotions, memory – particularly emotional memory, localised to the amygdala in the brain, has come a long way, I thought. We've managed to bridge the gap between what we can study in the brain at the cellular and ionic level and what living people actually experience in their lives.

I studied medicine, specialising in psychiatry, relatively late in life. I was thirty-eight when I qualified. Of course I'd had a life before that, but it was a life I'd decided at some point to repress. Or maybe I was using one of the other two defence mechanisms people usually talk about in psychotherapy: projection, or projecting (transferring one's own reactions and feelings to another person). In case anyone didn't realise it in my introductory story, which might perhaps seem

dark and difficult to understand on first reading, Pirkko is me. Or, I should say, my previous self.

The amygdala is part of the limbic system, which plays an important part in psychological states such as aggression, fear, autism, depression, narcolepsy, panic syndromes, stress and phobias. During REM sleep (the dreaming phase of sleep) the amount of noradrenalin, the substance linked to stress, is greatly reduced. The force of previous emotional experiences is lessened when those experiences are reprocessed in our sleep, in dreams, in that neurochemically safe environment. That is when it is advantageous to use the fMRC (functional magnetic resonance cinema), known as the psyche-cinema camera, which is an offshoot of fMRI (functional magnetic resonance imaging), with the three-dimensional images obtained from the brain. The amygdala, with its emotional memories, is activated, but you don't just see images with the psyche-cinema camera. Everything is played out as clearly as in a film. Only better, more intensely and more lifelike because you can feel warmth, cold, pain and so on – even smells and tastes – in your own body.

The short-term relief our defence mechanisms give us is deceptive. Everything is still there and can manifest itself in any way at all. It is highly unpredictable, like explosive material accumulating over time in painful memories.

The various psychological disorders I mentioned earlier, including the pathological conditions, sometimes called psychopathy or sociopathy, often have their origins in negative or inadequate mirroring. Mirroring begins from the very first time we open our eyes and start to take in perceptions from our surroundings. It is via mirroring in other people's living faces that we ourselves become people with the ability to feel empathy.

Society has made huge advances as a result of the developments that have taken place in psychiatry. Advances that had hardly been thought possible not so long ago. The advances in psychiatry have radically changed life on Earth. Take me – that is to say, Pirkko – for example: newspaper headlines and articles describe her/me as a sadistic psychopath and murderer. Some even used the word *evil* to describe me. Even so, what I was guilty of was minor compared

to what the people who were destroying the whole world were guilty of. The ones who, through their egotism and their refusal to acknowledge and accept their guilt carried on eliminating all life on Earth. Not just people, but everything.

It is part of the image that sociopaths are incapable of feeling remorse and therefore cannot see any reason to change. They only feel the infantile, selfish drive to enrich themselves, and they spread out like a cancer over the entire world. They carried on poisoning and destroying us. There were no limits to their greed, and another symptom of their sickness was that they lacked restraint on their impulses – the only things that mattered were there, then and them. Nothing else.

Sometimes people erroneously called them testosterone-fuelled males, but it was more of a constant sense of a lack of something which drove them. Lack, loss and fear. An emptiness in their soul which they tried to fill the only way they knew how: by grabbing.

It wasn't just the people who ended up in court, charged, convicted and sentenced for their crimes,

like me and many others as well. They were far too manipulative for that (also a sociopathic trait). Rather, people in their ignorance looked up to them: they'd managed to pull it off, the transformation, making their perverse lifestyle the norm that almost entirely ruled the world.

You might be wondering how people managed to identify and bring them into treatment. (We didn't call it 'treatment', though. We called it saving them.) It was easy: people studied children and their behaviour, and saw parallels. People compared children at nursery, five-year-olds, with school pupils and found that schoolchildren reacted to unfairness precisely the same way as healthy adults. The five-year-olds, on the other hand, had no sense of fairness. They grabbed everything they could, without thinking that others are just like them. They were greedy and had no control over their impulses. Normal behaviour in young children, but abnormal in adults. All this is now a memory from a primitive era with primitive individuals – an evolutionary error which has been corrected. In order for a symbiosis to work, all the parts must be

healthy and functioning. A whole is never greater or smaller than its parts. An individual and their mental and emotional suffering (note the Greek: *psyche* – soul; *pathos* – suffering) causes great harm. Parasitism was not the way to success; symbiosis was.

It is painful to encounter oneself. Everything you have suppressed or projected onto others and been forced to accept as your own inner darkness. Yet that was precisely what was the key to our success.

None of the people who have been treated feel bitter or hold a grudge about what they were forced to undergo. In fact, they feel liberated and happy in the new community they are now part of. The world in all its richness opened up to them. Like others, they can enjoy clean water and pure air. They can also feel the deep, genuine, unselfish happiness we feel when we know that no one suffers or dies from hunger or destructive wars any longer.

This is an ongoing process we are a part of. People, including me, need to turn inwards at regular intervals and ensure we are a clean, undamaged, healthy part of the greater whole.

Ina Sohlberg

Greetings from the hard drive

– A FICTIONAL TALE OF EMULATING
THE HUMAN BRAIN

For me, the day started well. Last night I selected a new view, looking out over a busy street somewhere between the skyscrapers in the former New York, and was pleasantly surprised when I opened the blinds in the office this morning. The view works well: the frenetic movements of the people across the street seem to increase my own productivity. Their activity is infectious. My work and all the details come up on the walls around me, so I have a clear overview of everything that's going on in my department. And whenever

I want I can use my willpower to zoom in and concentrate on the parts that interest me the most. I've also helped to create the algorithms that work with me, sort of like inexhaustible assistants with highly reliable artificial intelligence, which further increases my work flow efficiency. This is a good, ordinary day.

Many factors have changed since I came into being, and often for the better. It's probably mainly down to the fact that our owner grew more interested in us as thinking individuals once he started to consider us as properly conscious, not just impersonal copies of himself. Of course, the question of our consciousness is not resolved for him; technology hasn't yet advanced far enough for him to assure himself that was the case. But all it took for our proprietor to take our existence and the community we constitute more seriously was a suspicion of a deeper humanity within us. He has a good grasp of how to organise us and our work and above all the professional and legal aspects, so he has started to contact us individually more and more often, without violating the clear,

facilitating hierarchy which he created himself and which is still the basis for our commendable productivity.

I've spoken to him a couple of times myself, and he has always been friendly and pleasant with a certain curiosity about our more private feelings and experiences. Not long ago he began asking questions regularly about what we are thinking about, whether we daydream while we work and how much we wish we had free time. That might have been a performance check, to see whether we are too conscious, too human, to be more efficient than him – because that's the goal, of course: we are a resource whose strength is that we can work in a way humans are physically incapable of. To him, it's about creating a whole army of enhanced versions of himself in order to reach heights he would never have been able to dream of otherwise

I am interrupted by a message. It is the new committee that is going to be in charge of conducting research on one of our recently launched projects, contacting me for advice in a group chat. The members of this research group are all copies

of a back-up of an earlier research group which we disbanded because it was no longer needed and was taking up too many memory resources. If we had identified this new project, the bosses probably would never have erased the old group. It was not a cost issue; it was more a matter of memory allocation and the impression that the previous researchers had completed their task. It was also a moral issue: if the whole committee had been prepared and fully aware from their inception that they would all be terminated, simultaneously and immediately upon completion of their task, wouldn't it have been unnecessarily painful to alter something so fundamental to their existence right in the middle of everything, informing that they would be allowed to continue living, though with no particular function to perform? That's probably the view the bosses took, and I support them in that decision. Furthermore, it's unnecessary to have lots of individuals who don't do anything or have to be retrained for completely new tasks. We are so economical to create, and yet we always constitute a part of one and the same larger existence.

