

THE GREEN AGES

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MEDIEVAL INNOVATIONS IN SUSTAINABILITY

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Translated by Gesche Ipsen



Profile Books

First published in Great Britain in 2024 by
Profile Books Ltd
29 Cloth Fair
London
EC1A 7JQ

www.profilebooks.com

Originally published in German, entitled
Wir konnten auch anders, by Karl Blessing Verlag, 2021

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The translation of this work was supported by a grant from the Goethe-Institut



1 3 5 7 9 10 8 6 4 2

Typeset in Dante by MacGuru Ltd
Printed and bound in Great Britain by
Clays Ltd, Elcograf S.p.A.

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

ISBN 978 1 80081 625 1
eISBN 978 1 80081 626 8



To my children and grandchildren –
thank you for your infectious yen for the future
and for wanting to do things differently

Sustainable development (n.): Development that meets the needs of the present without compromising the ability of future generations to meet their own needs

UN Brundtland Report, 1987

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INTRODUCTION

We are facing a watershed moment. Limited resources, the end of the consumer society, increasing injustice, globalisation, accelerated digitalisation, climate change and, finally, growing political uncertainty – particularly in the world’s major economies – have thrown humanity into a state of collective bewilderment. While politicians and economists are trying to come up with solutions, populists everywhere are preaching radical change and seeking salvation in a world neatly parcelled into sovereign nations; here and there, some people are tentatively criticising capitalism, while others are putting their hopes in medical and digital advances. What to do, though, in the face of these developments, none of which currently offer any real prospect of a solution, even less a viable future? Something has to change: that much is clear.

Modern Strategies Have Had Their Day

Why is it that, despite our frantic search for solutions to the challenges of the twenty-first century, we find ourselves gradually running out of ideas? The trouble is that we’re attempting to fix the problems of the future using ‘modern’ strategies. The term ‘modern’ may evoke progress and innovation, but this ‘modern age’ of ours is, historically speaking, already more than two centuries old; it means that we are endeavouring to solve twenty-first-century issues using frameworks developed in the

late eighteenth and nineteenth centuries – the same frameworks that facilitated the rise of the modern era.

Back then, the three magic words were ‘progress’, ‘growth’ and ‘wealth’. They guided our political, social and economic actions, and brought about considerable advances. Industrialisation, the French Revolution, nation states and democracy were what made nineteenth- and early twentieth-century Europe ‘modern’; and then the second half of the twentieth century unexpectedly dished out a second helping: while people were still suffering from the deep wounds inflicted by two world wars, modernity served up an economic boom on the back of a sharp spike in consumption and the birth of the throwaway society. Ever since the Western industrialised nations embarked on the dizzying ascent that was the ‘economic miracle’, we have tried, like junkies, to maintain our high, or at any rate to recapture it again and again. The last few decades might have worked out quite well for us, but we’ve lost our taste for it for some time now, having been presented with the final bill: microplastics in the oceans, glyphosate in our food, and CO₂ in the atmosphere; all irreversible and with serious consequences for the entire planet. Yet rather than face reality, we yearn for the good old days, lock, stock and barrel. ‘Life used to be so nice!’ we cry, and sit there like grumpy toddlers with an empty bag of sweets, whining for more. We’re simply out of ideas – unless the idea is to have even more growth and even more wealth.

We are still stuck in the nineteenth century, approaching problem-solving using a system of coordinates that is nearly two hundred years old. Admittedly, that system was perfect for devising things like revenue optimisation models, returns on investment and ways to squeeze the last drop out of our resources, but when it comes to matters not related to profit maximisation it is getting us nowhere.

Homo Economicus – Modernity's Desperate Hero

Homo economicus plays a key role in this narrative. He is a rational agent and 'maximiser of utility', and the embodiment of the notion that people are always, and first and foremost, concerned with how useful something is to them. Granted, economic man is merely a model, a fictional operator in formulas used to explain economic relationships; and the 'maximiser of utility' is a fairly recent invention of modern economics, elevated to dogma only with the introduction of rational choice theory in the 1970s. However, this canonisation of 'personal gain' has its roots in the nineteenth century, when the popular mind misinterpreted it as one of the 'selective advantages' mentioned in Charles Darwin and Herbert Spencer's theory of evolution. People mistakenly thought that being able to assimilate, cleverly exploit available resources and beat the competition were evolutionary success factors. All of a sudden, competition and the fight for survival were biological facts, and if you didn't keep up, nature left you out in the cold. What evolutionary biologists called natural selection, economic theorists turned into the market's invisible hand: the intangible force that regulates everything and thus renders the old-fashioned moral baggage of pre-modern societies superfluous. The two concepts seamlessly combined into a modern whole, promoting the rational maximiser of utility to the position of a much-lauded (usually male) employee – no, more than that: to the boss, the CEO, of the modern era.

The only problem is that the nineteenth century is long over. Modernity has doubtless achieved great things, and we shouldn't diminish them; but after 200 years of growth, progress and wealth, what we urgently need now is a reality check. We must rise to the challenge, and put our modern-age strategies to the test: are they still relevant? Most importantly, can they help us solve twenty-first-century problems?

Fear of Change

We could also call it a collective refusal to evolve. What we need to do is work out a way to loosen the ties that bind us to out-dated notions and principles. Ideally, it would be enough for us to realise that they – though valuable during a particular phase in human history, perhaps even key to our survival – have out-lived their usefulness. Generally speaking, what holds us fast is an intricate network of diffuse phobias, particularly the fear of change. What can we do about it? The first step is self-awareness, fresh insights and a change in perspective – and then, at some point, the desire for change will emerge. The new magic words are ‘expanding our horizon’: deploying our collective imagination for a better future.

The situation we find ourselves in is similar to that of an artist: over the past 200 years humanity has worked hard on the modern era, showing admirable focus and a willingness to make considerable sacrifices. At some point, though, every artist has to look up from their labours, step back and regard the work of art they are creating. We must now do the same. Only then can we see how all those individual little details combine into a whole, and determine where next to place the paintbrush. If we can develop a vision for the future, we will know what to do next. And then our urge to keep painting will return.

