LAURENCE KING

Published by
Laurence King Publishing Ltd
361–373 City Road
London EC1V 1LR
United Kingdom
Tel: +44 20 7841 6900
E-mail: enquiries@laurenceking.com
www.laurenceking.com

A catalogue record for this book is available from the British Library

ISBN: 978-1-78627-613-1

Graphic design Studio Dispari
Translation by JMS Books llp
Typeset by Marie Doherty
Cover design by Florian Michelet

Printed in Italy

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WE ARE ALL GRETA

BE INSPIRED TO SAVE THE WORLD

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LAURENCE KING PUBLISHING

CHAPTER 1

MY NAME IS GRETA

SWAP FEAR FOR ACTION TO SAVE THE FUTURE

Stockholm, Sweden. It is shortly after breakfast on 20 August 2018, and Greta is tying her laces and getting ready to leave the house, just like millions of other youngsters. Greta's daily routine is, however, about to change today. She is not going to school and her world (and ours too) will never be the same.

Greta Thunberg was born on 3 January 2003. Her mother, Malena, is an opera singer (who represented Sweden at the 2009 Eurovision Song Contest), a celebrity and a writer, while her father, Svante, is an actor. The Thunberg family tree boasts another famous Svante – Svante Arrhenius, who won the Nobel Prize for Chemistry in 1903 as the first scientist to examine the links between increasing emissions of carbon dioxide and the rising temperature of the Earth. Studies of global warming, begun in the 1960s, were based on his calculations in physics and chemistry. Entertainment, culture, science – Greta's background seems to promise a great future without a care in the world. But then something in this story throws a spanner in the works.

Greta was a curious child. When she turned eight, she began to wonder why her mum and dad were strict about switching off the lights, not wasting water when brushing your teeth and never throwing food away. She decided to find out more and started reading books and becoming informed. She discovered climate change and its consequences for the health of the planet. She was worried – she probably wanted to think about something else, but she had her own particular way of looking at things and she just couldn't let it go: 'If burning fossil fuels was so bad that it threatened our very existence, how could we just continue like before?'

The scientific bent that runs in the family and the support of her parents helped Greta learn as much as possible. Things started badly – Greta read everything she could find and the information clogged up in her mind like autumn leaves in a drain. She became depressed at the age of eleven, stopped eating and lost 10 kg in two months. She stopped speaking. Her parents took her to doctors who diagnosed Asperger's syndrome and selective mutism. Asperger's is a mild form of autism that does not interfere with learning or language, but instead often shows itself in single-minded dedication to the study of individual subjects and a lack of social inhibition in furthering one's own ideas. Selective mutism, on the other hand, is an inability to speak about things or with people if they do not trigger a deep connection. The only moments when Greta's eyes lit up and her words flowed were when she shared her concerns about the future of the planet: 'what are we doing to save ourselves, to save our children, my grandchildren?' Understanding that this was the key to helping her, her parents asked her to explain it to them first and then tell it to others. They listened. Her mother stopped taking planes to opera houses abroad where she was due to sing, her father drove an electric car and they no longer ate meat. The more Greta realized that she was able to make a difference, the stronger and more powerful she felt.

'We have reached the point where science has everything it needs to tell us what risks we are running and what we have to do; there is no more time for excuses.' Instead of going to school on that morning of 20 August, Greta sat down on the pavement outside Sweden's Riksdag parliament building, a placard in hand with a few words

written on the cardboard: 'School strike for climate'. The summer of 2018 was incredibly hot in Sweden, peaking at an unprecedented 35 °C and unleashing wildfires that attracted aid from every country in Europe, including aircraft that dropped water bombs. Elections were due to be held on 9 September and Greta decided that 'if no one else is going to do anything, I will'. Day after day for twenty days, she sat in front of the parliament building. She began to attract attention from all corners. Her teachers were first, and they were divided between those who considered her behaviour inappropriate and those who came and sat with her, followed by numerous other ordinary citizens and activists, both young and not so young; and then the first journalists came. Twitter and Facebook broke the story in the virtual world and, within a couple of weeks, the hashtag #SchoolStrikeForClimate had gone global.

CHAPTER 2

YES, WE WILL

#FRIDAYSFORFUTURE AND THE NEW GREEN NATION

'Instead of looking for hope, look for action. Then, and only then, hope will come.' It is November. Three months have passed since the first morning she sat alone in front of the Swedish parliament building and Greta has already taken the stage at TEDxStockholm (TED is an international platform that encourages the circulation of new ideas and opinions). With the zip of her blue sweatshirt pulled up to the top, she makes an eleven-minute speech delivering a series of key messages that will soon be shared across social media by millions. The most important message is this: let's unite.

'Be outside your government building every Friday morning. Ask for change to begin now.' To those who say that kids should stay in school and study to solve the problem, Greta responds, 'The climate crisis has already been solved. We already have all the facts and solutions. All we have to do is wake up and change. And why should I be studying for a future that soon will be no more?' And at the end of her first TED Talk, Greta reminds the audience: 'Some say that [...] it doesn't matter what we do. But I think that if a few children can get headlines all over the world just by not coming to school for a few weeks, imagine what we could all do together if we wanted to.' And so the new Green Nation is officially born in the ninth minute of this speech, and hundreds and thousands of students take the invitation seriously and set out to organize #FridaysForFuture committees in 270 countries around the world, linking up and sharing materials, information, slogans and requests. Greta was already the leader of this collective conscience when in Davos in Switzerland on 25 January 2019, she stood before the world's most powerful people assembled at the World Economic Forum and, without showing a

trace of fear, reiterated: 'I want you to panic, I want you to feel the fear I feel every day.' The delegates listen, someone suggests taking notes (not without a hint of embarrassment). Her calm and authority win over Christine Lagarde, Managing Director of the International Monetary Fund, who fired off a tweet: 'Young people: keep pushing us to do the right thing'.