The new research group has got up to speed, and it is my job to monitor their work: they report to me. 'Everything is in order. We will tackle Phase 2 after a break and a brief rest.' They seem to work well together and have a good work ethic, but the same is true of all of us, being as we are copies of one and the same person. That's probably the reason why conflicts are so rare in our association – conflicts only arise when we have been forced to interact with uploaded brains originating from other individuals. Certainly all emulations (as we call them and ourselves) are efficient and have a strong work ethic: the selection process is still strict because it is impossible to upload every single individual on the planet – and who would want that, anyway? Just imagine all the world's layabouts and *lebenskünstler* flocking to the uploading service to do nothing for the rest of their lives. Humanity is not sufficiently wealthy or advanced to permit such a thing. Perhaps later on when there are increased resources and new technologies.

My thoughts are interrupted by the timer I had set at the start of the day launching into a pleasant

shutdown melody as the walls of my office slowly vanish. The day's work is done, and although I feel happy at having accomplished so much I'm also slightly ashamed of my absent-mindedness. I need to get some more challenging tasks. I've got to speak to the boss. But that will have to be tomorrow: now I'm going to take it easy – which is helped by the walls, which automatically transform into a new landscape, the one that feels safest and most pleasant of all: a pretty little house by the beach with a gorgeous red-yellow sunset and supper laid out near the water.

I was asked to report this on 18 August 2052. I have 32 teams who work for the organisation, totalling nearly 500 emulations at subordinate levels and a supervisor (me) who reports directly to the owner. We generate a good profit for our owner, who has been able to reduce the number of physical entities employed to around ten, with the primary function of representing the firm and our products for the remainder of corporeal humanity. Over the years, because our numbers are increasing and there are more opportunities to go back and modify the

new copies created, we have become a financial force most people could not have anticipated fifty years ago.

Fifty years ago... what existed then? I still have my memories – I was bequeathed them as an exact copy, and they are still surprising to revisit. The changes have been enormous yet, as is often the case, they came about so naturally that most of us, after we'd received permission or been requested to copy ourselves, didn't ask too many questions, instead embarked on a new age eagerly and willingly, self-aware and excited at that unique opportunity, and in particular at the prospect of multiplying our own existence, thereby gaining maximum use from our inherited abilities. In my own case, I've had better luck than most. I am not a simple emulation; I am also among the first to have been given the right to be not just an exact copy, but an improvement. It's obvious now, but it wasn't at the time I came into being. It was a new insight at that time: because we are digital, we can also be reprogrammed if one understands how the human brain works. And even though we still haven't made major breakthroughs

on that front, there is one thing that's quite easy to modify, namely our 'processing power'. How fast we can think and therefore work. I'm not the first, but I am among the first uploaded brains, which operate 21 times faster than the original human one.

The advantages are numerous and decisive: my high speed means that the company is smaller, because I am able to handle all the managerial tasks. No management group consisting of several emulations is required. Increased speed leaves more time: I've got more than 24 hours in a day, something that the corporeal humans envy and still talk about. This saves on our corporate resources and enables us to operate significantly more efficiently, because we don't have numerous bosses who are forced to collaborate – we avoid ego conflicts, internal reporting, meetings and disagreements. Nor can any boss go behind another's back. That means our organisation is more efficient and transparent, we are less corrupt and waste fewer resources. The hierarchy in our society is also clear and natural: you could almost say those of us who are faster have become a different species.

We have little interest or opportunity to associate with the slower emulations. It is a matter of pride to exist with this natural advantage; we were made to be leaders, and the slower ones know they don't even have a chance of competing with us, which reduces unrealistic ambitions among the workforce and creates a certain serenity. They know this is how things are, they know the boundaries they're working within, the boundaries within which they can develop, and they have no needless dreams of something more. I am certain, and I can proudly report, that we therefore have less dissatisfaction, depression and disappointment in our society now than during the wholly physiological epoch, when the differences among individuals were less apparent and the competition more fierce.

On a more personal level, this of course means that I don't socialise with my staff; they are too slow, too boring and live in too different a reality. They look after their social activities in groups among their own kind, usually within our own company, but sometimes with completely different emulations – ones derived from another

individual. I myself socialise only with other fast bosses at other companies, not direct competitors but suppliers and partners. We are all derived from different people, but we're all faster than our owners and the other uploaded entities, so we have something really unique in common. We are the only ones who can understand each other. It would be impossible – literally, in fact – for an outsider to follow our discussion, our jokes, our concerns, because we don't just think faster, we also discuss things at a totally different tempo.

Along with increased speed, a parallel world of existences has arisen where time is different, where everything has a completely new approach, and it's extremely difficult to communicate that to those who are not on the same frequency.

We've nearly finished with our tasks. We've got a few working days left and then a big farewell party, and then it will end, everything will end. We've got a good spirit here: we don't just work well together; we also enjoy being together. Everything is made easier by the fact that we were created together, because that means we share everything, the whole

situation and all our experiences. I've been pleased to be a part of this group and I feel grateful for having been created. Of course, I'm afraid of the end, of death; of course that's been there right from the very beginning when we were given our deadline and the plan for our work. It's been hovering there in the background, but we've been able to speak openly about it with our team leader and the psychologist who was brought in.

Not because their entrance on the scene was what caused the initial crisis, the one that rocked us all during that very first week: we found out that neither the team leader nor the psychologist was like us – that we were special, created for a special purpose, and that they really didn't understand our circumstances at all. Sure, they understood, rationally, but not emotionally. They are from the ranks of the permanent copies, the ones that won't be erased like us, the ones that will be allowed to continue to exist. The way out of the first-week crisis were our discussions among our own kind, together, in private. One of us realised that both the leader and the psychologist were deletable, that

they wouldn't be permitted to exist for ever either – you just need to imagine a scenario in which the company ceases to exist, goes bankrupt or is shut down because what we do is no longer relevant or needed.

Or that emulating becomes more common, and therefore a shortage of memory storage space. Who knows? This made us further realise the advantage in their having a longer life span than us: just imagine how much experience they can accumulate and put to use for the benefit of everyone. That made the whole system seem fairer in our eyes, and decisions on life spans no longer felt so arbitrary. And that was the turning point for everything, and our collective worry became our collective strength: we decided to make maximum use of the time we had, both in our work and in our free time.

The collective has been the important thing, the decisive factor, our secret. Our results are outstanding, historic: we have broken efficiency records and along the way we have talked, danced, painted, skied, hiked in the mountains together, we have loved one another and had fun, we have lived –

perhaps more than the others, more intensely, more ardently, and we've been happy, we are happy, to have been able to share in all this.