Create distance, take a step back, detach, put the paintbrush down for once and choose a new perspective – these are the steps we must take if we want to come up with fresh, future-proof ideas fit for the twenty-first century.

Navel-gazing vs the Historical View

As a historian, I can’t help but notice how short-sighted we are these days. It is one of the main reasons why we can’t create the distance we need in order to properly assess our prospects. Our collective consciousness is haunted by countless images of the

past, and the unspoken law of linear progression hovers in our minds like a cloud.

What springs to mind when we picture life in the old days? We immediately think of humans advancing from Stone Age cave to Renaissance palace, and thence straight into today's comfortable abodes with bathrooms and wi-fi. Much the same happens when we consider economics. We think of economics as having only got going recently, with the dawn of industrialisation. Of course, people have always swapped and traded goods, but things didn't really take off until we invented capitalism and the Industrial Revolution arrived. Moreover – the logic goes – there is no alternative to capitalism. As we know, the 'managed economies' of both socialism and fascism have failed, and it appears that non-European economic models are not up to much either. For the next few centuries, then, we'll have no choice but to somehow come to terms with capitalism.

If we take the historical view, however, such statements turn out to be symptoms of an extreme case of myopia and a fixation with the present; perhaps also of a decent dose of hubris, a lack of imagination and a fear of venturing beyond our comfort zone and considering the possibility that somewhere else – whether earlier, i.e. in the past, or later, i.e. in the future – things were, or could be, very different. Different, but good nevertheless.

What we need is a new vision of the future. The strategies of the past 200 years, the period we call 'modernity', were excellent, and we have enjoyed a great degree of success. Much of what the advent of the modern era promised has indeed come to pass. But what now? As everyone knows, there is a reason why fairy tales end the moment the enchanted prince marries the princess and everyone lives happily ever after; for what kind of life can you live in a world where all your dreams have come true? A world of washing machines, a global literacy rate of close to 90 per cent, and seemingly unlimited mobility, where you can cross the Alps in an hour and a half and fly from Frankfurt to Milan for as little

as ten euros? What do we do now, with all those magnificent achievements of the modern era? What do we do now, in a world that suddenly seems to spin faster than it did even ten years ago, which has become much smaller but also more fragile, which is groaning under the burden of modernity's successes but also bursting with young humans, hungry for the future?

Broadening the Horizons

In order to have a clear view of the future, let us turn to the past. The aim is to grasp the bigger picture and thereby give ourselves greater scope for action. To do that, though, we must go back further than just two centuries. We modern *Homines sapientes* have no less than 300,000 years behind us; about 100,000 years ago, we set out from Africa and managed to gradually populate five continents before surviving the Great Ice Age as well as the period of global warming that followed – unlike the woolly mammoth, for instance, which died out in 12,000 BC. How did we do it? How did we manage our resources? How did we survive calamities and disasters?

In what follows, I shall concentrate on the pre-modern era, the period immediately preceding the eighteenth-century Industrial Revolution. 'Pre-modern' is a tricky concept, because it divides history into the modern – i.e. 'us' – and all that went before – i.e. 'them'. This is not a particularly helpful distinction, especially when you consider that 'pre-modern' is supposed to encompass more than 300,000 years of human history; so we'll try to avoid the term. Our focus will be on the more than two millennia that preceded industrialisation, stretching from Greek antiquity (the fifth century BC) to the Enlightenment (the eighteenth century). Most of my examples come from the high to late Middle Ages, that is, roughly from the 1000s to the 1500s, and from societies and economies based in Europe, the Middle East and North

Africa – because the Mediterranean was an economic nerve centre in those days, they were to an extent considered a cultural and economic whole. The advantage of this is that the people who lived in that region during this period left behind a comparatively large volume of written material, granting us unexpectedly detailed insights into their lives and conceptual world, which allow us to reconstruct pre-modern takes on economic norms, theories and practices.

At this point, I should make it clear that the aim of this book is not to propose concrete solutions, such as a return to medieval forms of economy. Far from it. No one who knows even a little about the Middle Ages will want to go back there. Rather, it is designed to inspire, to awaken our sense of the possibilities out there, and to help us to think outside now defunct thought patterns.

There is much disagreement about whether or not we can learn from history. In my experience, this much is clear: the past may not be able to provide tailor-made solutions for the future – because each epoch has to work things out for itself – but what it can do is expand our imaginative horizon and provide fresh stimuli as we search for sustainable economic models and attempt to reinterpret the status quo through the prism of new ideas. What does the future look like if we stop staring at it through the lens of musty modernity, which is nothing if not normative and standardised? What happens if, for once, we take off this much-too-tight and old-fashioned corset? What happens if we – inspired by the diversity of the past – make room for alternative views of the present and the future? What if it turns out that we can do things completely differently?

Reassessing the Framework

People are already trying all sorts of things. There are attempts to make corporate governance more holistic and sustainable, such

as the OECD's non-profit initiative to establish new accounting standards for listed companies. The disadvantages of property – the associated responsibilities and costs – and the allure of living an unencumbered life – make collective-use models seem appealing. More and more people are opting out of the hamster wheel of maximum productivity and rapid promotion, choosing to work less and instead spend more time with their children. Or travelling the world with little to no money in their pocket, deliberately eschewing a steady income. Not that this is the belated legacy of superannuated hippies: the new minimalism movement is very much postmodern and digitised. You'll bump into its adherents at TED conferences and book fairs, and they are winning prestigious awards for designing microhomes and suchlike.

Swap sites are flourishing everywhere, as are start-ups such as the one that repurposes old truck tarpaulins into bags (with hefty price tags). Market sectors related to shared use and collaborative consumption are growing at a remarkable rate, as are vintage sites selling anything up to and including haute couture. An increasing number of us, too, are pondering the possibilities of a 'post-growth economy' under the banner of slogans like 'From bigger to better', and there's a growing demand for pluralism in economic studies – see, for instance, the UK-based NGO Promoting Economic Pluralism and the International Student Initiative for Pluralism in Economics. You don't have to agree with all these movements, but they are concerned with pressing issues. These people are active in the markets; they are market participants, and want to do their share to help shape the future – but in a way that runs counter to the conventional, decrepit economic approaches of a decaying modernity.