The first global strike on Friday 15 March saw 1.6 million students take to the streets in 1,700 cities around the world. Images of peaceful, colourful protests, from Melbourne to San Francisco, appear on the timelines of Greta's Facebook, Twitter and Instagram pages. Young people became organized in school and further afield, with many having read the summary of the most recent report issued by the Intergovernmental Panel on Climate Change (IPCC), the body delegated by the United Nations (UN) to study climate change. The report explains how restricting the limit of global warming to 1.5 °C *may* be enough to help avert its most severe consequences.

Stock-market analysts have long since identified the potential of environmental concerns to disrupt global markets. In 2011, Milo Cress, a nine-year-old American boy, started an online campaign against plastic straws (Be Straw Free), forcing Starbucks and McDonald's to take action. Human consumption of protected species (such as shark fins in China) has also declined steeply over the last six years, thanks to awareness campaigns (such as those conducted by young people in Hong Kong schools). As Greta has reminded us: 'What we can do in our own small way, is always useful – if we do it together, it can have great results.'

WE ARE ALL GRETA

The word 'responsibility' has been extremely important in mobilizing the Green Nation, inspiring not only those in power, who 'have to institute unpopular measures immediately', but also individual citizens. Greta's example of getting totally involved and transforming her fear and concern into campaigning for change sent a very precise message: #ClimateAction has also turned into #MyClimateAction. This trend answers the question raised by Hoesung Lee, the chair of the IPCC: 'Limiting warming to 1.5 °C is possible in terms of physics; the technology and techniques are there; the question is whether people and societies will support politicians in taking these measures.'

Young people's answer is yes, we will.

CHAPTER 3

SCIENCE

A HOUSE ON FIRE: THE GREENHOUSE EFFECT

Pricking the collective conscience invariably has an effect on public opinion. It can be positive, as it sparks an urgent need to know more about the issue and to do something, but it can also be negative. After that Friday 15 March, when images of Greta's yellow raincoat and the streets teeming with young people were splashed across front pages around the world, a lot of people began to wonder who was behind it all. Then the surprise came – there is nothing more suspicious behind Greta than thirty years of science.

The United Nations Conference on the Human Environment, the first major conference on the environment, was held in Stockholm in 1972. In 1987, the countries of the United Nations decided that it was a worthwhile enterprise to understand what was happening to the planet. The global economy was based mainly on the use of fossil fuels (organic substances extracted from the ground, where they had formed millions of years previously) such as oil, coal and natural gas. When burned, these substances produce waste chemicals that remain trapped within the atmosphere. One of these chemicals, carbon dioxide or CO_2, has a very special characteristic: it allows radiation from the sun to enter the atmosphere, but it traps the heat emitted by the Earth, warming both the atmosphere and the surface of the planet. This mechanism, discovered in 1824 by the French physicist and mathematician Joseph Fourier, is known as the 'greenhouse effect'. In the early 1900s, Greta's ancestor, Nobel Prize-winning scientist Svante Arrhenius, even calculated what might happen if carbon dioxide in the atmosphere were to increase; he deduced that temperatures on the Earth's surface would indeed go up – as Fourier had worked out in the previous century.

The World Meteorological Organization and the governments of the United Nations teamed up at the end of the 1980s to create the Intergovernmental Panel on Climate Change (IPCC), an institution that monitors and studies the world's climate and takes stock of the situation every five or six years. Their mission was to 'understand the scientific basis of risk of human-induced climate change'. The IPCC does not conduct research itself but evaluates it, cross-checking all the variables, outcomes and possibilities before producing a report that represents the facts as far as they are known. More than 2,000 experts from 80 developed and developing countries meet periodically to carry out this task, producing up to 150,000 reviews and comments on the latest research. You know the famous 'double check', the second look that is used in critical situations to avoid human error? Here it is, multiplied by 150,000. So when an IPCC report comes out, we can safely consider it to be reliable and authoritative.

Greta quoted the most recent special report, *Global Warming of 1.5 °C* in one of her speeches, saying: 'According to the IPCC, we have only eleven years to undo a chain reaction that could have devastating and uncontrollable consequences for mankind.' If we continue to burn fossil fuels at this rate, even taking into account the policies that have already been approved for reducing emissions, the Earth could warm up by 3 °C by the end of this century. Scientists think that such a temperature rise would result in the disappearance of surface ice for at least six months of the year, with all the climatic upheaval that would result: rising sea levels, drought, extinction of thousands of animal and plant species, and panic.

How can we put out what Greta has called a 'house on fire'? The IPCC goes on to state that the carbon dioxide balance – the difference between the CO_2 levels produced by the planet and the amount removed by natural filters (in other words, plants) or new technologies – has to be zero by 2050. This is absolutely necessary for limiting warming to 1.5 °C above the readings recorded before the Industrial Revolution – and it is still possible. We must ask governments to reduce carbon dioxide emissions and to follow the sustainable development agenda designed by the UN to meet the targets set by scientists. Above all, however, we should be asking ourselves what we can do right now.

Over the next few chapters, we shall try to understand sustainable development, and we shall introduce the hashtag #MyClimateAction, to explore the options for acting personally. Don't be afraid that there are only a few of us, or that we are small: Greta was too.