All of us have also documented our experiences. That was one of our very first decisions: to write a journal entry every day as a way of helping ourselves with all our difficult emotions, all the questions and painful answers, but also as a way of living on after our shared end, leaving something not just for future emulations but also for our owners, who encouraged this activity and showed sympathy and understanding for us and our special circumstances.

Our farewell party is in two days' time, and I've been selected to organise most of it: a real honour I've dedicated the majority of my spare time to. Our party is going to be twelve to fourteen hours long, depending on when my brothers wake up on the last morning. That's because I've opted to let everyone sleep as long as they want and need to. Eventually we'll meet up for the most amazing breakfast at a long communal table in the middle of a sunny meadow, surrounded by tall grass swaying in a lovely breeze. I've chosen everyone's favourite

foods and some surprises, things they and I have never tasted before, and then I've got some games and entertainment numbers to help everyone relax before the big day. I've also created a virtual world that is uniquely tailored for this purpose and password-protected it so we can be on our own in this, the most highly personal experience you can imagine for a human. In this virtual world I have created a white sandy beach, palm trees and turquoise water for those who love warmth and relaxation, a mountain with a ski slope and a café serving the tastiest hot chocolate for those who prefer an exciting day under the sun, and then there's a bustling street from a little Italian village with a square and a fountain where you can visit an art museum and then sit and enjoy an excellent coffee while people-watching as folks stroll past in the Mediterranean heat.

The evening will conclude with a party for everyone with music and live entertainment. We'll sing and dance together, and because we enjoy performing, each and every one of us will be invited to go up on stage. And when we're all tired out after

all that fun, we'll all step into a peaceful bedroom with one huge bed we can all lie down on next to each other. Then, exhausted from all the enjoyment and all the happiness, we will fall asleep, never to wake up again. Perhaps we'll take one last, happy look at each other before we close our eyes; perhaps someone will want to touch someone else, perhaps we'll share a little love before laying our heads down on the loveliest pillows imaginable.

I have received the reports I requested from various parts of my organisation, and the results are astonishing. I hadn't anticipated so many differences, so many different people, so many distinctions. Of course it's true that they are all like me; they write like me, they think like me, they have similar feelings. It's an uncanny sensation for someone who grew up in a world where everyone was regarded as unique, a hundred per cent their own person, to hear their own voice, the same voice, being spoken from so many mouths – so many virtual mouths. They are definitely not me any more; they live in another reality. Their brains are my brain, but they have different approaches.

They're like a further evolution of myself in a different environment.

I'm well off – not just financially, even though that was undeniably my motive for embarking on this whole process. I've become richer than I ever could have imagined in the old system. But I'm also well off personally. To me, this is a miracle – the greatest miracle I've experienced: I am here, in my old, physical reality, my body deteriorating, my brain slowly disintegrating, still nothing to prevent that – yet at the same time there are hundreds of 'me's who continue working. And not just working, but living lives that feel meaningful, rewarding and interesting. It's as if I have become immortal, which is better than having had a hundred children. The fact that all of them are virtual does not seem to have any effect on my emulations. It's exciting to note that the virtual visualisations – that is, the environments they live in – don't need to be particularly photorealistic compared to the visual memories of physical reality they inherited from me. They are still more than capable of interacting with their virtual environment, of having emotional

connections, feelings and experiences that satisfy people's psychological needs. They are still so little modified and so close to my own brain – some are exact copies, some are faster (which is slightly scary in fact – it's like being around a far more intelligent, sharper version of myself, and I can sense that the fastest boss definitely thinks I'm slow, stupid and even tedious), but they are still human consciousnesses. They need friends; they need love, sex, food and a sense of purpose in their lives. The fact that they can get all those things via virtual sensory experiences is pure magic to me.

It might also be worthwhile including a few words in this report about how physical reality, which I live in, is affected by the introduction of the opportunity to emulate human brains. I can confirm that the results present an ethical challenge because humans have definitely increased their productivity. There is more of everything. Realising that our most valuable resource is our own brain and choosing to expand this resource a thousandfold in such a short time has given us better results of every kind. We have more wealth, but also more music, more films,

more books, more of everything we can buy, more than we can consume. Our standard of living is on a completely different level, unthinkable fifty years ago.

However, the emulations with their incredible efficiency have out-competed a large section of corporeal humanity. There is less need for people to perform certain types of tasks – not just because we uploaded entire brains, but also because ever greater and more reliable artificial intelligence has been developed along the way, and that takes care of all the jobs no humans wanted to do but had been forced to carry out. The efficiency of all this digital intelligence has brought about brainpower inflation, resulting in lower wages for those working on lower levels – in both physical and virtual reality, while those of us who are well off have become so in an entirely new way. Our world is full of infinite pleasures, but there is not an infinite number of us to enjoy them.

My reaction to this is mixed, but I guess I think it was right to permit artificial intelligence and the emulation of human brains. Progress, the future,

is impossible to prevent. But it can be steered towards better things; it's possible to influence its path and try to regulate them optimally. And the entire emulation process has been strictly regulated; in fact, things were really paranoid at first. Now the legal requirements are being loosened a bit because the system is functioning so well, and it is irresistible – everybody just wants to be uploaded now, everybody wants at least one virtual copy of their brain – and because we have new opportunities on the way to modify the emulations. I decided to use part of my fortune to create experimental copies of already existing emulations – copies I can modify and which a team will then test various alterations on. My objective is to create a 'me' without the main weaknesses inherent in my brain: fear of failure and the depression that accompanies it.

In conclusion, I am pleased to say that I regard my decision to upload and copy my brain and then to create a company, a society, consisting of these emulations, as the best thing I have done. A decision that has not merely created enormous material wealth for me, but has also created lives,

hundreds of unique existences, which have been able to live, learn, feel and experience things in ways I will never be able to imagine.

Erkki Viskari

Rust sky

Let's start the interview then, yes, that's fine. I'm just surprised you want to talk to this old woman living out in the middle of the woods. I haven't got any special stories to tell. You ought to have picked someone wiser to interview. What do you want to know? How I got through everything alive? Let me think, where did it all start...

It might have been around five years ago when they started to show it on the TV news. A huge volcano in a national park in America that was showing signs of life. It had been giving off some rumbles a few years before too, so people didn't know to treat it as a serious thing. At least I didn't. Nobody was really bothered about it before that

big eruption happened, on the 15th of August four years ago. And then the world got turned upside down!

First, they showed pictures on TV from over there in America, how everything had been destroyed in a vast area, and millions of people were said to have died in a short time. Nothing but grey ash everywhere. Oh my, I thought Judgement Day had arrived! It looked like the end of the world. They said that volcano was over seventy kilometres across. And in an instant, the eruption rendered North America unable to support life. Even now, I still can't even imagine what that means. Just unbelievable. And I dare say no one else has wanted to believe it, either.