The aim of this book is to help increase our scope for action. I hope that it will spark your curiosity, dispel some fears and whet your appetite for the future. It is also a plea for us to reassess

our economic abilities: the problem is not economics but our simplistic idea of what it entails.

A Tour Through the Book

The first chapter examines some current (mis)conceptions regarding what life was like in the past, explains how grand narratives work and argues that we need new stories for the twenty-first century. We will analyse the familiar narrative of human progress that grew out of the nineteenth century, when it seemed that things were continuously getting better – and when, to allow the present to shine, we forced the past to retreat into the shadows. It seems obvious to us, even inevitable, that more or less everyone was poor and miserable before the 1800s, a thought that still shapes our view of the past. But did our progenitors really have to toil from dawn till dusk? Was everyone as poor as the proverbial church mice, living in miserable, dirty conditions? To help us orient ourselves, this chapter, in place of the usual myths and legends, contains some solid data that we have on Europe during the high and late Middle Ages.

Thus equipped, we will set out on our journey into the past, where we'll encounter Europe's pre-industrial economies – in all their rich diversity.

Sharing: medieval monasteries and convents ended up with 1,500 years' worth of experience in sharing economies. They are proof that it is actually possible to use resources collectively, and manage valuable assets profitably as well as sustainably. In this chapter we will also look at the centuries-long history of the commons, where people managed communal resources in a way that ensured their lasting survival. How did they do that? How did they factor external costs into their decision-making, or 'internalise externalities'? The publication in 1713 of Hans Carl von Carlowitz's *Sylvicultura oeconomica* is generally considered the date when sustainability was born – but the concept

existed long before that, as evidenced, for example, by the fishing industry on Lake Constance and transhumance economies in southern France. Another success story was that of the female residents of Flanders's economic centres, who, beginning in the thirteenth century, chose to live together in lay communities called 'beguinages'; they pursued all kinds of work, and it is to them that cities like Antwerp and Bruges owe their beautiful green spaces.

Recycling: this chapter is about ecological sustainability, i.e. the sparing use of our planet's resources. The modern definition of 'waste' as useless leftovers did not enter European dictionaries until the twentieth century. Before then, we couldn't conceive of such a thing. Every economy was circular, things were routinely reused, second-hand goods dominated the market and recycled products were the norm. We will look at the 'repair professions' in medieval Frankfurt am Main, where the stalls of menders who sold second-hand goods and fixed everything from shoes to knives shaped the city's streetscape and were omnipresent at trade fairs. Next, contemporary accounts of second-hand markets in Paris suggest that fashion was more or less dictated by upcycling and hand-me-downs. We'll also examine the history of paper, a recycled product from China that won over the world, and learn how experts who regard themselves as guardians of tradition – and are therefore inclined to be sceptical of new techniques and materials – can put obstacles in the way of innovation. The final section reveals the popularity of recycled building materials during the Middle Ages, for instance in the construction of Aachen's cathedral. Back then, builders would reuse bits of ancient edifices as a matter of course; not only was it the pragmatic choice, but they took pleasure in assemblage and bricolage as such, and in the value they could add to something simply by injecting a little of the past into it.

Microfinance: the fourth chapter tackles the matter of socio-economic sustainability, starting with microfinance

institutions in fifteenth-century Italian towns and cities. The aim of the *monti di pietà*, a form of communal pawnbroker, was to give the less well-off – especially poor craftsmen, peasants, day labourers and so on – access to investment capital. The money came from the wealthier urban citizens, and meant that a farmer could pledge his winter coat in the spring for a loan to buy seeds and redeem it again in the autumn with his earnings from the harvest. This model quickly spread across Europe, where lending money to your peers was everyday practice during the Middle Ages. Both creditors and debtors came from all walks of life, as illustrated by the city of Basel, which safeguarded every single loan by registering it in a public debt ledger called the *Verlichtbücher*, which can still be viewed in the city archive. These books give us an insight into contemporary credit practices, and how debt could act as the glue that held urban communities together. Next, we learn how rural and urban economies were sustainably intertwined, for example via ‘livestock leasing’, whereby town residents issued loans to regional farmers in the form of cattle, which the farmer would raise, care for and use. The crucial point here is that both parties shared the risks as well as the profits (i.e. the calves, foals, piglets, etc. born during the loan period).

Minimalism: the fifth chapter offers frugality as one possible solution to our problems. For centuries, people who eschewed money and even the idea of ‘making a living’ altogether were a familiar sight in every city, and played an important part in shaping Europe’s political and social life. This chapter takes us back to ancient Greece during the fourth century BC and to Diogenes the Cynic in his *pithos*, who argued that the path to freedom and the good life was paved with a pragmatic sort of abstinence. The next example comes from the late Middle Ages: beginning in the late twelfth century, thanks to climate change and the resulting population increase, Europe became progressively urbanised; at the same time there was a boom in

minimalist communities – that is, mendicant orders that lived by the motto ‘Less is more’. They left a permanent mark on society and economics and produced the most original economic theorists of the age. One such radical minimalist was Pierre de Jean Olivi, from Sérignan in southern France, who – 500 years before Karl Marx – not only published a groundbreaking analysis of market processes but defined the concept of ‘capital’.

The book’s final chapter suggests ways in which the past can help us reshape the future. There is more than one way to skin an economy, and we have proved that we can do things differently. We are capable of change. We desire so much more than merely to gratify our self-interest, and there is no reason why we can’t. To achieve our individual as well as our collective goals, though, we have to work together. We also need guidelines to ensure that we don’t end up acting even more foolishly than usual. Finally, the book concludes with ideas for how to silence the sound of inevitability: as history teaches us, people are capable of far more than acting selfishly. It shows that we can, in fact, do things differently – all we have to do is want to.

WAS EVERYONE POOR UNTIL WE INVENTED CAPITALISM?

The History of Progress: Modern Grand Narratives and their Pitfalls

We find it hard these days not to present human history as a story of progress and advancement. It was not always thus. Throughout the past, there have been periods when history was seen differently, perhaps as a cycle of constantly recurring rhythms, as proceeding towards a Judgement Day or as a story of decline. It was only in the course of the eighteenth century that we first put progress on a pedestal, during the so-called Enlightenment, when Europe was illuminated by the light of reason and Immanuel Kant told the story of how we ‘emerged from self-imposed immaturity’ (1784), giving the modern era its very own creation myth.

The myth bore fruit for science, politics and economics in the nineteenth century, and Darwin’s *On the Origin of Species* (1859) extended the idea to the realm of nature. His ‘tree of life’, which conceptualised the biological advancement of species, shows *Homo sapiens* at the very pinnacle, the victor, so to speak, in the biological battle for survival. Karl Marx and Friedrich Engels urged the proletariat to finally emerge from oppression and evolve into a classless society, even as capitalism proclaimed that technology and economics would propel us into a world where every need was satisfied.

Another, particularly egregious, chapter in the enlightened

story of our ascent was the division of mankind into ‘us’ and ‘them’. White Western man was naturally the driver of all progress, because he was superior to the rest of the world – because it was his story; and with the invention of races (which also happened in the eighteenth century), the notion that he had risen to the top thanks to his hard work, efficiency and reason was underwritten by supposedly scientific arguments. The consequences are well known, and remain a burden: slavery, racism, colonialism and the exploitation of man and nature across vast swathes of the planet have cemented global injustices that are anything but easy to undo.

The same goes for the lasting damage and destruction caused by the myth that self-interest is the mainspring of progress. This myth is perhaps one of the most resilient narratives of the past two centuries. Adam Smith is said to have devised it when, in a chapter on the division of labour in his classic work *The Wealth of Nations* (1776), he argued that, although it goes without saying that bakers sell bread out of self-interest rather than altruism, they nonetheless contribute to the well-being of society.¹ People inferred from this that an individual’s desire for profit benefits everyone and is good for innovation and progress; and that, consequently, humanity owes its ascent to capitalism, whose roots, prototypes and precursors could be traced back deep into antiquity.

The future blew in with the birth of European modernity more than two hundred years ago, and the tale of progress not only suited the age but endured for a remarkably long time, surviving in our collective memory to this day. This phenomenon is called a ‘metanarrative’ or ‘grand narrative’: it isn’t history in the literal sense – you don’t read about it in journals or hear about it from teachers; no, it is history that simply exists, that doesn’t need to be explicitly told. It is a narrative, a story, which plays out as if below the surface of history itself. It makes us feel safe and gives meaning to things. Grand narratives store up

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generations' worth of empirical knowledge and affect how we see ourselves. They are important, and they are useful.²

But only insofar as they accord with the reality they are supposed to explain. The question is, do we still need a story that explains the rise of the Western world? It suited the age of accelerated industrialisation and colonialism; it accompanied our increasing domination of nature via new methods and technologies, from the invention of the steam engine in the 1700s and the first public steam railway – the Stockton and Darlington – in September 1825, to the first nuclear power station in Obninsk, Russia in summer 1954, and the Moon landings in July 1969. But does that old narrative still suit the twenty-first century? The world has kept turning. Nature has handed us the bill for those two centuries of merciless exploitation and our division of the planet into 'us' and 'them' has caused wholesale destruction – so there is every reason in the world for us to put these metanarratives to the test. Which are still useful? Which can we do without?

Romantics vs modernists: the good old days or the bad old days?

'Once upon a time we were poor, then capitalism flourished, and now as a result we are rich.'³ With this pithy statement, Deirdre McCloskey, an economist at the University of Illinois in Chicago, exposes what she calls the naive world view of many of her colleagues, for whom capitalism is still key to our salvation. They believe that wherever there is poverty, capitalism simply hasn't had a chance to properly take hold yet. They quietly take it for granted that the day will come when capitalism, and with it progress, wins out in Africa, Southeast Asia and South America too.

The idea that life was worse in the old days – be it in the Middle Ages or the nineteenth century or the years following the Second World War – runs like a red thread through

our collective historical imagination. As does, incidentally, the counter-narrative that things used to be better, simpler, more natural, less complicated and somehow more human. They are two oddly contradictory narratives, which our brains have somehow managed to store simultaneously, to be recalled as required, without ever really getting in each other's way.

The debate pitches modernists against romantics, and while the former praise the blessings of our age, the latter grieve for a lost world. The two camps have one thing in common, though: both exoticise the world of those who came before us. The romantics lament the disappearance of simplicity, of extended families and family solidarity, of life lived in harmony with nature, without alienation and consumerism. The modernists are delighted that we have overcome the primitive living conditions of the past. Both arguments follow the same pattern, really. People used to be different; depending on your world view and the topic under discussion, they were either more violent or more peaceful and either better or worse off – but whatever the case, they were 'different'.

Whether we see ourselves as romantic victims or modernist victors, we make strangers of our ancestors, distance ourselves from them and draw comparisons, so that we can feel superior. You could call it a form of 'othering', a term used in social psychology to describe our tendency to distinguish between 'us' and 'them'.⁴ This mechanism plays a significant part in the construction of modern myths: it is the engine that powers our self-assurance.

Of lice, doctors' saws and boredom

Take, for example, the following passage from Steven Pinker's *The Better Angels of Our Nature*, a book in which he argues that humanity emerged from a dark and violent past into a peaceful and much less violent present:

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Our ancestors [...] were infested with lice and parasites and lived above cellars heaped with their own feces. Food was bland, monotonous, and intermittent. Health care consisted of the doctor's saw and the dentist's pliers. Both sexes labored from sunrise to sundown, whereupon they were plunged into darkness. Winter meant months of hunger, boredom and gnawing loneliness in snowbound farmhouses. [...] [They also did without] the higher and nobler things in life, such as knowledge, beauty, and human connection. Until recently most people never traveled more than a few miles from their place of birth. Everyone was ignorant of the vastness of the cosmos [...]. When children emigrated, their parents might never see them again, or hear their voices, or meet their grandchildren. And then there are modernity's gifts of life itself: the additional decades of existence, the mothers who live to see their newborns, the children who survive their first years on earth. When I stroll through old New England graveyards, I am always struck by the abundance of tiny plots and poignant epitaphs: 'Elvina Maria, died July 12, 1845; aged 4 years, and 9 months. *Forgive this tear, a parent weeps.* 'Tis here, the faded floweret sleeps.'⁵

By the time we have witnessed this moving scene at the grave of a four-year-old girl who died in 1845, Pinker has brought us firmly on side. The old days must have been awful. Surely few would disagree that life was tough, least of all anyone who knows anything about history. Still, it's worth noting that, what with all the drama, Pinker never actually tells us which past he is talking about. When exactly, and where, did our ancestors reside on top of their faeces? In which century were there physicians whose only treatment plan was the bone saw? When did those people live who never once left their place of birth, and does this tally with the medieval duty of every good Christian to undertake a pilgrimage?