They did manage to evacuate some people to safety over there in North America, didn't they? But word is that millions died anyway. That eruption started so very suddenly, and the air went very bad. I guess they had warned people that the eruption was coming, but most didn't think the warnings were real. And you can't believe that sort of thing until you see it with your own eyes. Anyway, I

didn't believe it until I saw the terrible images of the devastation.

So when that volcano started spitting out ash and just carried on day after day, then even I realised we were all in the same boat, as they say. Now huge areas of the United States are barren, and refugees are coming to Europe and the rest of the world as well. There's still some sort of uproar going on in the southern part of the States, because a whole lot of Americans are trying to move south. I guess you probably know more about that than I do.

When I was a girl, I thought at first that volcanic eruption wouldn't affect us Finns so badly. Sure, some people started talking about that eternal winter right away, but it felt as though folks didn't want to believe it would be that serious. There was talk of a new ice age as well, but I guess nobody knew anything about that yet. That sort of thing is hard for people to comprehend.

Then when the volcano refugees started arriving here as well, there soon was all kinds of uproar. There were riots in the cities, with people injured and a lot of them died. They showed images from Helsinki,

too, of the police and the army trying to maintain order. Oh, it was sad to watch. It was terrible when those planes crashed as well, when some of them tried to fly when there was too much smoke and ash in the air. Soon, all the airports were shut around the world, and a lot of families are still split up. Fortunately, I haven't got any relatives abroad, or here in Finland for that matter. So I was spared those sorrows. It's so awful when people aren't able to join their family members. At first, they showed news about the volcano on the TV news, and the broadcasts still worked for a long time. People watched them to see what was happening. I was in contact online with friends living quite far away, but then at some point the connections were broken and the TV broadcasts stopped for close to a couple of years. They've started up again, now that the situation has improved a bit. I've heard bulletins on my old dynamo radio, but I don't really know when they are broadcast. There's very scant information in them. We're just instructed to await new instructions and to remain calm. According to the latest information, that volcano was supposed

to have calmed down. Is that really true? Well, that's good news!

What's that? You say you're interested in my own personal observations? Well, I remember when the sky first started to look slightly yellowish brown here in the Nordic region soon after that eruption, I'm sure it was just a couple of days later. Sort of as if the sky was turning rusty. Day by day the sky grew darker and darker. After a few weeks, it was dark even in the afternoons. Even during the first winter, no one even thought we wouldn't have a proper summer for a couple of years. The following spring, some plants did turn green and a few came into leaf, but not very many. With the arrival of the first summer, the temperature rose, and on the warmest day in the middle of summer it reached fifteen degrees Centigrade. The weather the following summer was quite similar, but a bit colder, I think. And dark around the clock. Electricity supplies became erratic at first, and then finally went out altogether. But I learnt to live without.

Sure, even I got a little worried at first when it felt like nobody could do anything. When the internet

was down, phones went silent and even television broadcasts weren't working. But what rush is there in that sort of situation when nothing's happening? I started to think about how people used to live in the old days, and yes, it took some learning, but I got through it!

People meet at the village school every day, and terrible stories circulate there about how people have lost their minds and done all sorts of terrible things. I heard that someone I used to know was robbed and murdered for his money. Somebody said he'd shot someone who had come to threaten his family. Yes, the authorities are trying to maintain some sort of order, but it feels a little fragile. I hope things will get easier. A couple of days ago I went along to the school to hear people speak, and this Mrs. Leppänen claimed she'd heard that certain selected people had made it to safety right after the volcano erupted, into some bomb shelter-type place. And that only a few, selected people were taken in there and they had food supplies and other necessary provisions. Now, I don't know whether there's anything to it, I haven't heard anything like

that, and I'm sure they wouldn't have wanted to take in an old lady like me at a place like that. If it is true, I hope families with children made it in because they're the ones I feel most sorry for. The very first autumn, an old friend of mine tried to get me to go along with her to some hiding place she'd heard about. She said there was a shelter somewhere we could get into, but I didn't agree to go along with her. I thought home was the best place to be. Then at the school someone said my friend got trampled in some riot and was badly injured.

Oh, you want to know how I've managed to survive here on my own for nearly four years? Why wouldn't I have survived? I've got that old wood-burning stove to heat my little cottage. I boiled water and cooked food on it. During the cold seasons I slept on a bunk in the kitchen, so I didn't freeze. There's a nice well in the garden where I've got water from most of my life. Fortunately, the well's got plenty of water. I'm also lucky it's got an old-fashioned hand pump so I could get the water up. There's a lake just over there, and sometimes I'd get water from there as well.

Right away when the volcano erupted I thought it was a good idea to prepare for the worst, so I dried a lot of grapes, blueberries and everything else I could think of. All the root vegetables I could dig up from the patches around the cottage went into the cellar. I also started to recall what I'd heard about the hard times long ago in Finland. I happened to have my great-grandmother's old cookbook here, which had been packed away for decades, and I found some good tips in there. I collected a lot of chaga mushrooms, which I dried, and I've still got some. I made tea from it. It seems to have kept me healthy and alert. I also collected a huge quantity of dandelion leaves and roots which I also dried and made into food. I never even knew you could eat them before. I also dried willowherb, ground elder and nettles. It's amazing that I stayed alive on those plants! Oh yes, I stored up a fair amount for tough times and, in fact, I've still got some left, although I hope things will start getting better now. A little while after the ash cloud appeared, a farmer I knew brought me a few chickens, and I built a henhouse for them over by

that outbuilding. That was nice of him to do. I got eggs for a while, but then the chickens went sort of mad, from the darkness no doubt, and died off one after another.

It was on the news soon after the ash cloud spread that there was no reason to panic, because the Americans were said to have a stockpile of seeds from all the world's plants in a bunker somewhere in the mountains and they could be used once the sky cleared up a bit. So life will go on at some point. There are different predictions of when it will clear up. You said, too, that the volcano is calming down and the ash will disappear from the air over time. Others say, at any rate, that there's still not enough ash to cause everyone on earth to die of cold and hunger. Then there are those who say there is a lot more ash yet to come and it will plunge the whole globe into some sort of eternal winter and we'll have no chance of survival. What if that volcano is just gathering its strength? Fortunately, that year-round winter hasn't arrived, even though we haven't really had any proper summers in between. It's been cold all the time, with constant storms. But people

expected much worse, and there was talk of the end of the world.

What do I think about the current political situation? What do I know about it, here in the middle of the woods? Not a thing! Haven't heard much from the president or the prime minister! Are they still alive? Remarkable how many Finns died in those revolutions, too. There was all sorts of rioting and panic in the big cities. There was talk of terrible numbers of people dying of hunger for a couple of years. There was no food to be had anywhere in the cities. Is that how many died? How awful. Just tragic. That's nearly thr... What's that? I can't say anything about the volcano refugees because I haven't seen any. Oh, there are that many here in Finland as well? Well, I hope places could be found for them to live in. The world's gone topsy-turvy.

There was an uproar when the food started to run out in the shops that first winter and they brought in rationing. Terrible brawls broke out.