Does it tally with the countless migrations in history – the Great Migration of the 400s and 500s, the Anglo-Saxon migration to Britain in the 400s and the Normans who, from the 700s onwards, settled throughout Europe, from the Atlantic coast to Kyiv and from Scotland to Sicily? Does it tally with the overbooked ships, and the numerous people who, ever since the twelfth century, have regularly set off for the Holy Land? Finally, you wonder quite how our poor ancestors' experience of oppressive paralysis can be reconciled with the terrible experiences they had when they emigrated.

What is being served up here is a light, colourful summer salad of pseudo-knowledge across the centuries, a well-nigh comprehensive summary of all the supposed truisms about 'the old days' to be found in our collective subconscious. But is any of it true?

Did Our Forebears Toil from Dawn till Dusk?

Take Pinker's notion, for instance, that our forebears worked tirelessly 'from sunrise to sundown', and that they would afterwards sit around in the dark knowing neither art nor beauty nor 'human connection'. What do we know about people's working lives in centuries past? How many hours a week did they work? How many days off did they have in a given year?

We instinctively assume that Pinker is right in what he says. We automatically surmise that capitalism alleviated the wretchedness of work. We compare today's forty-hour week to the nineteenth-century's eighty-hour week, and expect that things were the same before that. We recall the hard life of medieval peasants forced to work the fields day in and day out, and the poor craftsmen and craftswomen who often sat up late into the night in a cold, damp workshop to fulfil their customers' orders. These visions are reverse projections, imposed by us in the present on to a putative past – and they are wrong. It isn't

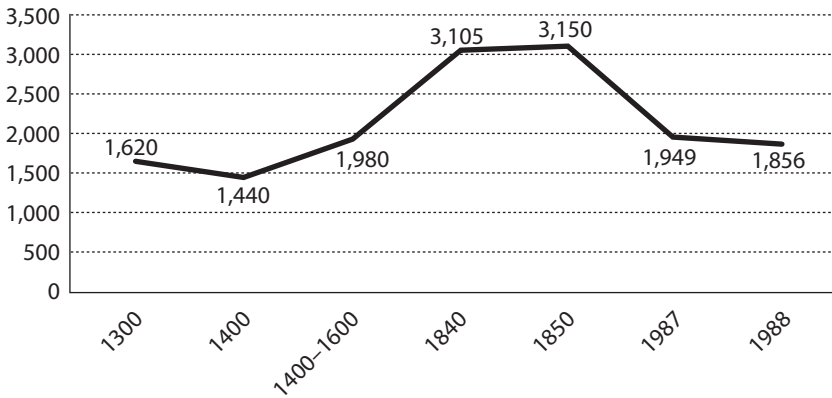
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true that people used to work extremely long hours until we came up with the idea of capitalism. Life had a different rhythm and pace back then. People probably had less money than now, but they had a lot more spare time.

Five-day weeks, 'Saint Monday' and plenty of holidays

For workers in England, half a day's work once counted as 'one day's labour', and if you worked a whole day it counted as two. The economist and sociologist Juliet B. Schor has studied the evolution of twentieth-century working hours, and compared them to pre-modern hours using metadata from studies of various medieval English towns and regions.⁶ She found that craftsmen, builders, carpenters and joiners worked an average of eight to nine hours a day, and the number of holidays varied from region to region and diocese to diocese: in 1222, for example, workers in the diocese of Oxford had forty days off in addition to the usual fifty-two Sundays, including five days for Christmas and three days each at Easter and Whitsun. In some regions in France people had more than ninety days off, and Spanish workers are reported to have had close to five months off a year. Workers also had a certain degree of autonomy, and sometimes set their own hours – not that their employers were always pleased about them. For example, they sometimes stretched their weekend out a little and skipped work on Mondays. These became known as 'Saint Mondays', and they survived largely unscathed until the sixteenth century.⁷ As the economic historian Gerhard Fouquet once drily remarked, it was the Reformation that put a stop to 'the medieval idler's five-day week'.⁸ We can thus say with reasonable certainty that the average person spent around 2,000 hours a year working, which is comparable to today's average. It wasn't until the nineteenth century that working hours rose sharply, children entered the workforce and the inhumane conditions we recall with a pang from Dickens's novels came into

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i. How average annual working hours evolved from the Middle Ages to the twentieth century

effect. Nonetheless, we seem to have completely forgotten that the nineteenth century didn't mark the end of the Middle Ages, but ushered in the first golden age of modernity.

Is life without a washing machine worth living?

As regards working hours, then, there has been no improvement since the Middle Ages. Neither the five-day week nor the 2,000 hours we work on average per year can be credited to modernity. In fact, the opposite is true: with the advent of the modern era and the Industrial Revolution, both were abolished for the time being.

But what about living standards? There, the matter seems clear-cut. In the fourteenth century, there was definitely more uncertainty: food supplies were often unreliable, and the age was prone to crises and instability. Yet we'd be wrong to paint life as universally miserable, because it was when living standards were at their lowest that people were best provided for, comparatively speaking.⁹ Still, from today's perspective it is difficult not to describe people back then as desperately poor. At least, they

lacked the amenities that we take for granted – living without washing machines, fridges, telephones and all those other blessings of technology. Quite inconceivable, isn't it? Clearly, there is a risk of hindsight bias: it is tempting to evaluate past societies from today's perspective, and it never once occurs to us to ask the one crucial question: might life without a washing machine still be a life worth living?

This somewhat provocative question isn't meant to suggest that the past was rosy – on the contrary: it should prompt us to stop arguing about whether things used to be better or worse, and consider instead that they might simply have been different.

Food and living standards

How about nutrition? Well, people rarely ate meat. On Fridays and Saturdays, the weekly 'fast days', they generally ate none, and in some places meat-eating days were even limited to three a week; add to that the six-week fast before Easter and, in some regions, another four-week (Advent) fast in the run-up to Christmas, and it means that, in total, people ate meat only 138–230 days a year. This was true for all social strata: we know from the bishop of Arles's meticulous fifteenth-century household ledgers that his (doubtless anything but ascetic) household served meat 214 days a year; Nuremberg's rations records for 1449–50 reveal that the city's Swiss mercenaries – much sought after and highly paid specialist soldiers – received 109 kg of meat a year, Eger infantrymen 54.3 kg, and prisoners of war (who were of course fed as cheaply as possible) 32.7 kg. In his 1527 chronicle, the Strasbourg burgher Heinrich Hug notes that the price of meat has gone up, and tersely blames the Reformation for converting his fellow residents to meat-eating on Fridays and Saturdays too.¹⁰ In the nineteenth century, average meat consumption if anything decreased slightly, down to 37.7 kg in 1890. By comparison, Germans today consume an average of around 78.7 kg a year

(as compared to India, for instance, with an average of 4.5 kg).¹¹

Apprenticeship premiums paid to masters are perhaps not an ideal yardstick for measuring living standards, given that they include compensation for the master's investment in the apprentice. Still, they show up in various account ledgers: for instance, in 1472 the Nuremberg merchant Hans Praun apprenticed his daughter to a silk embroiderer, whom he paid seven and a half guilders per annum for 'board and training'. In 1496, Heidelberg's municipal stipend for poor but gifted pupils amounted to 8.75 guilders (fl.) a year; and although it can hardly have covered their living costs, we can estimate that it at least provided them with a modest living. Around the same time, in 1482, fostering a Strasbourg orphan cost 5.7 fl. to 7.6 fl.; and in Nuremberg in 1496, one man paid an innkeeper 14.5 fl. a year pro rata to put up a relative, while the annual expenditure of an ordinary family living a modest lifestyle was estimated at somewhere between 29 fl. and 31 fl. According to the Strasbourg merchants' exchange accounts of 1450, a scribe employed by the man in charge of the exchange earned 19.4 fl., and the parish ledger of St Lorenz in Nuremberg recorded that an organ builder engaged in 1448–9 received 31.5 fl. for 'food and wine',¹² on which sum a craftsman could easily live a moderately comfortable life. Regional differences and variations in exchange rates mean that it is difficult for us to convert those amounts into today's money – but these numbers and case studies suffice to show that the myth of the lice-infested, bored and lonely medieval European is questionable at best.

Europe in the High to Late Middle Ages: Some Useful Data

Climate change, population growth and urbanisation

Most examples in this book are drawn from the high to late Middle Ages, i.e. AD 1000–1600. To aid our understanding, therefore, I will now list some data concerning the period's social,

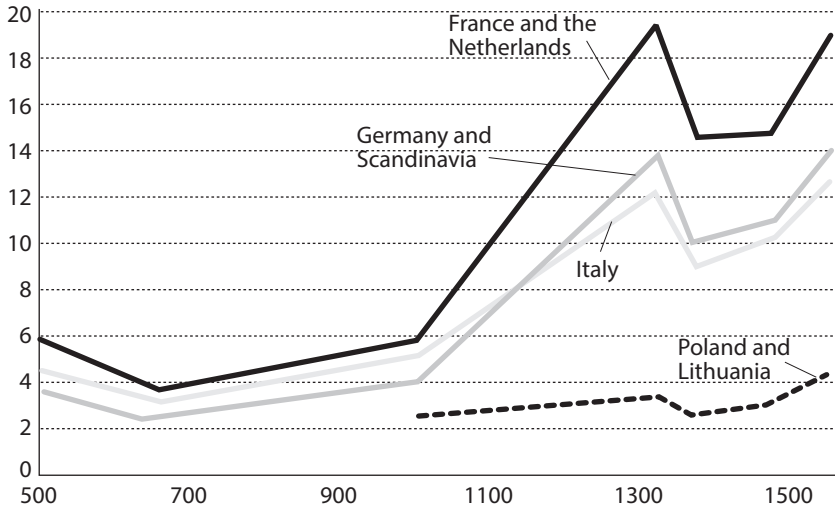
economic and climatic conditions; because we don't have access to the kind of solid data available for the twentieth century, they are in the main scholarly estimates.¹³

Roughly at the turn of the second millennium AD, we can discern a – first slight and then more distinct – population increase. In the year 1000, around 20 million people lived on the European continent; by 1200, the population had risen to about 60 million, and by 1300 to around 73 million. In the mid-fourteenth century, the number dropped off dramatically, stabilising again only in the mid-1400s at 53–5 million, nearly 10 million less than in 1200. One reason – perhaps the most significant reason – for this development was that the region experienced a period of climate change. Average annual temperatures had increased slightly since the turn of the millennium, and the climate had become milder and more congenial; some have called it (somewhat misleadingly) the 'medieval climatic optimum', and it lasted until the end of the thirteenth century. Temperatures subsequently fell again, the weather worsened significantly and crops were damaged by major meteorological events and plagues. The year 1342 marked the beginning of a series of extremely wet and cold summers, and the summer freeze of 1347 was the worst in 700 years of climate history. Before that, during the 1320s and 1330s, summers had been warm – but largely dry too, leading to food shortages. This weakened the health of the European population to such an extent that when the Black Death arrived in Europe in the late 1340s, it had an easy time of it: it had been our constant companion for thousands of years, but this time people could put up only scant resistance and it was able to rage across the continent, killing nearly a third of the population. The Little Ice Age of the late Middle Ages was thus the reason for a dramatic drop in Europe's population.