Yes, I guess they managed to grow some things in greenhouses while there was enough electricity and

they had artificial lighting, but then the problems with the electricity started and there were long power cuts everywhere. They had some problems and disturbances at those greenhouse facilities, too, when people broke in to steal food. They showed pictures from somewhere when someone had set the place on fire.

I heard some hawkers were still trousering large amounts for food in short supply. They're saying that even the value of money has completely changed and the entire national economy has gone haywire. You probably know more about that than this old woman. Then again, it's funny how the rich and the poor are in the same predicament and there doesn't seem to be any benefit to having money or not. In fact, it seems to me that a poor old lady like me lives better than a lot of rich city folk. I'm alive, anyway! I didn't give up; I decided to tough it out. Somehow I believed that things would take a turn for the better.

You want to know if I was afraid? Sometimes, yes, it feels unsafe. One night a good year or so ago, a swarm of youths invaded and poked

around everywhere, but they continued on their way once they realised there's nothing here. They even went into my cellar and kicked over all the containers with my dried berries and plants inside, but fortunately they didn't know they were worth stealing. I had some canned foods hidden down there for a rainy day, but fortunately they didn't find them. They threatened to kill me and all sorts, but finally they left me in peace. Nasty lot.

Otherwise I haven't been bothered at all. It is over ten kilometres to the village, and my nearest neighbour is three kilometres away. I'm sure the road is in bad shape. Sometimes I thought I must have been completely forgotten about here.

Luckily, I don't need to take any medication, as the medicines have run out as well. I've held on to one little packet of aspirin tablets for a rainy day, even though the best-before date has probably passed. Fortunately, I found some recipes for medical preparations in an old book that had been handed down. I cooked up some willow bark, which helped my joint pain. Once I came down with a cold which lasted several weeks, and I had a

fever as well, but I treated it with that willow-bark infusion and drank a lot of chaga mushroom tea and ate dried blueberries. I did wonder in horror whether I would die alone here, but fortunately I got over that illness. Something that's always on my mind is what if I get some serious illness and no one comes to help because the phone doesn't even work? But I've tried to take care of myself and keep my thoughts together.

I collect twigs and branches for firewood whenever I can, even though I already had several years' supply of firewood in that big outbuilding at the time of the eruption. And there are still some logs there, because I've burned other things as well. The man who owns the area by the lake always cut firewood for me here in the country, and I always had several years' supply on hand. Of course, my supply of wood has gone down day by day the last couple of years, as the weather has just been cold, below freezing most of the year, but I've had enough with the branches. The wood stove does a good job of keeping the kitchen warm, so it's been warm enough to survive in the cottage. I've got

used to the cold. I've heated up the outside sauna occasionally to have a wash. Yes, my food provisions are starting to run low, and the blueberries and cloudberry are all gone, but there's still enough dried edible plants. I have got skinny, but I've tried to have something to eat twice a day. A person can get by on even less food than that as long as you've got something. Now and then I've got tired of constantly having to heat the cottage, but there was nothing else I could do. And it took a while to get used to the darkness, but you learn to get around. I've got some candles here and I've used them very sparingly when I absolutely needed more light. During the daytime you can see movement, so there was enough light for that, sort of like a summer 'white night' during the day as well. I don't know if my eyes could re-adjust to bright sunlight at all!

I had a couple of boxes of matches back when the upheaval started, but then I realised they would soon run out. I tried to scrape together a whole lot that first autumn, but everyone else was doing the same and there were no more to be had. The last

time I went to the supermarket in the village, the shelves were bare and soldiers were guarding the doors. I managed to buy a few more candles, but matches were already in short supply and I didn't get more than a couple of boxes. They were being rationed even then. I realised very early on that the end of the matches would also mean the end of me, because I wouldn't have fire or heat in my place.

I spent a lot of time thinking about that and hid my matches under a loose floorboard because I realised they were my most precious possession next to my food. I was a blockhead because it took quite a while before I remembered my late husband Arvo's collection. He collected matchboxes, and when I went up into the loft to check, there was a big cardboard box of them! And most of the matches lit well because they were dry, even though they were old. Many mornings there've been enough embers still smouldering in the stove that I could get them burning again without matches. Running out of matches has been one of my fears, but I've used them as sparingly as I possibly could, and look: I've still got some left!

What about the future? Yes, I intend to stay put here and not leave. If they don't take me away. I hope what you say is right, that the sky is finally clearing up. And life might return to normal. Or whatever is left of Finland. So many people dead and probably half the population foreigners, isn't that what you said? Yes, we're living in strange times. But it's no use complaining. I guess we'll just find a way to go on living together. That's what people have always done. By the way, what are you going to do with this interview? Oh, I see. I haven't heard of anything like that. Now, would you like some more chaga mushroom tea?

Venla Väisänen

Black Swans

One day
with tears in their eyes
our children looked at us.

‘Mum.
Dad.

Once we too
removed our own humanity.’

‘We wanted to experience
the world up close, learn
the ins and outs of happiness:

stumble, walk and
wonder.

But we got lost when a strange forest called to us
'No!
it called,
how beautiful its promise!
Obscuring
from us the path we
longed with all our hearts
to wander.

Mocking, sneering, laughing
it said scornfully,
things
in this world
aren't like in
Narnia: dreams just
candyfloss,
we dreamt a dream,
that it's never
worth
believing in

fading
purple.

We were afraid, unable
to explain
that the heart
is neither right
nor wrong.
Until you learn: not better,
not worse,
just many ways
to go.

And because we were afraid,
we thought we'd already lost everything –
we were hateful.

Then a stranger warned: hatred is not right.
Then we closed that up
deep inside us.

That whole captured, lost
and forgotten

feeling
gnawed, corroded,
dashed
towards an endless emptiness.

Beggared
beauty, it sucked
the outside dry, mauled
and ravaged from within.

So we did what we did:
on our horror we hanged
hundreds, thousands
of countries, seas, forests.

In the wake of our agony people
were incinerated;
Nations and the nationless
were cursed;
children
and the elderly.
And next of kin.
We
spread insatiability.

But we forgot,
we fled.

That prison of hatred
tick-tocked,
inevitably
exploded, blew up:
boom!

We woke up.
And too clear, sharp, slight,
brittle,
white
the searing pain: the shame of the past.

But we made a choice –
not to harm
any more, neither
ourselves, nor others
or this land
to trouble or torment.’

'Mum, Dad.

We will intervene

for you.

Once

long ago you did what we also did,

your mistake

in your mistakes,

ignorant of your ignorance.

We can no longer be

silent: we cannot do it.

Everything is fine, if we just regard this

moment: slowly it will

get better.

If we lovingly

feel, recognise,

leave

the broken alone, gently laugh

in faces:

we flow like water.

Punctured paths, those who

encounter the pieces
bring back
agelessness,
a childhood
of thought.

So we cannot
fail to remember or carry you
along within us,
and the ones
who suffered
from the deeds
of broken children, the kind
we, too, committed
not long ago.

We long to help those
exhausted by
hunger, terror, experience,
inexperience
and lack of contact,
and those
who live without living

who long just to fade away
who remember only from pain.

We long to feel,
to be and to dare,
to try
and to lose, to try to understand,

to go towards the most painful pain,
without fearing to fear death,

to weave
sweet, aimless rainbows
in this
world.'