The climate change was felt most keenly in the Alps and along northern coastlines. Mountain passes were blocked by snow

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Population (millions)



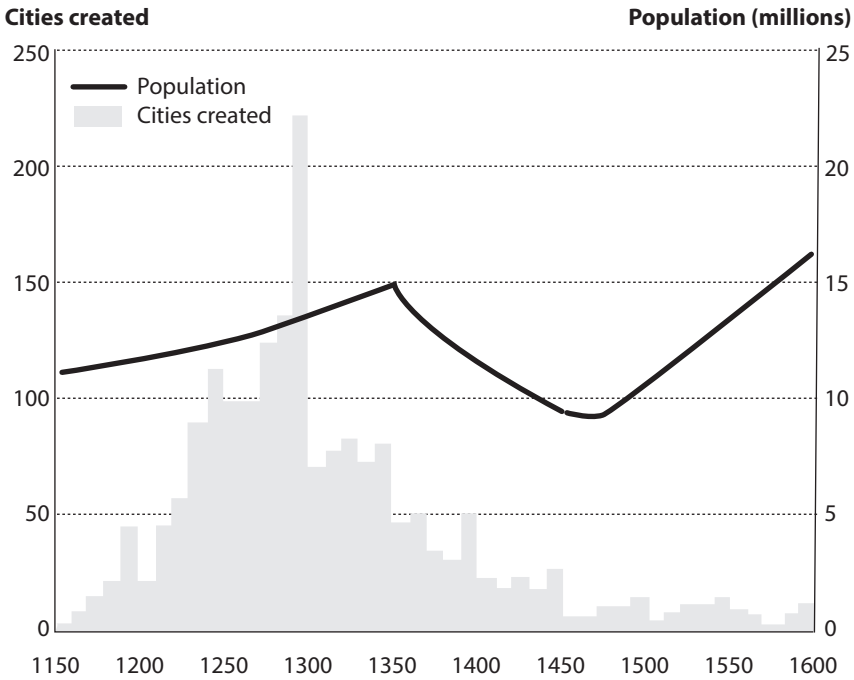
2. Population changes in medieval Europe, 500 to 1500

and ice, and in the middle of the twelfth century, ice tongues began to push into the valleys. In the thirteenth century, sea levels started rising sharply, large tracts of land were lost, and storm surges such as St Marcellus's flood – which hit the British Isles, northern Germany, Denmark and the Netherlands in 1362 – broke coastal areas up into islands and wiped out entire towns. One response to the encroaching sea was to build dykes, which people had been doing increasingly since the early tenth century. In Flanders, for instance, people formed cooperatives and constructed closed dyke systems with locks along the coast, and in the thirteenth and fourteenth centuries the Netherlands reclaimed more than 70,000 hectares of land. Canal systems were also increasingly used; in Bristol, for example, the Great Ditch dug in 1247–8 connected the city directly to the sea, making it England's second most important harbour. In Lombardy, the Milanese created the Ticinello to carry water diverted from a

Po tributary to Milan, later expanding it into a shipping canal. Countless bridges were built too: the one across the Rhône at Avignon was begun in the late twelfth century, and in 1357 Peter Parler started construction on the famous Charles Bridge across the Vltava in Prague. In the mountains, too, gorges were bridged – for example the Schöllenen, near the Gotthard Pass – and along the Brenner Route a merchant from Bolzano called Heinrich Kunter cut a trail to Chiusa through the Eisack Gorge. Across Europe, land was cultivated and forests cleared. People began to settle in hitherto inaccessible and reasonably infertile areas, such as France's Massif Central, and others moved from the regions north of the Alps into the sparsely populated eastern territories, with the newly founded city of Lübeck becoming the focus of eastward migration.

One consequence of this population growth was that Europe became progressively urbanised. New towns sprang up in the wealthier agricultural regions, and the mid-eleventh century saw a growing number of urban centres being sustained by the surrounding farming economy. In the 1200s, Konrad von Megenberg wrote that no farmer returned voluntarily to the countryside once he had seen the 'urbanitas': towns promised higher wages and better food, and we were evidently as attracted to city life then as we are now. Close to 25 per cent of rural settlements were abandoned during this time, and hamlets and villages lay deserted as residents departed en masse for urban centres.

In the thirteenth century, town-founding reached a climax. So-called 'chartered towns' created by local sovereigns – including Kiel (1242), Rostock (1218), Stralsund (1234) and Berlin (1230) – dominated until 1250 or so; from the 1250s onwards, charters were also conveyed on existing settlements already in the process of expanding, which resulted in numerous small and even miniature towns, often with no more than 800 inhabitants. Towards the end of the thirteenth century, the boom subsided. At this



3. New cities and population change in Central Europe, 1150–1600

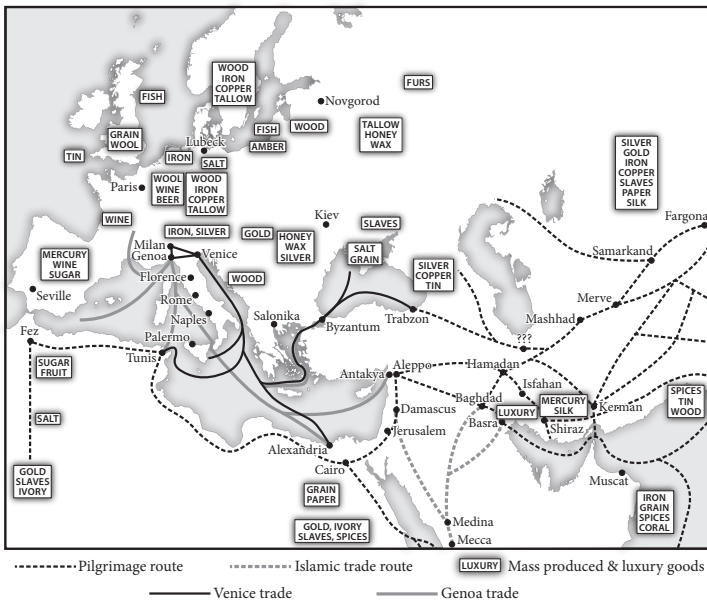
point, miniature towns made up about 18.5 per cent of urban areas across Europe, large towns only 1.5 per cent. Cologne was Germany's largest metropolis, with an estimated population of 35,000 at the start of the 1300s; about 50,000 people lived in Ghent and Bruges; and northern Italian cities occupied the top spots, with Milan, Florence and Venice numbering close to 100,000 inhabitants each.