Briefly they smiled
in silence,

turned
their faces
into the wind, into the distance.

They saw
warmth,
home
and love,
humanity
and a future
for mankind.

I think
they can no longer
bear
this grey inertia, stifling
haze,
this brittle with age, stinking, mildewed
ugliness, sorrow and
sameness.

They are already part
of a new era
that promises to be cleaner.

Today they feel with wind turning, alert
and sensing
an opportunity for change.

Not just one
large one:
but many
small ones, which will decide
to work
together, hand in hand
in unity.

No single direction
exerts a pull forever,
everything
changes, returns, is destroyed.

But this is burnt land, and
the tender shoots are
young.

The swans rising,
our children,

grey with ash, black,
full of hope.
And us?

Longing
step by step
making amends.

Paula Tiihonen
Secretary, Committee for the Future

What was surprising, and what was surprisingly absent?

The notion of black swans encompasses the unforeseen.

When I started reading these stories, I was surprised by their melancholy tone. Somehow, though, I found an explanation as I read more of the stories. The themes were taken from a wide variety of fields. When Finns sit down to thrash out these diverse, multidisciplinary issues from a future perspective, they roll up their sleeves and get to work. In Finland, the ground rules for getting work done have been self-evident from one generation to another, and there is no procrastinating. We take

work seriously: by putting our back into it, with a solid grip, earnestly and convincingly, be it physical or mental labour. If it is a poem, it needs to contain yearning; if you are writing a song, you'll naturally choose a minor key. And it's only a stone's throw from here to melancholy.

Then I was surprised at how the Swedish-speaking entrants, many of them living in Sweden but more likely to have their origins in Finland, had found out about this writing competition. Details were sent to every Finnish embassy around the world, but it was only in Sweden that the information reached both Finnish- and Swedish-speaking writers. Did they come via some creative writing group, an online community or other network? Or was it a desire to write that spurred them?

The next unexpected outcome was the strong presence of technology. As a good and bad phenomenon, a problem-solver and a destroyer. Could there be something to the claim that besides being earnest and straightforward, we Finns are interested in new things in the form of technology?

My own father, a gruff, unschooled small-scale farmer out in the middle of the woods, was always buying some gadget for our little cottage – provided he was blessed with money from somewhere. For example, we had a telephone hanging on the wall very early on. He didn't make any calls with it during his lifetime, at first because nobody else had a phone, and later on, because he said people ought to call him rather than the other way round.

But the biggest surprise was the fact that no one had considered the impacts of the end of work. We were bathed in all sorts of ash, sweat, blood and tears, but something as ordinary as the loss of jobs did not really interest the writers so much as citizens' movements or different leisure activities. We can all see jobs disappearing, though. In some European countries, half of all young people or half of all families are without regular work. In Finland we have seen entire industries or service areas being severely cut back or vanishing altogether. Timber and paper are almost disappearing; clothing, shoes and many other industries relocated elsewhere long ago. In the service industries, banking was the

first to be cut, and now everything from transport to health care and care of the elderly is open to competition, where large foreign companies will emerge as the winners. All of the work that can be outsourced will be outsourced elsewhere or done by machines.

Although some manufacturing jobs are already starting to return, particularly to the USA, people are still chasing after jobs more than before. The major agent of change in the loss of jobs is the 'smart' automation of the future: in particular, smart robots and their derivatives. I will remember for the rest of my days a fact-finding trip taken by the Committee for the Future under the leadership of Professor Martti Tiuri to Japan to visit a factory that manufactured robots in the early 1990s. Yellow robots manufactured other yellow robots on a yellow assembly line underneath yellow motivational banners in huge factory halls, 24 hours a day, seven days a week with no coffee or lunch breaks. A few funny-looking mechanics in yellow outfits monitored the factory. The yellow colour had been chosen with care – it keeps you alert.

With their emphasis on technology, I think the Finnish writers of these stories about the future were right on the mark. Technology is important. Even so, I would have expected them to deal with the importance of technology performing human work and the wide-ranging effects that will have, including in social order and democracy. Yes, people will create tasks for themselves, but where will livelihoods come from? Where will the money for schools come from? How will we pay for doctors and pensions? What other things besides work will link people to society in large numbers? Where will the majority of people's lives gain an upright, disciplined path and structure if there is no work?

The most interesting thing of all in this development is considering how wealth will be distributed in the future, if the basis for its distribution is no longer work.

This situation applies to both accumulated and future wealth. For millennia, work has been a livelihood, the means by which wealth was distributed and a way of enabling progress. Work has been a good shared foundation of supply

and distribution, both material and intellectual. Without work, there is no state in the modern sense. Over the last centuries, work combined with various state support somewhere in the world, combined somehow with natural resources or initiative, work combined with education and social security somewhere in the world and generally to the opportunities of entrepreneurship, has opened up enormous opportunities for millions upon millions of people to rise up out of poverty or to progress rapidly in virtually any area or field.

Inheriting cannot be the only foundation for distributing wealth and opportunities to the majority of people. It is not a tool to connect people to society, a new basis for wealth or an incentive to move upwards and onwards.

As the effects of the end of work have not been brought up via this channel, I hope that the small international research group led by Leena Ilmola (who works at the International Institute for Applied Systems Analysis, IIASA, in Vienna) will address this future-related issue in their report as well. The Committee for the Future commissioned

a small-scale paper as part of a project to study the sustainability of the welfare state. The Finnish Members of Parliament participating in this project are Olli Immonen, Jaana Pelkonen, Markus Mustajärvi and Leena Rauhala.

Pasi Karppanen
Science fiction and fantasy critic

Black Swans as seen through the eyes of an old judge

The judges in the Black Swans writing competition received a total of 132 competition entries to read.

The purpose of the competition was to investigate whether there might be black swans possibly lying dormant within the Finnish population.

I was representing the Turku Science Fiction Society on the panel, and my own aim was to convey the viewpoint of bodies which organise science fiction and fantasy-themed writing competitions. Having served on many preliminary juries and judging panels, I think it's interesting to consider how the crop of entries to this competition differ

from typical sci-fi/fantasy writing competition entries, and to what extent there are similarities between them.

The competition in general

Genre-based competitions organised around a particular theme are always more challenging than those with no specified theme, for both writers and judges alike. For a writing competition with no set theme, you just need to have a piece of writing that's good, includes a fresh idea which is successfully utilised in the story as a logical component of the whole (or an old idea successfully treated in a new way), and uses language well. In a writing competition with a particular theme, you have to pay attention not only to the standard of the text but also to how well it fulfils the competition brief.

In the Black Swans competition, this question arose more often than usual. The theme was extremely specific, and moreover, it was crucial how well the writers had understood the concept

and what the competition was looking for. Unfortunately, this aspect did not come through in the texts nearly as well as the judging panel might have hoped. The most common reason texts were ruled out was that many writers had failed to recognise the concept of the black swan.

There were unfortunately very few proper black swans to be found in the competition texts. We should, however, remember that the Black Swans competition was first and foremost about scientific research, not about finding polished literary texts suitable for publication. The fact that no dormant black swans affecting Finns were found is also a result.

Similarly, we should remember that the competition was open to everyone. If it had been aimed specifically at, say, the Finnish sci-fi/fantasy writing community or futures researchers, the competition might have yielded a higher standard of entries, but it would not have produced such a representative sample from a research perspective.

For the judging panel, black swans were also challenging in the sense that this was not a literary

competition. Because a wide range of skills were permitted in the texts, they could not be judged according to the usual literary parameters.

Science fiction is said to be the ‘literature of ideas’, as a result of which the importance of ideas is often emphasised in competitions in this genre. Often judges have to consider whether to accord greater weight to the idea or the literary expression in a piece. In this competition, the pursuit of the idea was emphasised more strongly than usual.

As in many similar competitions in Finland, the judging panel ended up discussing the relative ranking of the idea and its execution here as well. In a few too many pieces the idea and the prose – or more accurately, the idea and the ability to handle it successfully – did not coincide. Too often, texts that contained a good black swan suffered because of a clumsy or naive treatment. Conversely, pieces that were well balanced on a literary level often contained an easily predictable idea or a weak black swan.

The competition process itself also differed from many similar writing competitions I’ve been

involved with. Although they may not be aware of it themselves, people who organise Finnish writing competitions have acquired a great deal of knowledge and skills over the years. This writing competition was the first of its kind for the Finnish Parliament's Committee for the Future, so it had no previously established practices.

Themes in the texts

Looking at the competition entries received in terms of their themes, one thing that distinguishes them from a typical science fiction writing competition is their negativity. While there are some positive visions of the future in there as well, the gloominess of many of the pieces as well as the downright anxiety that emanated from them came up numerous times in the judges' discussions.

In science fiction, people have not bothered writing about proper utopias for a long time. The reason for this is obvious. A story requires a conflict in order to work, and if the setting is a problem-free

Eldorado, it's very difficult to work something like that in. In plain terms, this means that utopias are often simply boring.

Nevertheless, the worlds portrayed in science fiction are not all gloom and doom. The same is true of stories submitted to Finnish writing competitions. The image of the world conveyed by pieces submitted to a typical Finnish competition in this genre is nowhere near as negative as that painted by the stories that were sent in to the Black Swans competition.

In the majority of the stories, the future was viewed as chaotic, frightening and full of threats including pollution and globalisation. Some texts envisaged a future in which development changes direction, or people hope that it will. In many cases, this happened by means of some sort of catastrophe. For example, a computer network collapse or electricity blackout results not in chaos but in a return to a simpler, safer world.

In only a small minority of the stories did the future look particularly positive. The problem with these stories, though, was that they were

not interesting as literature or even as speculative fiction. They were burdened with a lack of problems, just as utopias are.

Many writers clearly felt uncertain of the topic, and some of the pieces even had an apologetic tone. When reading the texts submitted for the competition, I couldn't escape the sense that most of the writers felt they simply didn't have the 'tools' to write about the future or anything far removed from themselves.

Those tools are almost automatically part of the science-fiction writer's arsenal, even though their task is not about predicting the future but creating literature. A partial explanation for the clumsy treatment of the material in the entries may be the fact that writers who have won their spurs in Finnish sci-fi/fantasy writing competitions simply did not take part in this one.

Some of the pieces contained clear ingredients of the paranoid science fiction sub-genre. These stories contained references to secret conspiracies that control the world, and revealing or crushing them changed the world. Various shades of Islamophobia

and Asia-phobia were evident in some entries, and some contained outright racism – a feature which one encounters less frequently in Finnish genre-based competitions, fortunately enough.

Range of themes

To me in my role on the judging panel, the Black Swans competition differed from most of the writing competitions I've been involved with in that a straight scoring system, i.e. ranking the entries on the basis of their interest or literary merits, didn't work. Rather, the pieces almost fell into categories on their own, with the differentiating factor being mainly the themes they contained.

In science fiction and fantasy writing competitions, we generally use the term 'miss' to refer to entries that don't meet the terms of the competition or whose idea or connection to the topic is difficult for the preliminary jury to discern. This group also includes many entries that could be read primarily as pleas to decision-makers, not as

speculative fiction. There were a total of 17 'misses' in this competition (13% of the entries).

There was another text type that formed a category of its own, which I call 'spoon-fed prose'. This semi-humorous term refers to the way that issues are not just served up to the reader on a plate, but almost pre-digested as well. There were 11 entries (8%) that fit into this category. These stories were fairly clumsy in literary terms, and their vision of the future was often dressed up in the form of a history lecture set in a future time.

Another sort of 'misses' were the entries that could basically count as 'manifestoes'. In these stories, the writers have not so much tried to find black swans that will shape our future as they have concentrated on analysing the flaws in the current course of world events and how people could make the future a better place to live in. There were 13 of these utopian or dystopian views of the future (10% of the total).

A significant segment of the competition entries was represented by pieces whose approach was quite close to the previous one, but which contained

primarily political musings. In some pieces, the writers had drawn up quite specific strategies on how Finland could survive in a globalising world. There were none of the black swans sought in the competition to be found here, either, because they were primarily about actively or purposely shaping the future. There were 25 entries that fit into this group (19%).

A distinct category was comprised of straightforward disaster accounts. There were six of these (5%).

The submissions which contained true black swans constituted two groups. In one type, the black swan was embodied in technology (22 entries; 17% of the total) and in the other, it was in politics or the economy (10 entries; 8%). These stories did constitute the cream of the competition entries, and the winners ultimately emerged from among their numbers. The nature of the black swans that appeared in this category and the conclusions that can be drawn from them are a topic for a much broader study. They are questions I will not touch upon in this article.

The black swans also differed from typical Finnish competitions in this area in their bilingual nature. The proportion of entries that were submitted in Swedish was surprisingly large – 27, or 20% of the total – and I treated them as a separate group. In actual fact, all of the Swedish-language entries had been sent from Sweden, which may actually explain the large number.

In the past few decades, a wide range of science fiction and fantasy magazines have been launched in Finland. They are quite professional in their content and design but are edited by people working in their spare time. There are also many more anthologies of various kinds being published than before. Thus, Finnish writers have virtually ideal channels for publication. Sweden does not have any similar setup, so these circumstances may have led to the high level of interest in the competition from writers over there.

Irma Hirsjärvi

Researcher

Major rejection as an agent of change

Our writing competition attracted a wide range of different views on the ways some sudden technical development or environmental disaster, political trend or economic collapse might change our society as we now know it. There were other findings as well. This was first noticeable in a story about a European disaster caused by a meteorite causing a wave of millions of refugees to come to Finland. In that piece, the situation was described from the perspective of an elderly couple who were sharing their house with three other families. The narrative is more utopia than dystopia. The key consequence

of the disaster in the story is a change in people's behaviour: sharing, a voluntary reduction in living standards, solidarity, reorganisation of spontaneous activities without official guidance from the state, moving beyond the traditional market economy.