The bigger the city, the more marked its class differences. Separating urban populations into classes is not straightforward, but we can distinguish three social strata: the upper classes, which included both the patrician municipal elite and the politically less privileged category of the rich; the middle classes, wealthy merchants and craftsmen; and the lower classes, estimated to

have made up half the urban population of the Middle Ages – people who either earned too little to show up on municipal tax registers at all, or paid the lowest tax rate (in Augsburg this was called the *Habnit-Steuer*, the ‘have-not tax’). The latter were not, however, vegetating away on the poverty line: they usually worked for small manufacturing establishments, ran little shops or workshops, or were hired hands. Only few were actually poor and dependent on municipal charity or church alms. Yet social classes were amorphous, with fluid boundaries: then, as now, you could move both up and down the social ladder.

‘Foreigners’ – that is, anyone who came from elsewhere to settle in a town, either short-term or permanently – were an integral part of the medieval urban tapestry. Trade as well as manufacturing depended on international business, and for that you obviously needed relationships with people from other towns and countries. Europeans were geographically mobile, and it was perfectly normal for a merchant from Prato in Italy to spend ten years or more in Avignon, before moving on to Florence. It was also perfectly normal for any young man to leave his home town to study in Bologna, Paris or Oxford, or for a father in twelfth-century Normandy to send his daughter to her Parisian uncle for her education. Jewish communities represented the largest ethno-religious minority in almost every big or medium-sized town in Europe. In 1300 around 1,000 Jews lived in Erfurt and Nuremberg, making up between 5 and 10 per cent of the towns’ population. In most places, however, they numbered somewhere between several dozen and a few hundred, or 0.5–0.8 per cent of the population. In total, an estimated 100,000 lived in the medieval German empire in 1300, but the crisis-ridden fourteenth century witnessed a rise in conspiracy theories, most of them directed at Jews, whom many blamed for the Black Death. Brutal mass expulsions and mass murders in the course of the fourteenth century resulted in a rapid decline in the Jewish population; according to latest estimates, it shrank to as little as 40,000 people.¹⁴

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4. Twelfth- and thirteenth-century trade and caravan routes to Asia

Finally, trade and financial activities expanded significantly during this period, a phenomenon that the historian Roberto S. Lopez has called 'the Commercial Revolution', arguing that the emergence of a trade-based economy was one of the greatest achievements of the 'European' Middle Ages. The revolution started in the Byzantine eastern Mediterranean in the eleventh century, and over the course of the next few centuries engulfed first Italy and then the rest of Europe. According to Lopez, the arrival of the Renaissance in the fifteenth century then inaugurated a period of economic decline.

The twenty-first century needs new grand narratives

So: was everyone poor until we invented capitalism? Did our ancestors, beset by lice and parasites, live above cellars in which

their own faeces lay piled high after all? The answer is definitely no. Or, to be more precise: it is true that some people were forced to live in such conditions, but certainly no more than today. Such notions belong in the realm of the mythology of modernity. They reassure us, and confirm that unless we want to relapse into a primitive, pre-capitalist past, we should carry on as we are. Those tales of the rational decision-maker, of our ascent from demeaning barter economies to our present-day heights, of the virtue of self-interest ... well, somehow they still seem to hold weight. They aren't entirely wrong. And yet they occupy the very space where something new has to emerge.

What we need are stories that help us to overcome the challenges of the twenty-first century, not the nineteenth. It is high time that *Homo economicus* passed the baton to Planet Earth. It is time for nature to re-enter our grand narratives, time for flesh-and-blood humans instead of models. We need markets where not only supply and demand can meet, but people too; we need ideas that do more than reduce shortages and distribute goods. It's time we took all that we have learnt from dealing with crises and challenges in the past and used it to shape the future. The history of sustainability is at heart a story of resilience. Perhaps more than anything else, it is about our capacity to learn from our mistakes.

The chapters that follow will hopefully prompt some creative thinking. Perhaps not everything you'll read in them will quite do the trick; perhaps you won't believe everything you read, either – and you don't have to: if it arouses your curiosity and makes you think, that's enough. We will encounter people who used to tell each other very different kinds of stories, managed their economies in their own way and overcame all manner of crises. Some ended up amassing great riches; others declared that 'wealth is the vomit of fortune', lived in voluntary poverty, travelled to all four corners of the world, set up communities, ate vegetarian food and lent each other money. We'll

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meet people for whom recycling was second nature, and people who set great store by the common good, for whom self-denial was a type of economy – without growth, without mass consumption, without rational choice theory. Were they primitive? Poor? Glad when capitalism finally put an end to their misery? Maybe they weren't all that miserable. Maybe they were entirely content, and maybe, if they could see us now, they'd cry with laughter. It wasn't until the modern era dawned that economics became the sad, grey science it is today, beholden to its phobia of shortages and addicted to constant growth. And who knows: as we look back at the diversity of economies we once knew, we might just discover new strategies for the future.

SHARING

Sharing Makes Things Easier

Now the multitude of those who believed were of one heart and one soul; neither did anyone say that any of the things he possessed was his own, but they had all things in common. [...] Nor was there anyone among them who lacked; for all who were possessors of lands or houses sold them, and brought the proceeds of the things that were sold and laid them at the apostles' feet; and they distributed to each as anyone had need. (Acts 4:32–5)

[B]reaking bread from house to house, they ate their food with gladness and simplicity of heart. (Acts 2:46)

It sounds like a fairy tale, doesn't it. 'And they lived happily ever after.' In Acts, communal Christian life appears rather cosy: lots of good people sharing food and drink by candlelight, and being nice to each other day and night. Everything belongs to everyone; it sounds as tempting as it does unworldly. Then, too, socialism has shown us where it can lead; humans, not to mention economies, need private property. At any rate, that's how most people instinctively react to the early Christian idyll, where all property was communal: a dose of scepticism is surely warranted.

Or is it?

From a historical perspective, the human capacity to share is anything but a fairy tale. Sharing has been key to *Homo sapiens'*