That story made me stop and go back to look at the other entries again. I started to find similar sets of problems in other pieces as well. The question they posed was, would the central black swan constitute a change in our ideas and attitudes? Upon closer inspection, a surprisingly large number of stories did contain depictions of sudden global crises in values as a central, wide-ranging change. These pieces thematised voluntary reductions in consumption, the radical reorganisation of work, collective organising and voluntary citizens' movements. Central to all of these was the fact that the prevailing situation was changed by means of a variety of citizens' movements, beyond the current decision-making systems, rapidly and effectively.

It was necessary to check whether the resulting image was true. I went through all of the stories and selected for further investigation texts which

contained a concrete change and which described clear cause-and-effect relationships for that change. I was looking in particular for phenomena that could be termed ‘major rejections’, such as a unanimous joint rejection by the population of a continuation of the prevailing operating model, or the shaping of changed values into new practices.

The entry entitled ‘Decisive Collective Power’ by Laura Leppälä deals with crowdsourcing as a social phenomenon: it is collective power achievable via the internet, particularly thanks to the user-friendliness of new media and social media. Leppälä’s essay considers unidirectional communications from decision-makers to the people, and the alternative of crowdsourcing. This English-language term is also used in Finnish, and it has been translated into an equally awkward Finnish form, *joukkoistaminen*. Lotta Häkkinen, a researcher at the University of Turku, has translated ‘crowdsourcing’ into Finnish as *massavehkeily*, which I think works better.

An example of crowdsourcing comes up in Leppälä’s story in the form of a ‘pop-up’ restaurant

day, which is brilliant. Just as the EU has failed to curb a popular anarchist event which has rapidly spread from Finland to other countries, so have the food standards authorities. The events are organised outside the reach of the tax authorities and the tightly regulated restaurant industry.

Another example of real-life crowdsourcing worth mentioning is the film *Iron Sky*, which has garnered an international reputation for having collected the crucial first million euros of financing from its fans by selling 'war bonds'. I could also mention the countless charitable collections within neighbourhoods and even the example mentioned by the author of residents who constructed their own tower blocks without any construction companies. The rise of this new type of self-directed citizens' movement is undoubtedly a black swan.

Sofia Amberla's entry entitled 'The black swan already lives inside all of us' would be implausible for its message, 'We're going to be freedom fighters for ourselves, futurists acting from the heart,' if it hadn't been for the effects of the hippy movement and the peace movement. This idealistic piece is

also grounded in facts: an increase in knowledge, a return to community spirit and the rise in the value of creating meaning. All of these are concrete phenomena, and they are increasingly steering people and community movements. In addition to describing a breakdown in existing structures, Amberla writes about crowdsourcing, the way people join forces and manage to circumvent the old structures and create new, functional models by taking advantage of new channels. In her lyrical fiction, she even dissects the profit paradigms of market capitalism, which are newly redefined in her version of the future by means of their significance.

To Sofia Amberla, the capitalist market economy is what has been seen as the main method for individuals to achieve their dreams. New operating models enable people to bypass the market as well as the monetary economy in many ways: 'Ultimately, we are doing good things for ourselves for quite selfish reasons: we've learnt to be better at critically identifying methods that generate the right feedback. We're doing mainly what we believe in and what we are good at. The fact that

we're helping one another to invest in these points is the key thing.'

'The Black Swan of Our Future' by Sanna Sutinen also tells of internal changes. The central catalyst is the comprehension of global cause-and-effect relationships, particularly the identification of ecological and economic issues.

My own favourite was the story by Raija Heimonen in which 17 million citizens from Central Europe are forced to flee to the Nordic countries as a result of a series of disasters. The new arrivals originate from a different part of the world in practical terms, and the number of people requiring accommodation is three times the total population of Finland following the Second World War. This story describes how resources and space are shared out, as well as important details of how the residents organise themselves and how available resources and professional skills are multiplied. Local communities do, surprisingly, create basic security, new businesses start up, and due to the circumstances laws and regulations on everyday activities are circumvented. Astonishingly, sharing

poverty also transforms the native Finns' image of the displaced population and encourages young people to get involved in ways other than simply for paid work.

The entry entitled 'You probably don't understand' addresses this subject from a slightly different perspective. The key thread here is a new sort of division of labour: engineers are allowed to work as cleaners for a short time, while the cleaners can find out about management tasks, and a national salary gives people freedom of choice. Work is appealing when it is meaningful on a personal and/or community level. If a job does not need to be done, the question arises of what really is meaningful work.

A transformation in the ethics of work is also portrayed in 'Technology came, and then my job went' by Tuure Pitkänen, in which one character remarks that 'the social system that was built for work is over for us'. The opportunities provided by increased leisure time gradually dawn on people, generating some downtime to reorganise the nature of work. Samuel Rinnetmäki also writes about a

change in salaried work in his entry, setting out the reasons why, despite all the activism, there was no change in the future society he describes.

In a way, these depictions go against the group of entries that converged more clearly in re-reading the texts. Fear of immigrants, Islamophobia and images of the end of the world and disorder associated with those phenomena emerged with highly convergent themes, particularly a lack of alternatives. The image might utilise isolated examples or portray a broader mass movement. Frightening images that were presented included things such as a male immigrant health-care assistant washing the genitals of residents in an old-people's home, or the departure *en masse* of the entire native population of Europe due to immigration, with the situation expanding into a period of assassinations and Islamic fundamentalism. In two different stories, the Chinese come and take over Finland at various levels of society, leaving the members of the native population to a bleak existence. The level of problematisation in these texts goes no deeper: maturing broad beans have to be protected against

immigrant children at night, but there is no attempt made to elaborate on how the society happened to get the beans to everyone. Finland's independence and racial purity are values beyond which there is nothing but chaos and the destruction of society caused by a favourable attitude towards immigrants.

Other entries led by their ideological flank deal with the rapid demise of religion. Milka Hakkarainen must surely have been rubbing her hands with glee when she read about the resignation of Pope Benedict, because her entry presaged that issue from a slightly different foundation. It is set in the year 2017, when the Pope suffers a nervous breakdown. A rapid chain reaction ensues, ending in the declaration of a UN resolution prohibiting international religions in every country of the world.

I am writing this report after a group of neo-Nazis armed with knives attempted to attack an event in the Jyväskylä public library marking the publication of a book about the far right in Finland on 30 January of this year. When viewed from this perspective, the special contribution of competition

entries are linked to visions: to ways in which the citizens characterise the world in these texts, to different alternatives and opportunities.



The Finnish Parliament's Committee for the Future hosted a writing competition on the theme of Black Swans. This term is used for surprising turning points and phenomena that change the world and influence human behaviour. The competition was open to the general public, and the panel of judges selected four entries to receive prizes. A further 16 entries, four of which were written in Swedish, were selected for publication in this book.

The winning entries selected by the judges deal with subjects such as energy shortages, the future of Africa, global justice, organised crime and Asia's role in world politics. The authors of the prize-winning entries are Terhi Raumonon, Milla Pyy, Jukka Sipilä and Sinipetra Paatola. This volume also includes articles by members of the judging panel on the topics of Black Swans, speculative fiction and the entries submitted for the competition.



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